

# Nature-Based Solutions for adapting to climate change: practical actions of the Guadeloupe Port Authority

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## Nature-Based Solutions

" Actions aimed at **protecting**, sustainably **managing** and **restoring** natural or modified ecosystems to directly address **societal challenges** in an effective and adaptative manner, while ensuring **human well-being** and producing **benefits for biodiversity** "

### LIFE Adapt'Island project

2019-2024 € 4.7M€



- **Nature-based** solutions
- **Ecosystem services** provided
- **Restoring connections** between coastal ecosystems
- **Replicating** innovative techniques in the Caribbean
- **Disseminate** good practices
- **Ecosystemic impacts** of the actions
- **Socio-economic benefits** for the archipelago
- **Raising public awareness** of environmental preservation

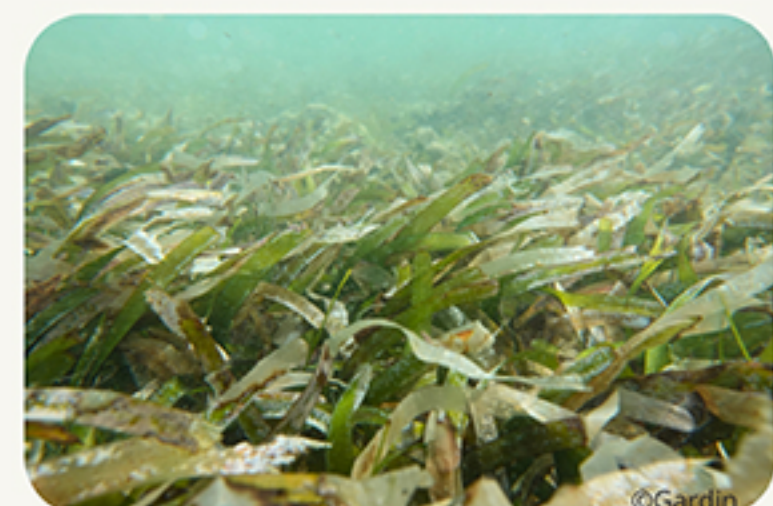
### The environmental policy of the Guadeloupe Port Authority

- Active restoration of natural areas
- Valorization & ecotourism
- Public awareness raising
- Infrastructure optimization
- Monitoring natural areas

