

Great Barrier Reef and the Coral Sea - marine parks and draft management plans

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Outline

- What is the Great Barrier Reef and why is it worth protecting?
- Threats to the Great Barrier Reef
- Spatial management on the GBR
- The Coral Sea management plans, 2012-2018





Australian Government
Great Barrier Reef
Marine Park Authority

Great Barrier Reef Marine Park



AUSTRALIA

AREA

344,400 km²

LENGTH

2300 km long

70 million
football fields

Roughly the
same area as...



ITALY



JAPAN



GERMANY



MALAYSIA

3000



coral reefs

600



continental islands

1625



types of fish

133



varieties of
sharks and rays

600



types of soft
and hard corals

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ENVIRONMENT

Great Barrier Reef valued at \$56 billion by Deloitte economists

By [Adam Gartrell](#)

Updated 26 June 2017 —
12:35am, first published at
12:15am



The Great Barrier Reef is worth \$56 billion.

That's the "total asset value" according to a new Deloitte Access Economics report that calculates the World Heritage site's full economic, social and iconic brand value for the first time.



Threats to the GBR





Threats to the GBR



Climate change



Poor water quality



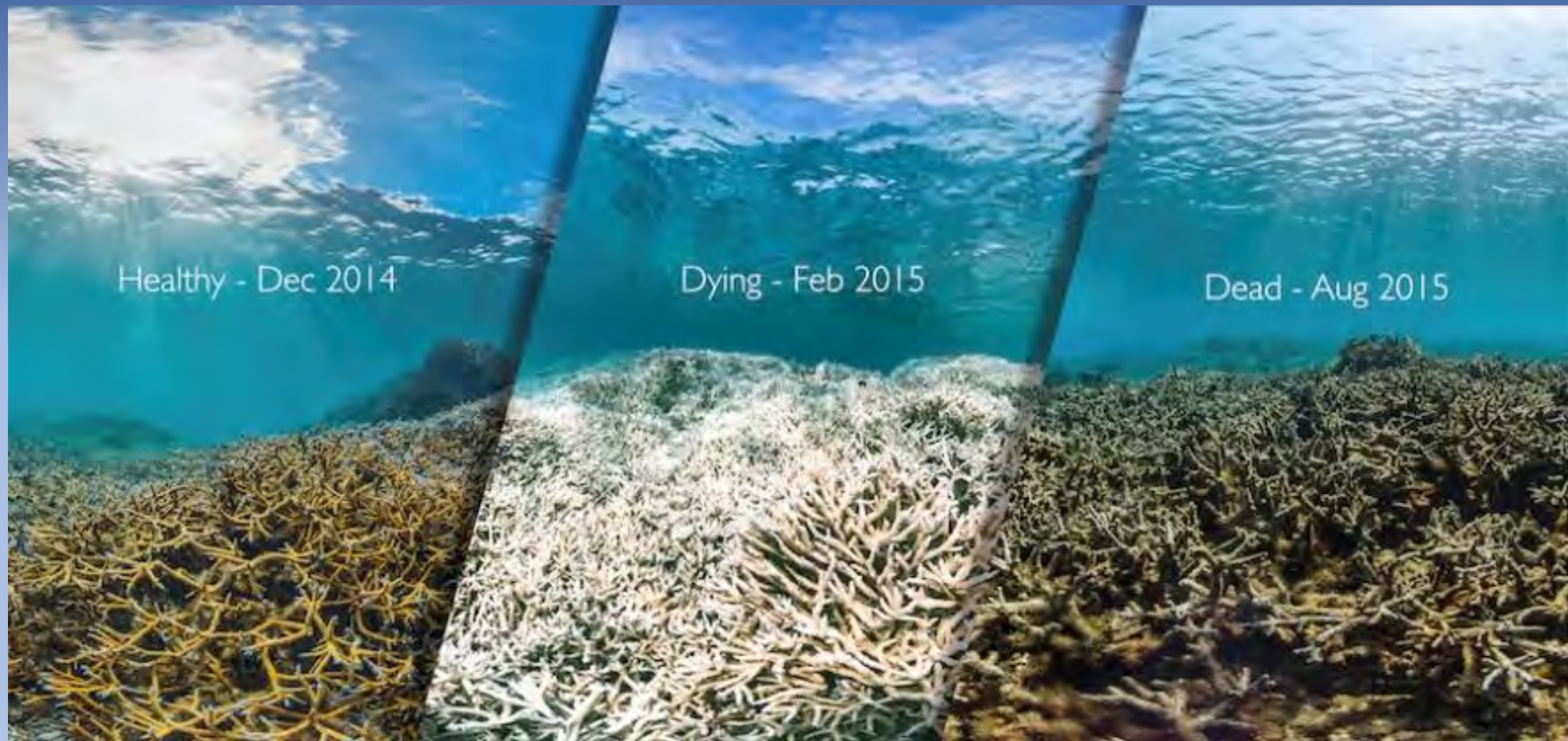
Coastal development

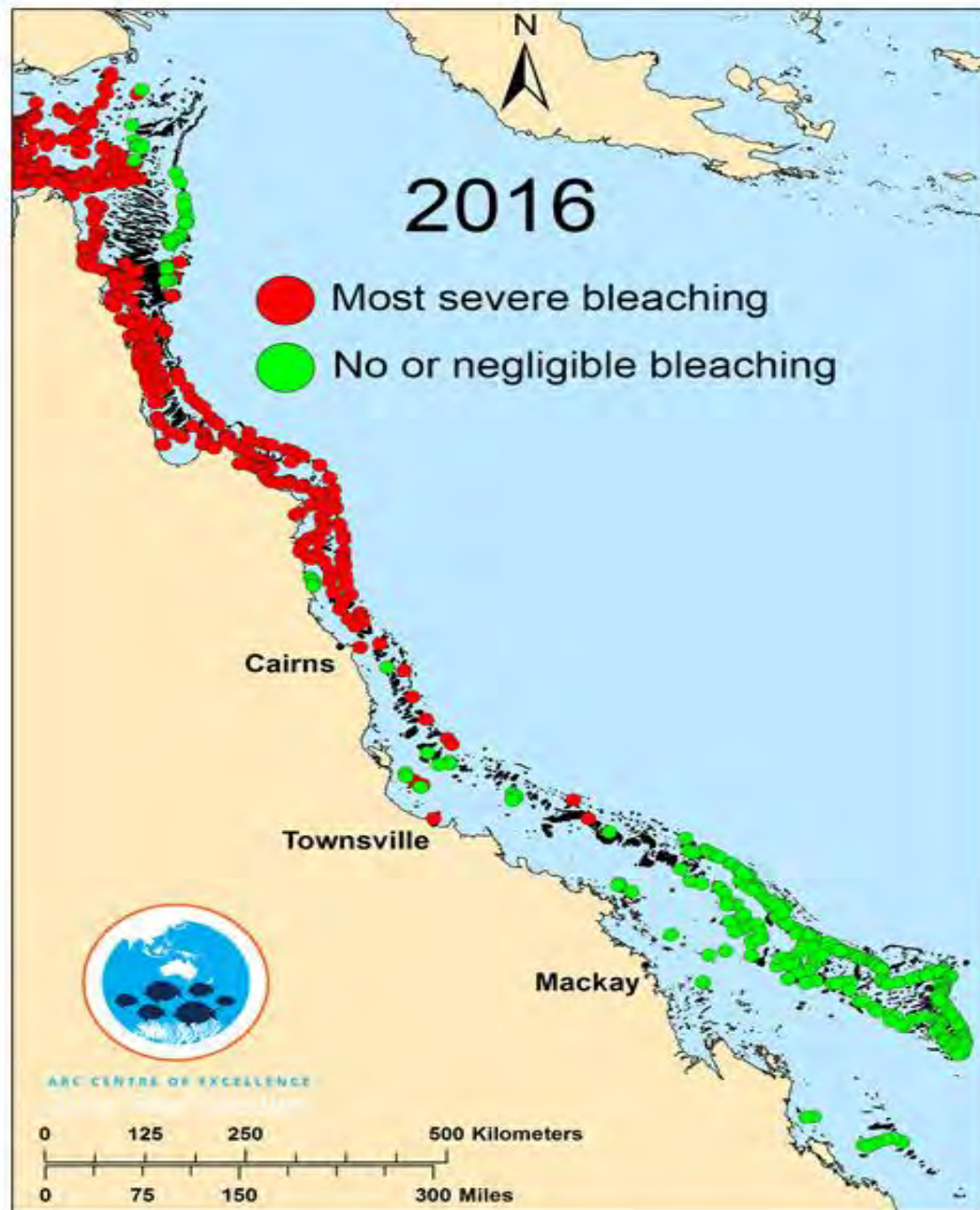


Fishing

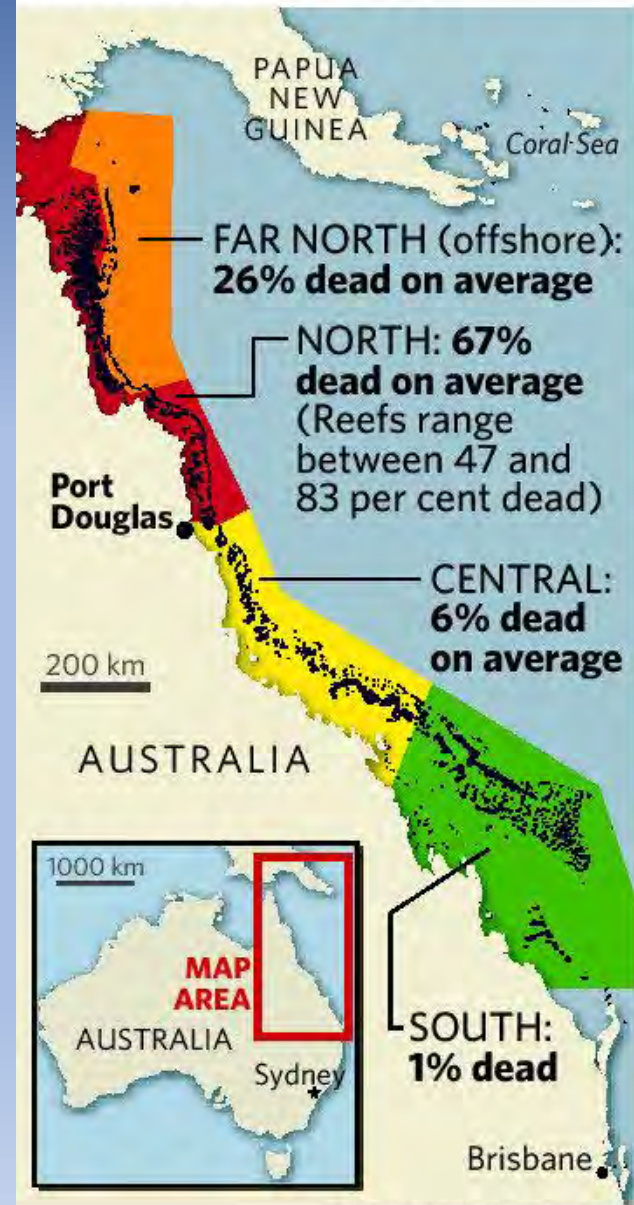
Coral Bleaching





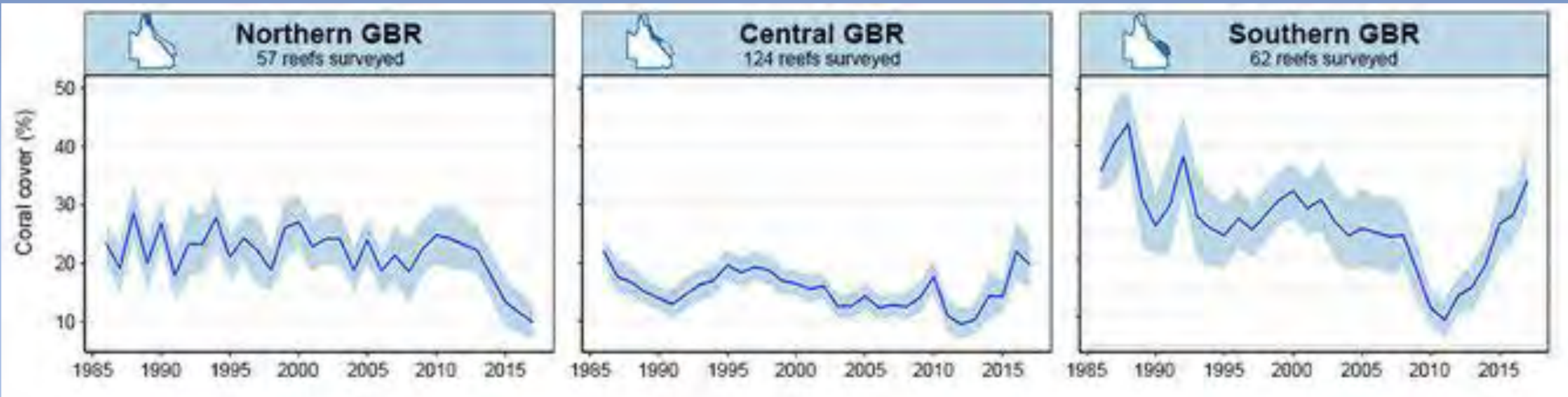


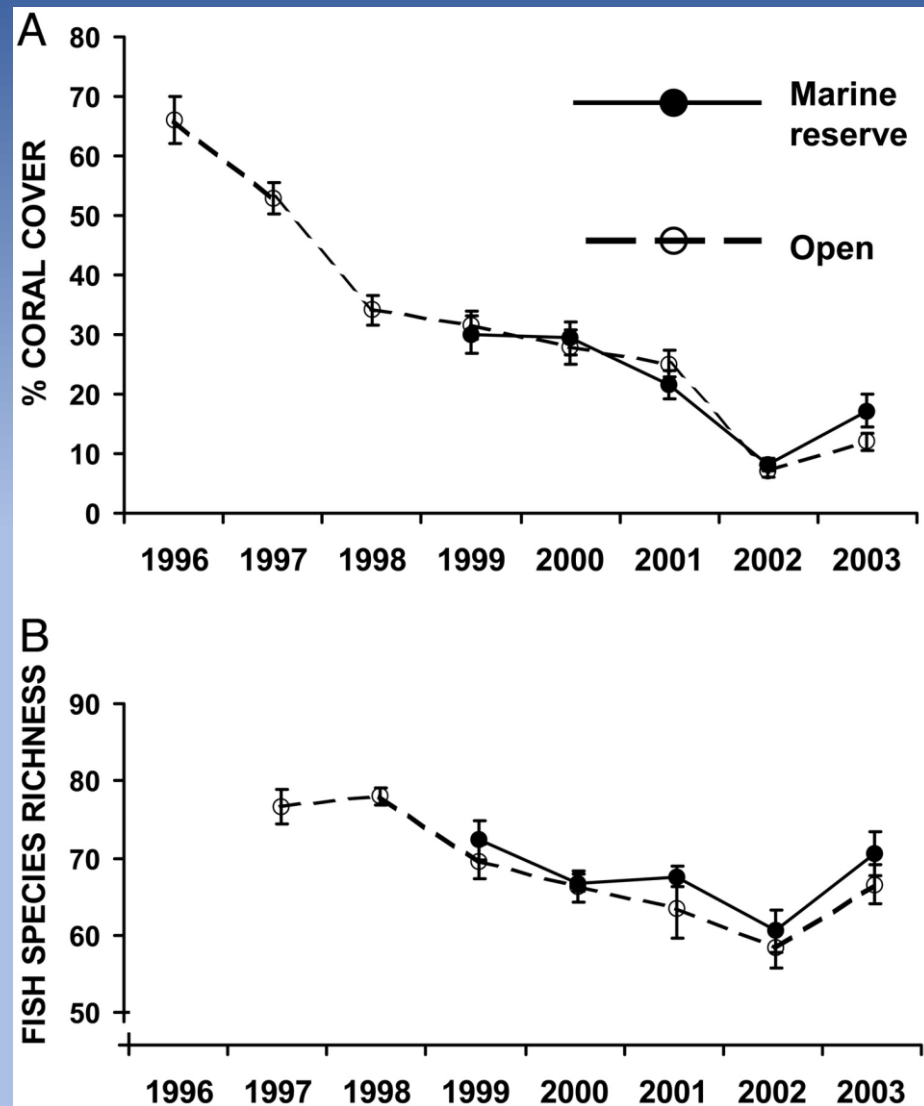
Coral death in Australia's Great Barrier Reef



