



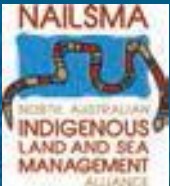
Australian Government

Department of the Environment and Energy



Following on from *the state of the reef...* what are your concerns?

Libby Evans-Illidge AIMS



- 1.Coral Bleaching and Reef health
- 2.Climate change
- 3.Crown of Thorns
- 4.Marine research on sea country
- 5.Reef restoration and adaptation



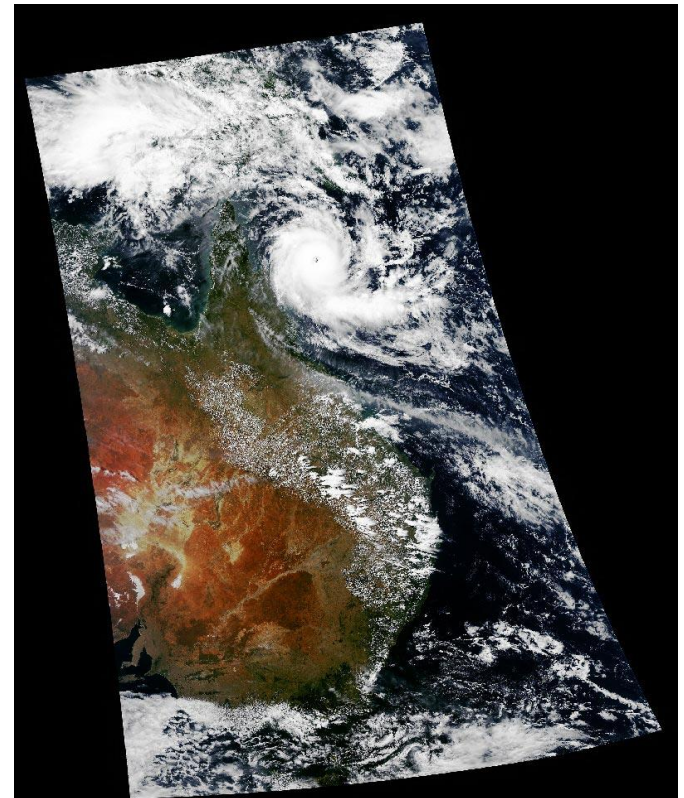
1. Reef Health

- Coral bleaching - What causes it?
- The 2016 and 2017 CB events. How bad is it? How much of the reef is dead? Is the damage reversible?
- Water quality - damage from contaminants in runoff from the land.
- Plastic pollution.
- Dredging



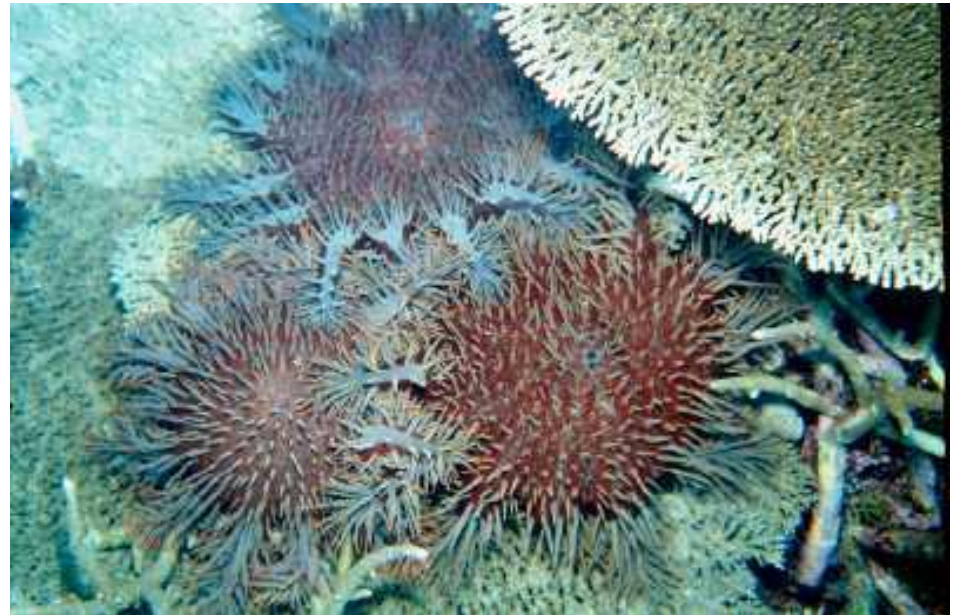
2. Climate change

- What will the reef look like in future? How will the biodiversity of the reef change? How will the changes impact opportunities for livelihoods and economic activity?
- Inundation risks due to sea level rise (low lying coastal areas)
- Increased cyclone risk