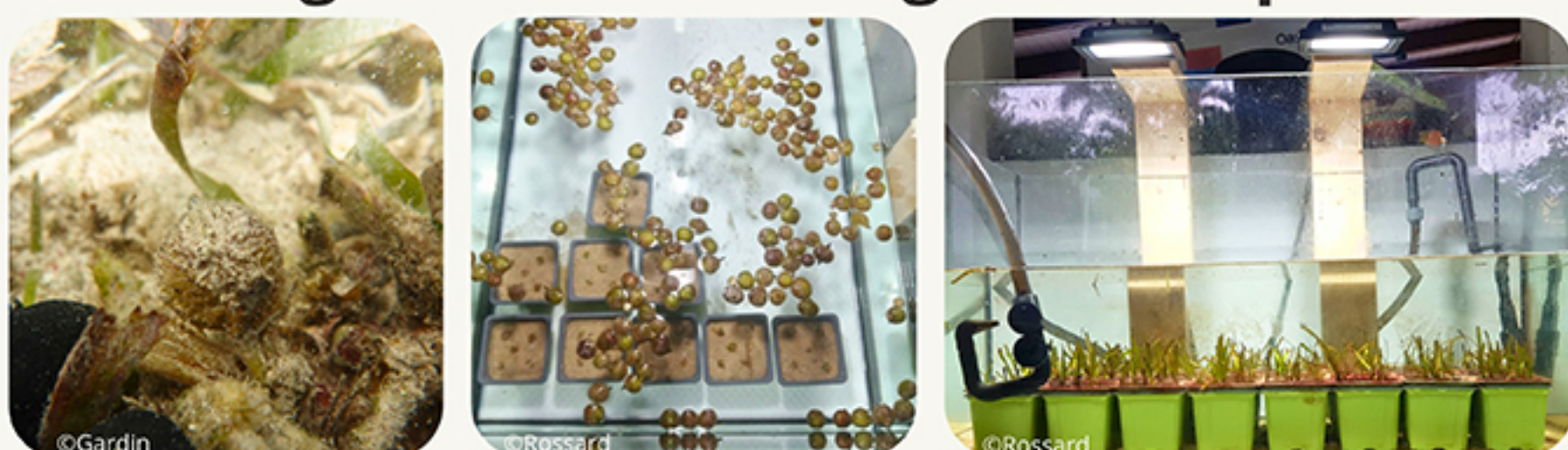
## Marine phanerogam seagrass beds



**Targeted species:**  
*Thalassia testudinum*  
Turtlegrass



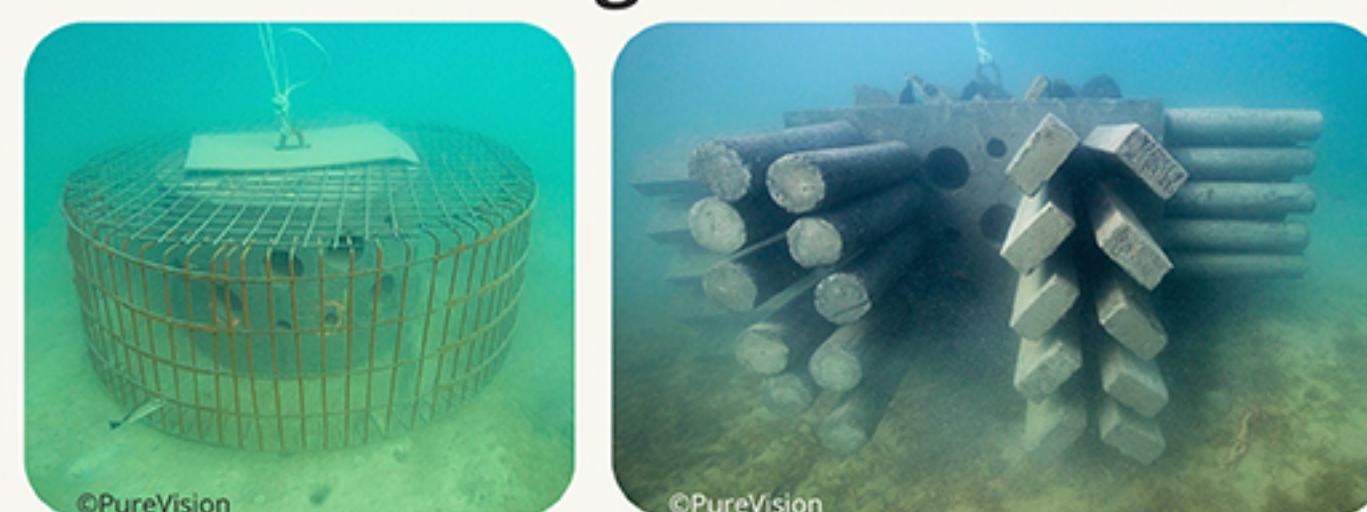
### In vitro germination and growth experiments & transplantation into the natural environment



- 162 fruits collected on 2 sites - mid-July 2023
- 236 seeds planted - mid-July 2023
- 224 plants growing - end September 2023
- Transplant scheduled for January 2024

### Ecomoooring area: Reduce anthropogenic pressure on seagrass beds surrounding the Cochons Islet

- 6 ecomoorings (LIFE) + 57 standard moorings (GPMG) - Jan. 2023
- 20 screw anchors (LIFE) scheduled by end of 2023
- Biannual ecological monitoring of seagrass beds



### Educational underwater trail: Raise awareness about marine life biodiversity with a focus on the seagrass meadows ecosystem

- 4 educational buoys + 2 land-based panels
- Creation of underwater trail in January 2024
- Hawksbill turtle nesting site
- Biannual ecological monitoring of seagrass beds



## Coral reefs



**Targeted species:**  
*Acropora cervicornis*  
Staghorn coral



*Acropora palmata*  
Elkhorn coral



- **Two coral nurseries: *A. cervicornis* & *A. palmata***
  - 21 trees, 7 domes, 8 tables: 2,600 cuttings
  - Growth monitoring protocol, genetic studies
  - Structures maintenance, diseases management

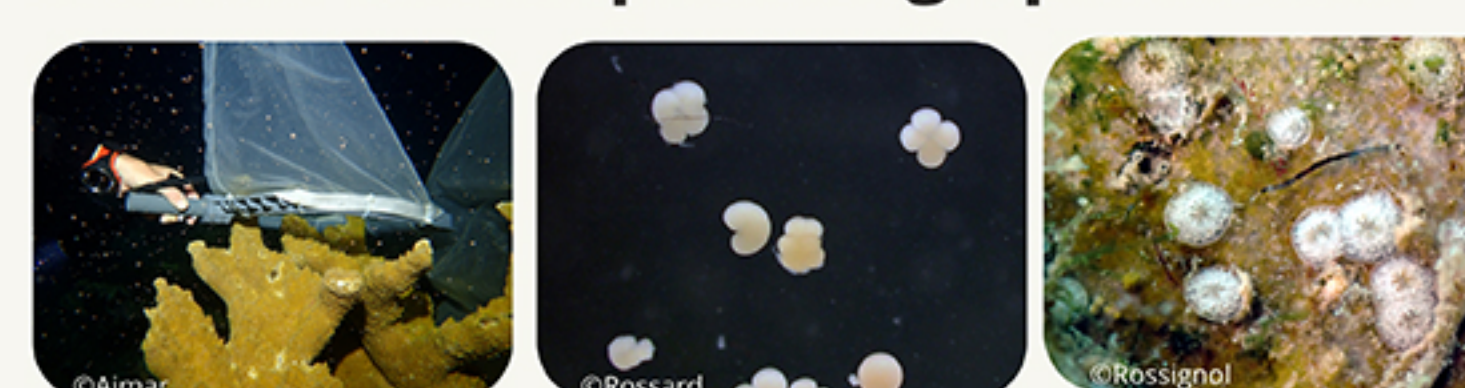


### Annual coral transplantation



- 2021, 2022, 2023: 4 sites
  - 1,550 *A. cervicornis*: bunch of cuttings on coral reef & domes
  - 42 *A. palmata*: concrete cubes & domes
- Biannual ecological & growth monitoring

### Annual coral spawning operations



- *A. cervicornis* & *A. prolifera*: Observation of potential spawning
- *A. cervicornis* in nurseries: Observation of gonad maturity
- *A. palmata*: collection of gametes with monitoring of the early stages of cell and larval development (coral larvae pool)

## Terrestrial actions



- Enabling the **development** of mangroves in an **urbanized area prone to flooding**
- **Disposal** and **treatment** of plant and inert waste
- **Diversify** mangrove species - Two mangrove nurseries

## Further informations

**CariPorts** - An environmental label for Caribbean ports

guadeloupe-portcaraibes.com  
cayoli.fr  
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