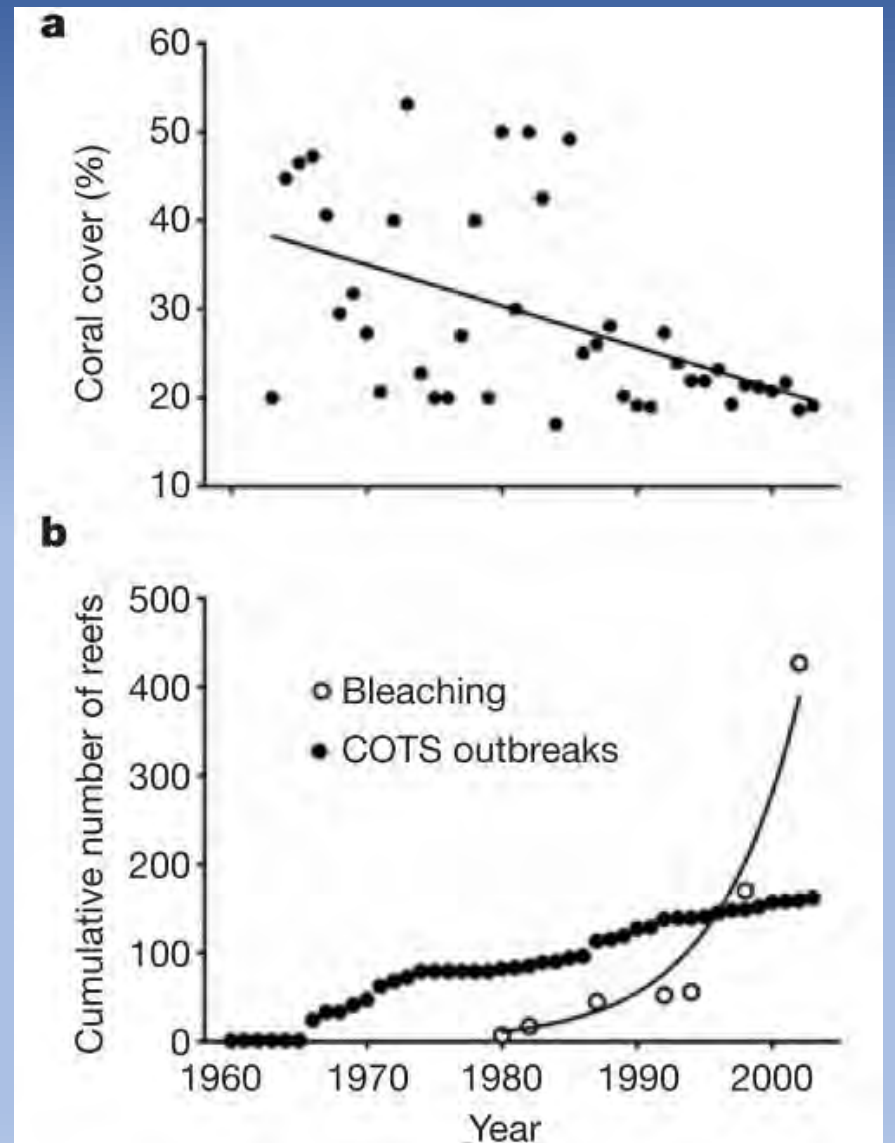
Crown-of-Thorns seastar







Jones et al 2004



Bellwood et al

Overfishing