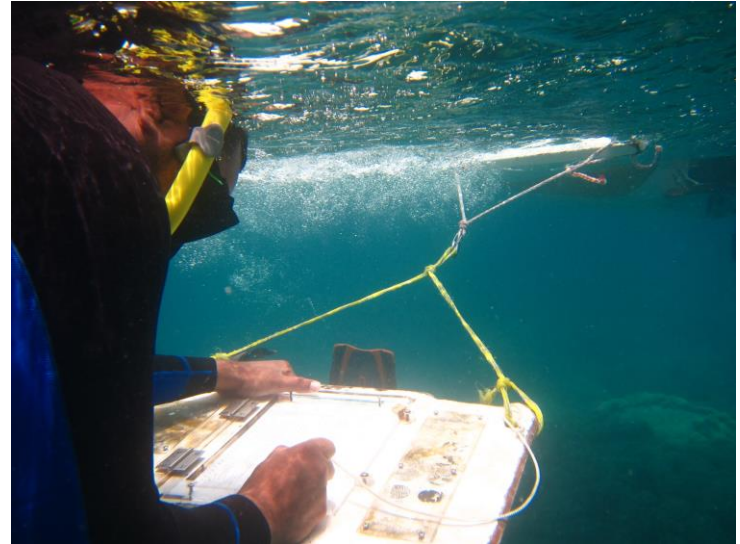
3. Crown of Thorns Seastar

- How much of the reef is impacted by COTS?
- Where are they? Where will they turn up next?
- How can COTS be controlled?



4. Marine research on sea country

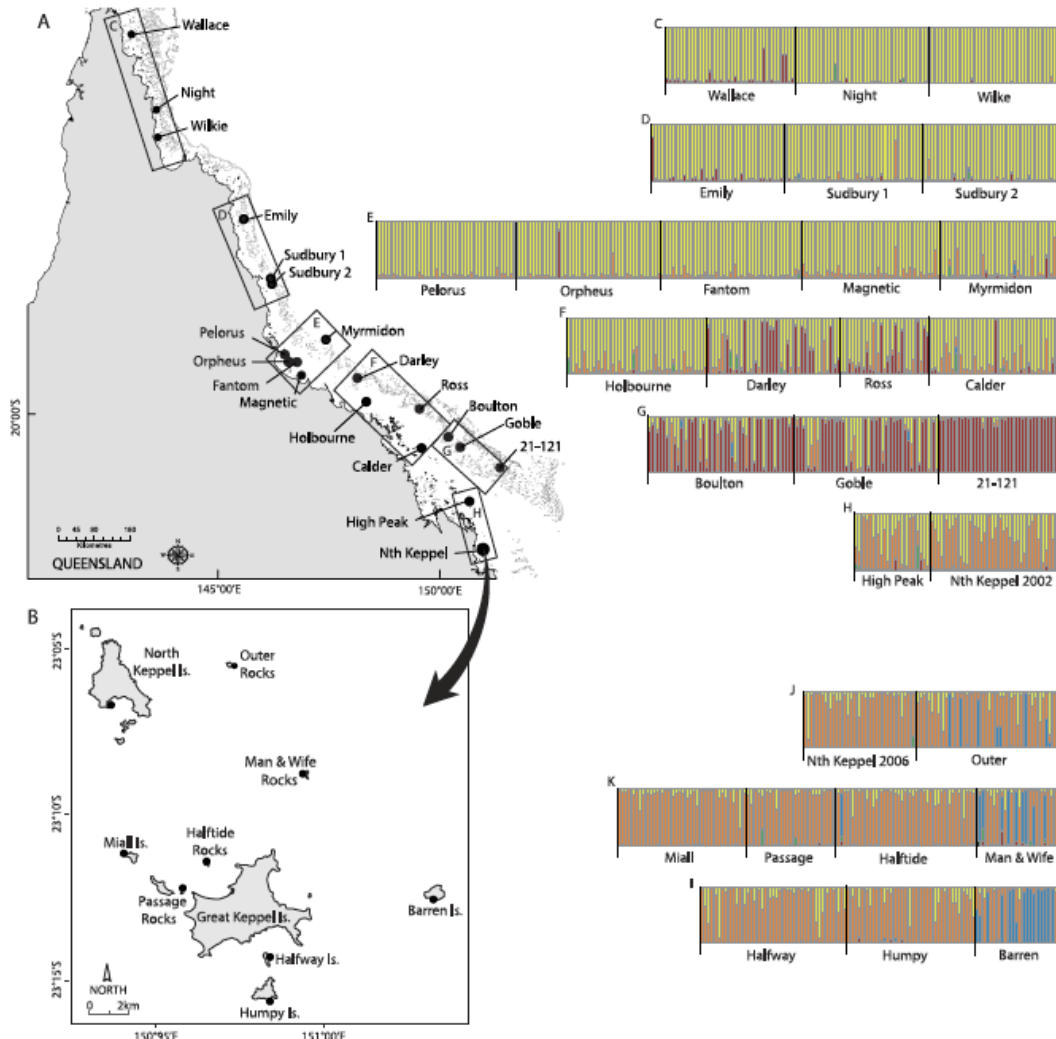
- Traditional owners don't have access to the results and data.
- More Traditional Owner involvement in research
 - Input to planning research, collaborating, participating.
- More Traditional Owner control over research?
 - Prior informed consent for granting permits for research on sea country by non-TOs
 - Greater capacity for research by TOs



