# MAHE

### MARINE CONSERVATION



## **MAHE MARINE CONSERVATION**

Join one of our flagship research projects to develop hands-on practical fieldwork experience or complete an independent research project as part of your undergraduate or postgraduate dissertation.

Mahe has an amazing habitat to research across 24 dive sites including: 58 taxa of commercial fish across 8 families, 49 genera of coral from 16 families, 47 taxa of invertebrates, and 31 taxa of reef fish.



### **RESEARCH OBJECTIVES**

### HUB OBJECTIVES INCLUDE

- Provide a long-term and consistent collection of data, assessing the overall health and development of the reef system in northern Mahe on behalf of the Seychelles National Parks Authority (SNPA) to be used for regional coastal marine management and international understanding of changing reef systems.
- Collection of benthic cover assemblage data and coral diversity for the purpose of coral reef health assessment across the north west of Mahe for SNPA.
- Coral recruit assessments to monitor the coral reef recovery as well as the assessment of coral reef reproductive success and expansion on behalf of SNPA.



### **RESEARCH OBJECTIVES**

- Monitoring of commercial taxa across the north west of Mahe with a focus on commercial invertebrates (octopus, squid, sea cucumbers) as well as a focus on commercial fish for SNPA.
- Collect data on the abundance and diversity of reef fish taxa across the north west of Mahe on behalf of SNPA.
- Collect data and information on coral bleaching across the north west of Mahe for CORDIO East Africa (Coastal Oceans Research and Development - Indian Ocean).





## **FLAGSHIP RESEARCH PROJECTS**

### MONITORING OF COMMERCIAL INVERTEBRATE TAXA

### MONITORING OF COMMERCIAL FISH TAXA

Site: 24 dive sites across north west Mahe Research focus: Commercial invertebrate population Methodology: 50m belts Partners: Seychelles National Parks Authority (SNPA) Site: 24 dive sites across north west Mahe Research focus: Commercial fish population and biomass Methodology: 50m belts and stationary point counts (7m radius) Partner: Seychelles National Parks Authority (SNPA)



## **FLAGSHIP RESEARCH PROJECTS**

### DATA COLLECTION ON THE ABUNDANCE AND DIVERSITY OF REEF FISH TAXA

Site: 24 dive sites across north west Mahe Research focus: Assessing the health of a coral reef ecosystem Methodology: 50m belts and stationary point counts (7m radius) Partners: Seychelles National Parks Authority (SNPA) COLLECTION OF BENTHIC COVER ASSEMBLAGE DATA AND CORAL DIVERSITY

Site: 24 dive sites across north west Mahe Research focus: Coral reef health assessment Methodology: Line intersect transects (10m) and 50m belts Partners: Seychelles National Parks Authority (SNPA)



#### RESEARCH OVERVIEW

## **FLAGSHIP RESEARCH PROJECTS**

### CORAL RECRUIT ASSESSMENTS

Site: 24 dive sites across north west Mahe Research focus: Coral reef recovery and assessment of coral reef reproductive success and expansion Methodology: Quadrates (1m) Partners: Seychelles National Parks Authority (SNPA)









## **INDEPENDENT RESEARCH PROJECTS**

### HUB TOPICS INCLUDE

- Coral reef health
- Invertebrates
- Fish
- Marine plastic pollution beach survey belts (stock take or accumulation)
- Marine plastic pollution beach survey, quadrates (focus on macro and micro plastics)
- Marine megafauna
- Environmental education
- Invasive species
- Coral bleaching
- Water quality



## **INDEPENDENT RESEARCH PROJECTS**

#### Recommended topics on datasets we have:

- Diversity of megafauna incidental sightings.
- Comparison of marine protected areas against non protected areas focusing on a specific species or family.
- Comparison of granitic against carbonite survey sites focusing on a specific species or family.

#### Recommended topics for new research projects:

- Water quality, microplastics, socio-economic impacts.
- Flower urchin population (there has recently been a significant increase and interns would assist in developing new datasets).





## **EXISTING DATASETS**

### AVAILABLE DATASETS INCLUDE

- 15 years of data on the coral reef ecosystems: coral and benthic cover, coral diversity, coral recruit density; invertebrates abundance, diversity, and density; fish abundance, density, diversity (reef fish and commercial fish) biomass for commercial fish.
- 15 years of data (inconsistent) on megafauna incidental sightings that documents diversity.



## **TARGET SPECIES**

### **REEF FISH**

- Butterflyfish
- Angelfish
- Anemonefish
- Surgeonfish
- Bristletooth
- Unicornfish
- Soldierfish
- Parrotfish
- Rabbit fish
- Wrasse
- Triggerfish
- Emperors
- Snappers
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- Squirrelfish
- Moorish idol
- Cardinal fish
- Pufferfish
- Porcupinefish

### **COMMERCIAL FISH**

- Groupers
- Sweetlips

#### RESEARCH OVERVIEW

## **TARGET SPECIES**

### **INVERTEBRATES**

- Coral
  - Acroporidae
  - Pocilloporidae
  - Poritidae
  - Dendrophyliidae
  - $\circ$  Euphyllidae
  - Fungiidae
  - Coscinaraeidae
  - Psammocoridae
  - Siderastreidae

- Lobophyllidae
- Astrocoeniidae
- Diploastreidae
- Plesiastreidae
- Agariciidae
- Scleractinia Incetae Sedis
- Merulinidae
- Annelida
  - Feather duster worms
  - Christmas tree worms
  - Spaghetti worms



#### RESEARCH OVERVIEW

## **TARGET SPECIES**

- Platyhelminthes
  - Flatworms
- Arthropoda: Crustacea
  - Shrimps
  - Mantis shrimp
  - $\circ$  Crabs
- Mollusca: Bivalves
  - Giant clam
  - Oyster
- Mollusca: Cephalopoda
  - Squid
  - Cuttlefish
- Urchins
- Sea stars

- Mollusca: Gastropoda
  - Cone shell: Conidae
  - Triton shell: Ranellidae
  - Conch/Stromb shell: Strombidae
  - Helmet shell: Cassidae
  - Cowrie shell: Cypraeidae
  - Top/Turban shell: Trochidae/Turbinidae
  - Murex shell: Muricidae
  - Nudibranchia



## **TARGET SPECIES**

### MARINE MEGAFAUNA

- Lemon sharks
- Hawksbill
- Green turtles
- Aldabra giant tortoises
- Rays
- Dolphins







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