Paul Hilton /



Effects of Fishing



Effects of Fishing



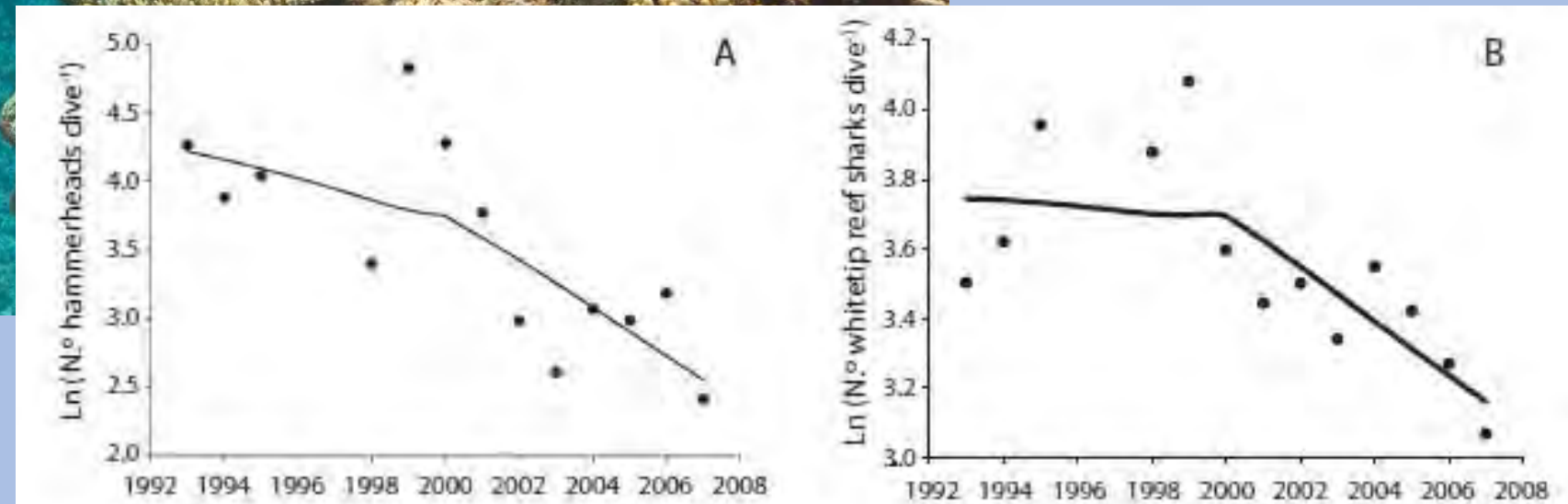