5. Reef restoration and adaptation

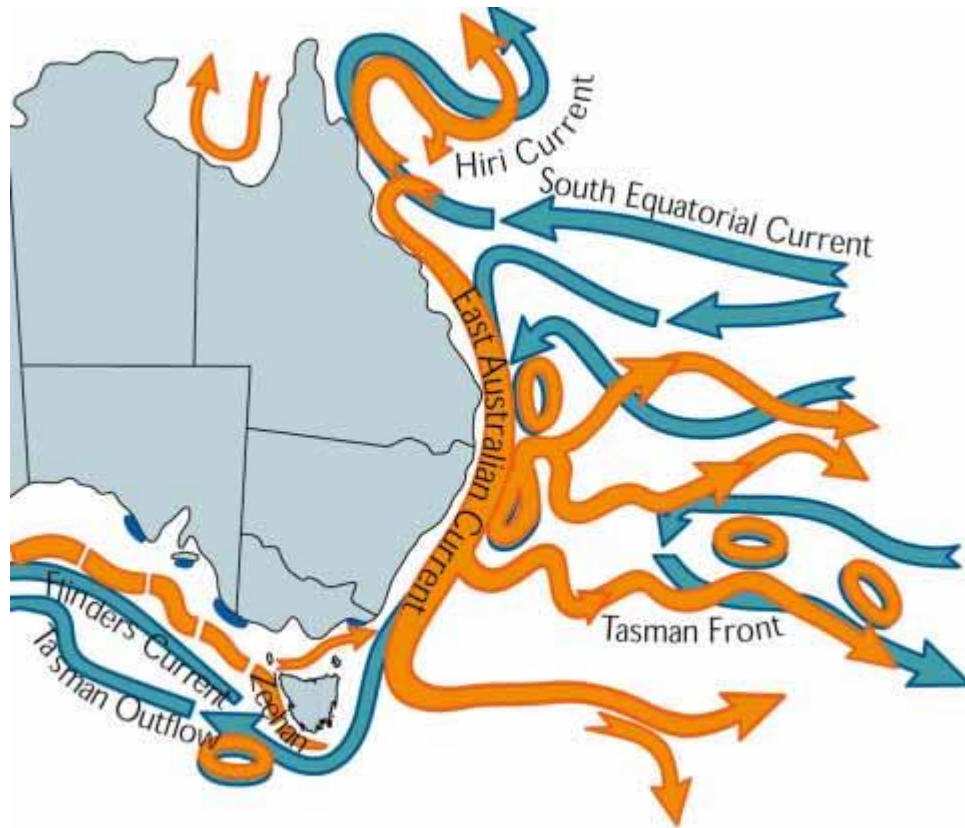
- Opportunities for Traditional Owners to contribute and participate
- Biological options being considered
 - Assisted gene flow – move warm adapted corals (northern reefs) to cooler southern reefs.
 - Assisted evolution – the algae (to get more heat tolerant algae); and the coral (selective breeding of more tolerant hybrids)

