CCAM Coral Reef Workshop in the PBPA, 22<sup>nd</sup> January 2021



# Status of Coral Reefs in the PBPA

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#### Assessing and monitoring coral reefs

 'Healthy' reefs vs. degraded reefs – compare nationally and regionally  Fish and urchins that stop algae/seaweed overgrowing

Animals and plants inside and outside of reef compete for space:

Those that promote reef growth (coral, CCA, turfs)

 Those that <u>compete</u> – overgrow and displace (seaweeds, PEYS, aggressive sponges/gorgonians, turfs with trapped sand)



#### Stony Corals Reef-building corals vs. contributing corals 18.3% Fair



# Fleshy algae (seaweed)

- When seaweeds too abundant outcompete corals no space for new corals
- Most reefs had ~20%+ fleshy algae



19.3%

Poor

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Poor



# Other aggressive organisms that take over the reef

• Overgrow or compete with coral, no space for new corals







### Urchins – grazers

Highest densities long-spined urchin and reef urchins - Pigeon Island

#### New corals and space



#### Herbivores - Fish that clean

parrots, tangs, doctorfish

#### 'Commercial' Fish

Groupers & snappers are key predators that keep food chain in balance (grunts included here)

1616g (3.5lbs)/100m<sup>2</sup> Poor

655g (1.4lbs)/100m<sup>2</sup> Poor





- High numbers of small parrots/ doctors/tangs/ grunts
- Snapper and jack below average
- Grouper absent

### Parrotfish as reef cleaners

68% Striped parrotfish



#### **14%** Stoplight parrotfish





**10%** Redband parrotfish



**5%** Yellowtail parrotfish





- Parrotfish most abundant but all 2-4 inches long
- All juvenile or young fish = nearly all sexually immature & ineffective cleaners

#### **PBPA Key Threats:**

- Fish needed for healthy reefs are absent or very small – not sustainable
- Some areas of the reef totally overgrown by seaweed (fleshy algae)
- Low numbers of urchins
- New coral disease?

#### New challenges and stress Stony Coral Tissue Loss Disease (SCTLD)

https://www.agrra.org/coral-disease-outbreak/

#### Final words:

Damaged reefs show signs of hope with baby corals, weedy corals stabilising rubble, larger reef building corals present, and some areas with urchins....& lots of small fish

Apart from a few nurse sharks & 1 reef shark no other larger predators, no turtles (couple in previous surveys), no larger fish and low diversity