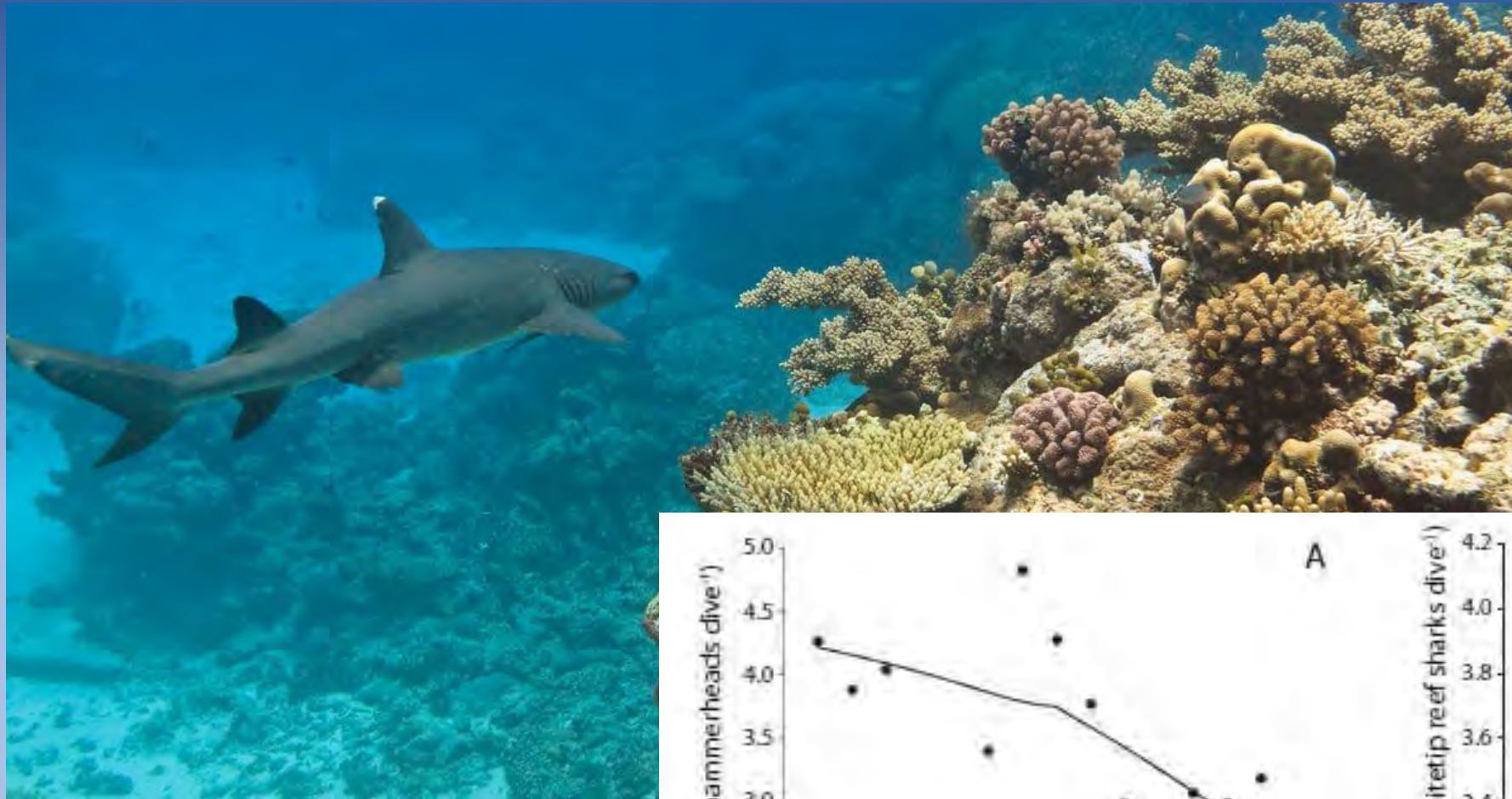
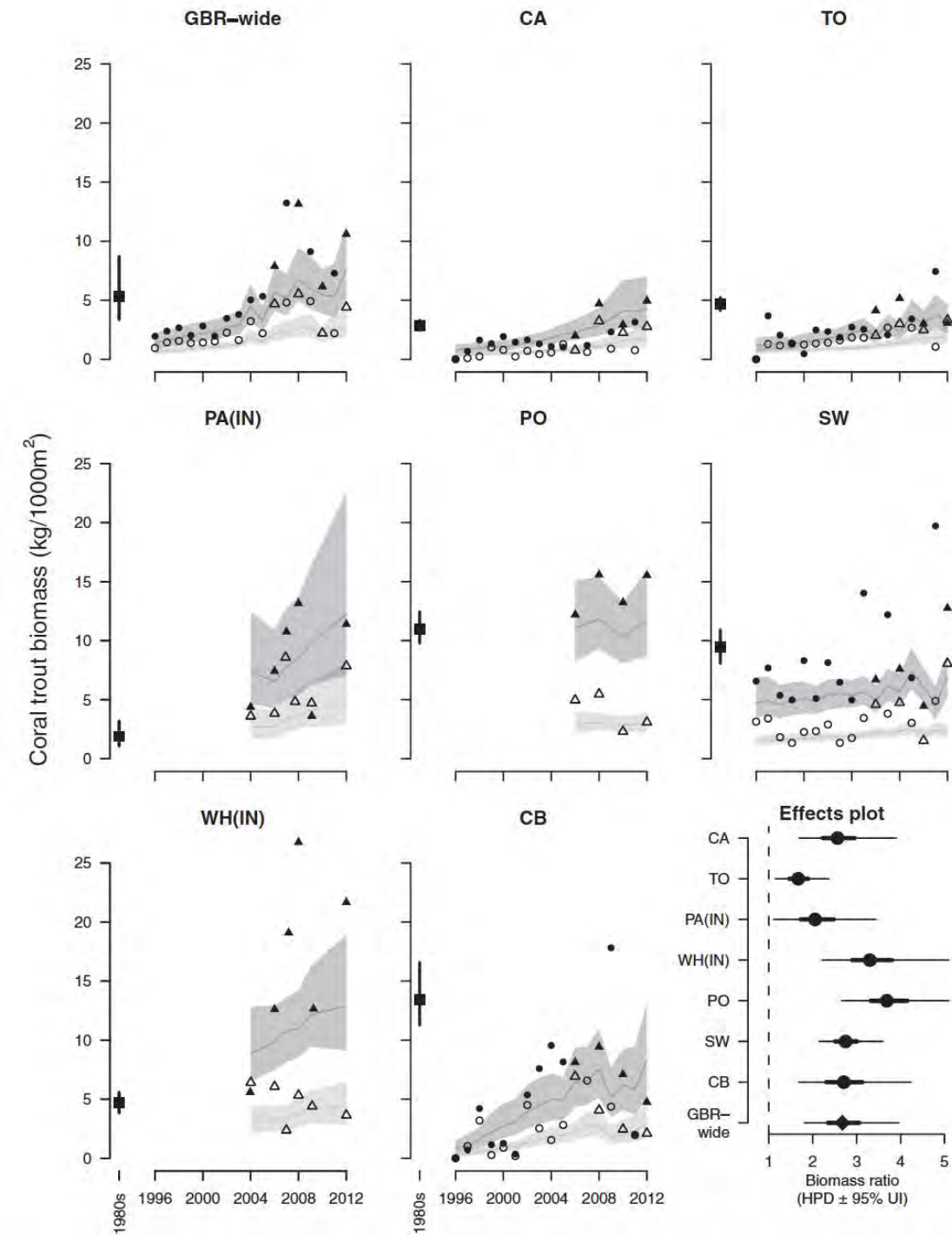
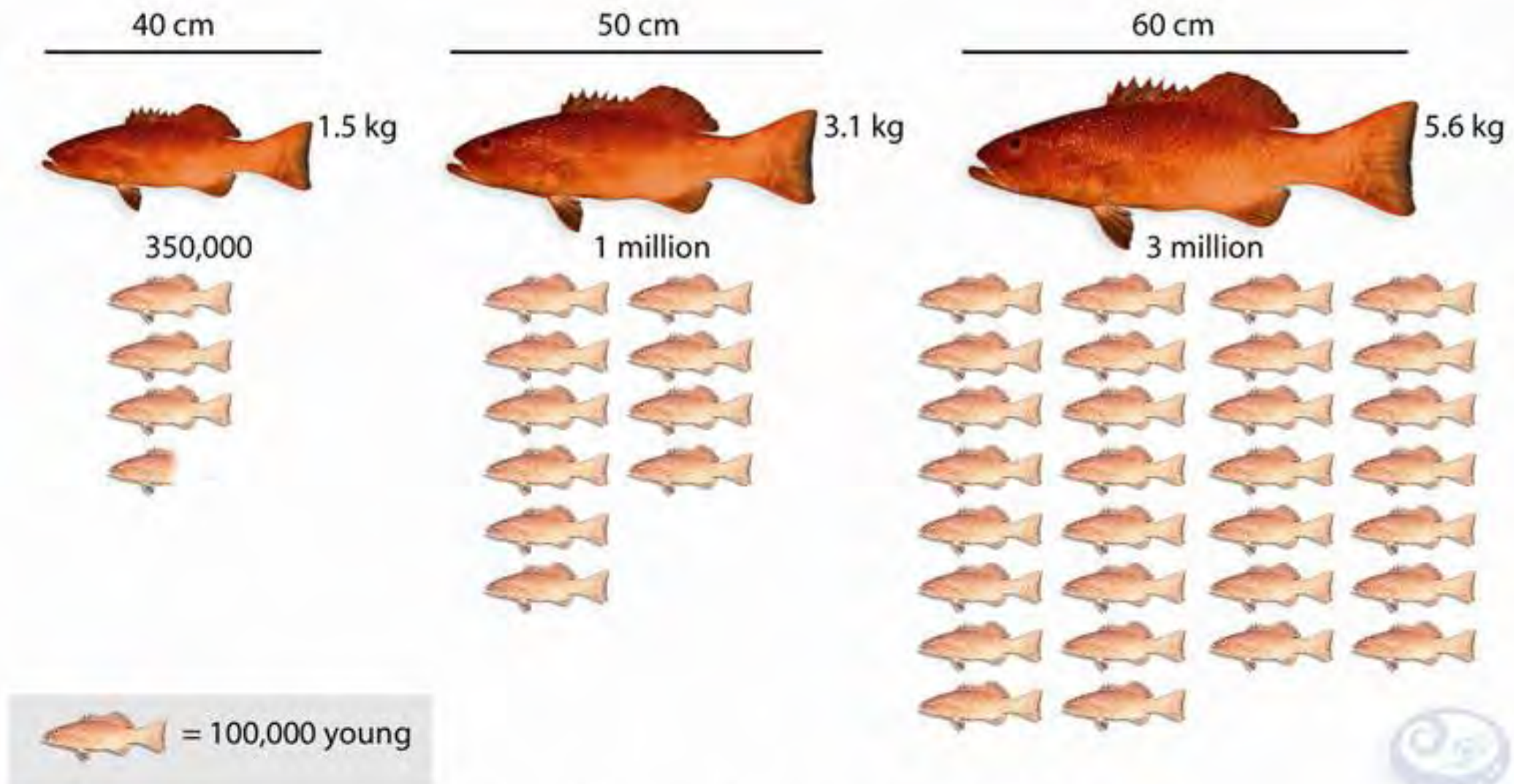