DNA study shows GBR corals are related

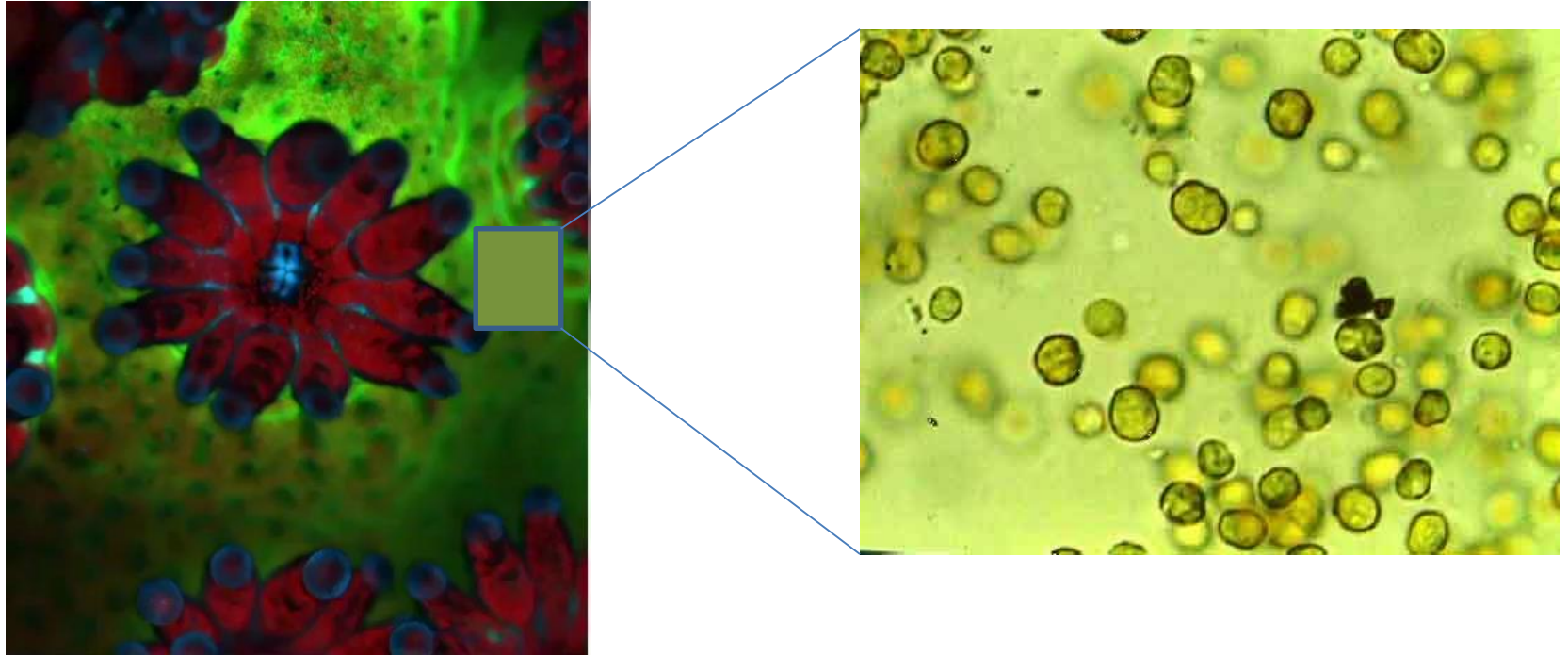


Connectivity already exists (larval dispersal), but is limited due to currents.

Assisted gene flow – across currents

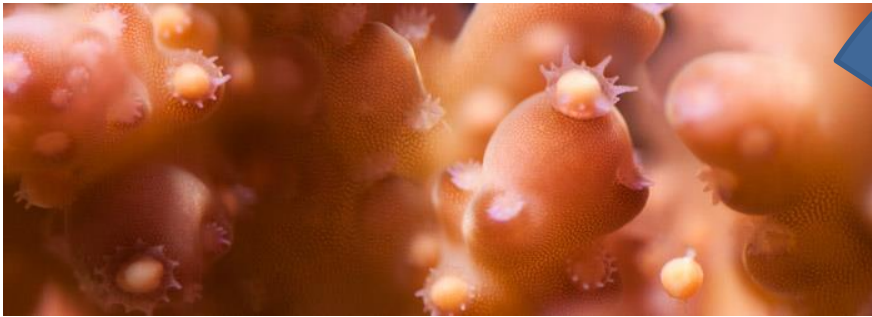


Assisted evolution – the algae



Try to breed heat tolerant algae – and introduce these to corals

Assisted evolution – the coral





Group Workshop

Consider the draft list of TO concerns

For talking about:

- **Do you share these concerns?**
- **Elaborate?**
- **Other concerns and challenges?**
- **Ideas/suggestions for solutions?**

Please use the post-it notes to record your input.