Fig. 7. (A) Number of hammerhead sharks (*Sphyrna lewini*) observed per dive at Isla del Coco National Park (adapted from Sibaja-Cordero 2006). (B) Number of whitetip reef sharks (*Triaenodon obesus*) observed per dive at Isla del Coco National Park (adapted from Sibaja-Cordero 2006). Trend lines generated using LOESS smoothing function (see text for details).

More coral trout in no-take areas



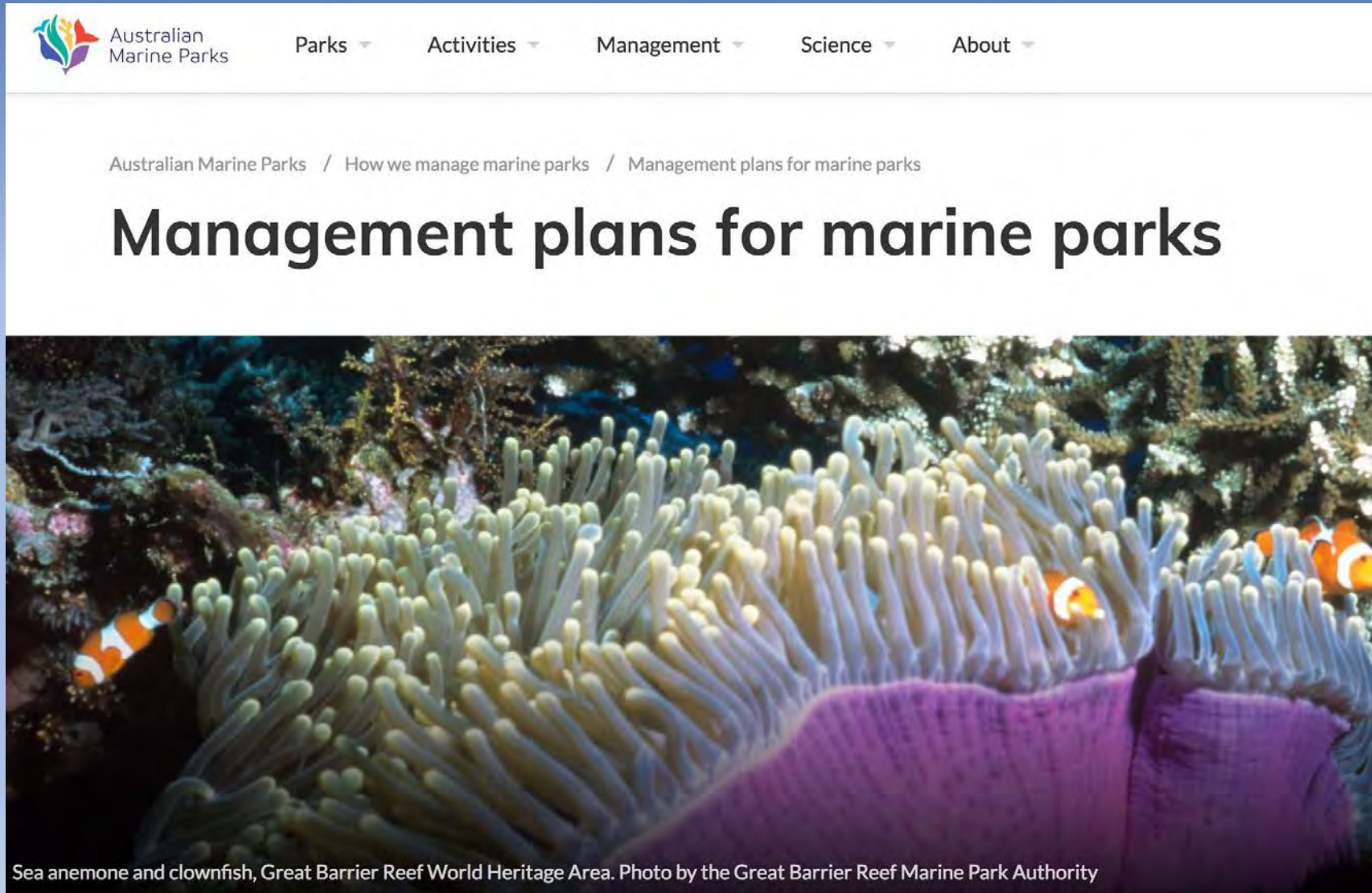


Average numbers of young produced by three different sizes of coral trout.
Data: Goeden (1978) Queensland Fisheries Service Research Bulletin

Solutions to overfishing

- Commercial fishing quotas, prohibited species
- Recreational fishing bag limits (numbers, sizes)
- Closed seasons
- Spatial management
 - → Multi use Marine parks

Spatial management on the GBR, a history



Multiple use zoning

Ningaloo Marine Park Zoning (State Waters)*

	General use	Recreation	Sanctuary	Special purpose (benthic protection)	Special purpose (shore-based fishing)
Commercial fishing	Yes	No	No	No	No
Recreational fishing [#]	Yes	Yes	No	Troll fishing only	Finfish only
Observation	Yes	Yes	Yes	Yes	Yes
Research	Permit	Permit	Permit	Permit	Permit

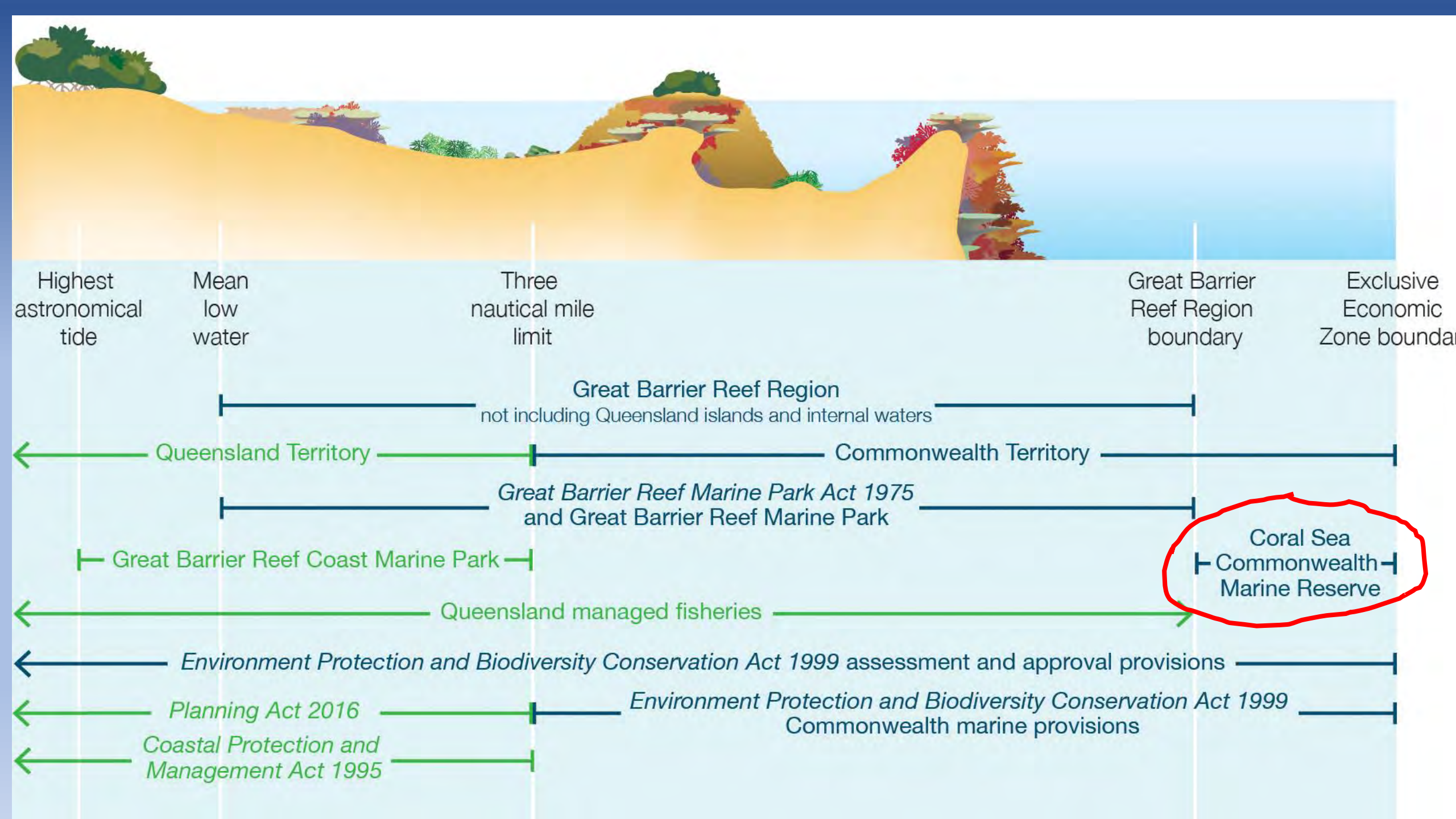
* See WA Department of Environment and Conservation Ningaloo Marine Park Brochure for more information. See Environment Australia Ningaloo Marine Park (Commonwealth Waters) Management Plan for activities permitted in Commonwealth Waters.

[#] See WA Department of Fisheries Recreational Fishing Guide (Gascoyne Region) Brochure for more information.

ACTIVITIES GUIDE

(see relevant *Zoning Plans and Regulations* for details)

	General Use Zone	Habitat Protection Zone	Conservation Park Zone	Buffer Zone	Scientific Research Zone 2	Marine National Park Zone	Preservation Zone
Aquaculture	Permit	Permit	Permit ¹	✗	✗	✗	✗
Bait netting	✓	✓	✓	✗	✗	✗	✗
Boating, diving, photography	✓	✓	✓	✓	✓ ²	✓	✗
Crabbing (trapping)	✓	✓	✓ ³	✗	✗	✗	✗
Harvest fishing for aquarium fish, coral and beachworm	Permit	Permit	Permit ¹	✗	✗	✗	✗
Harvest fishing for sea cucumber, trochus, tropical rock lobster	Permit	Permit	✗	✗	✗	✗	✗
Limited collecting	✓ ⁴	✓ ⁴	✓ ⁴	✗	✗	✗	✗
Limited spearfishing (snorkel only)	✓	✓	✓ ¹	✗	✗	✗	✗
Line fishing	✓ ⁵	✓ ⁵	✓ ⁶	✗	✗	✗	✗
Netting (other than bait netting)	✓	✓	✗	✗	✗	✗	✗
Research (other than limited impact research)	Permit	Permit	Permit	Permit	Permit	Permit	Permit
Shipping (other than in a designated shipping area)	✓	Permit	Permit	Permit	Permit	Permit	✗
Tourism programme	Permit	Permit	Permit	Permit	Permit	Permit	✗
Traditional use of marine resources	✓ ⁷	✓ ⁷	✓ ⁷	✓ ⁷	✓ ⁷	✓ ⁷	✗
Trawling	✓	✗	✗	✗	✗	✗	✗
Trolling	✓ ⁵	✓ ⁵	✓ ⁵	✓ ^{5,8}	✗	✗	✗





Australian Government
Great Barrier Reef
Marine Park Authority



Queensland
Government

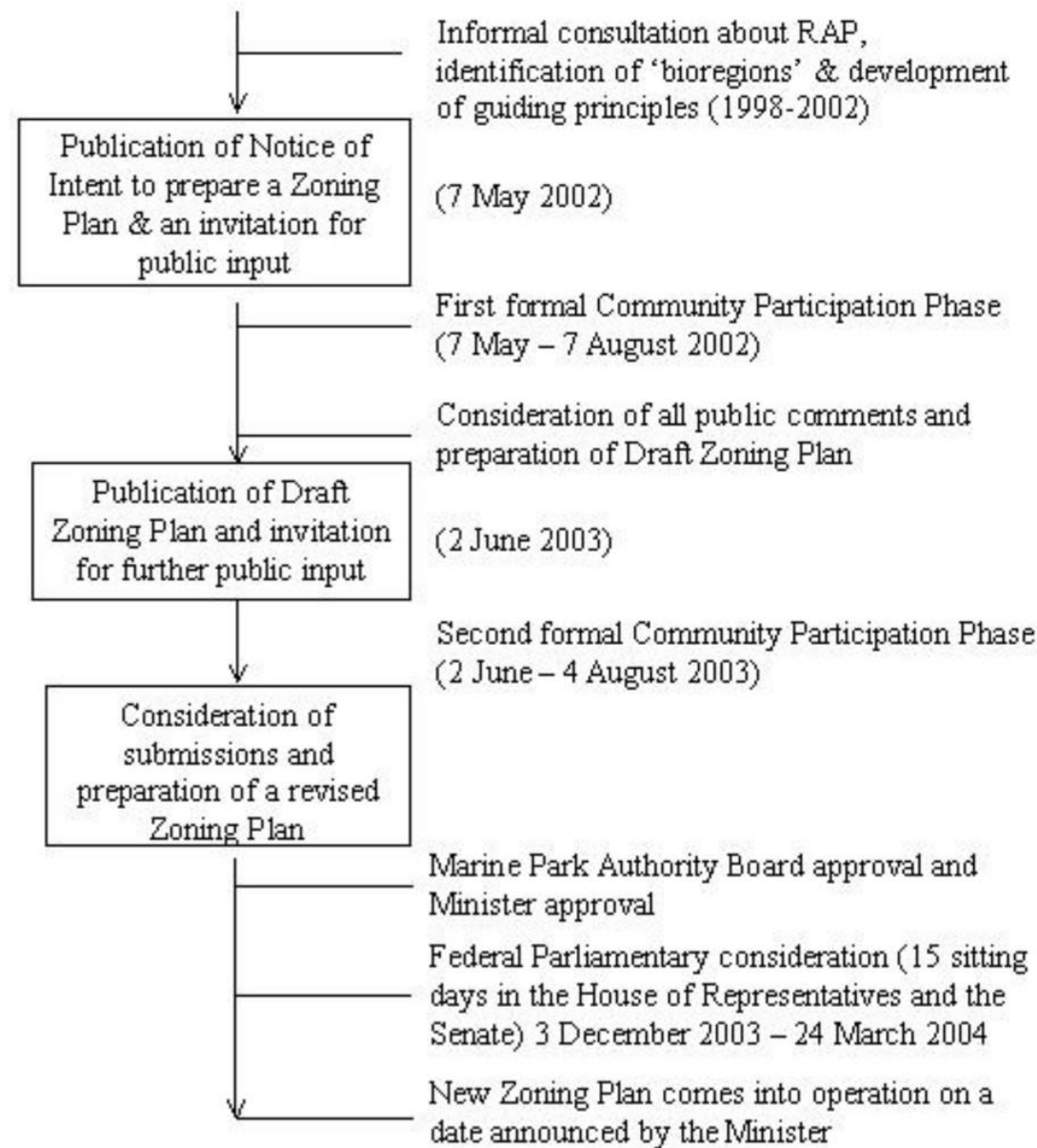
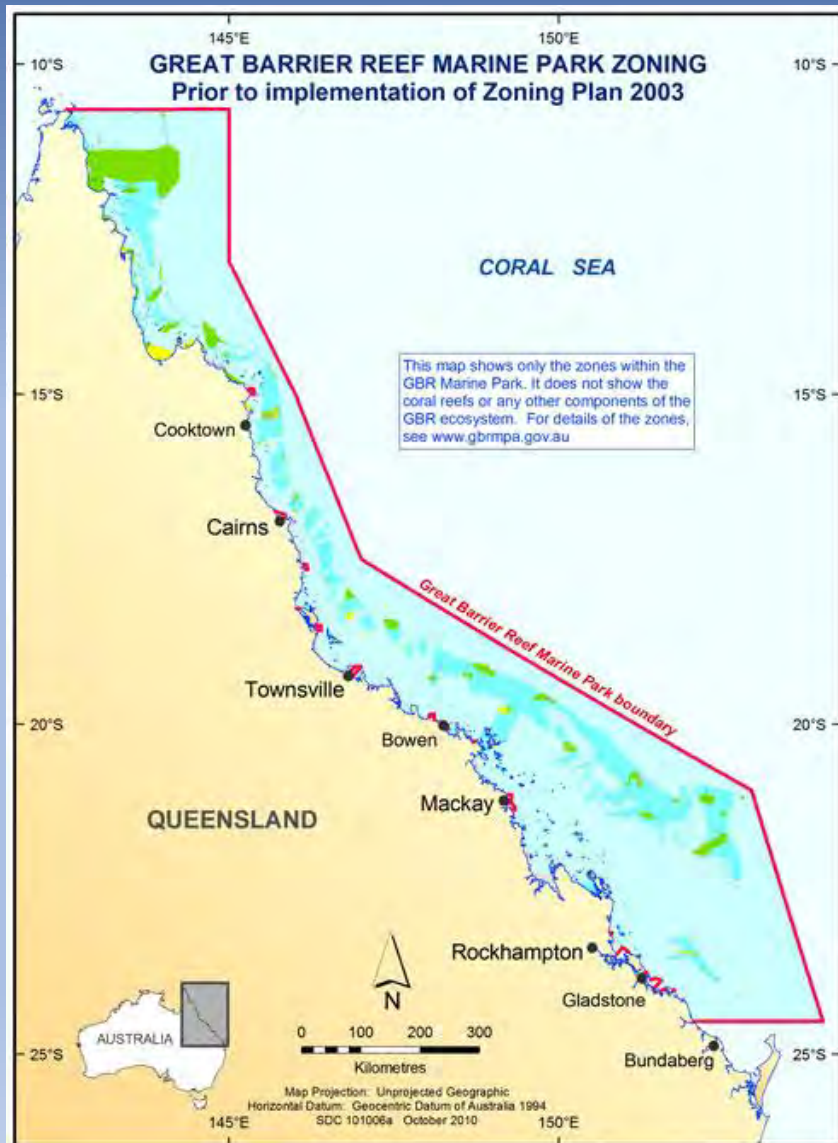
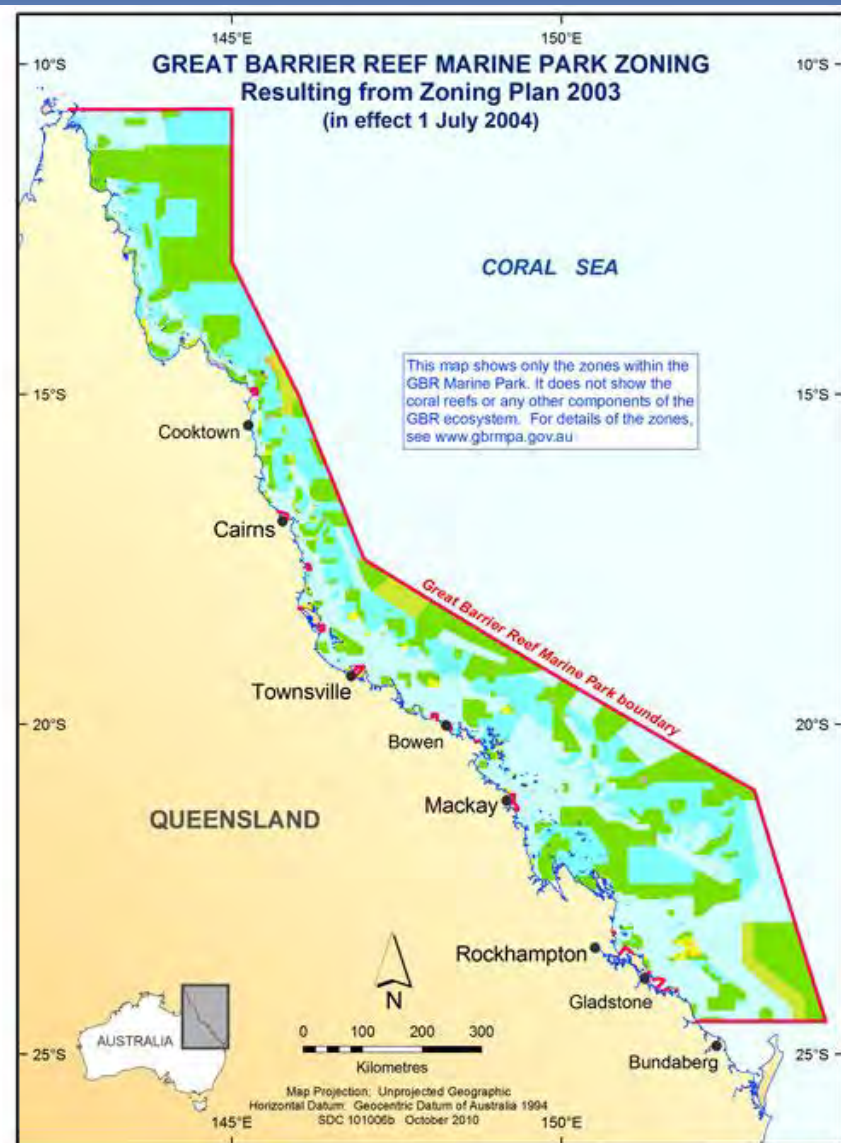


Figure 2. Zoning Plan process

Pre 2004



Post 2004



IUCN category

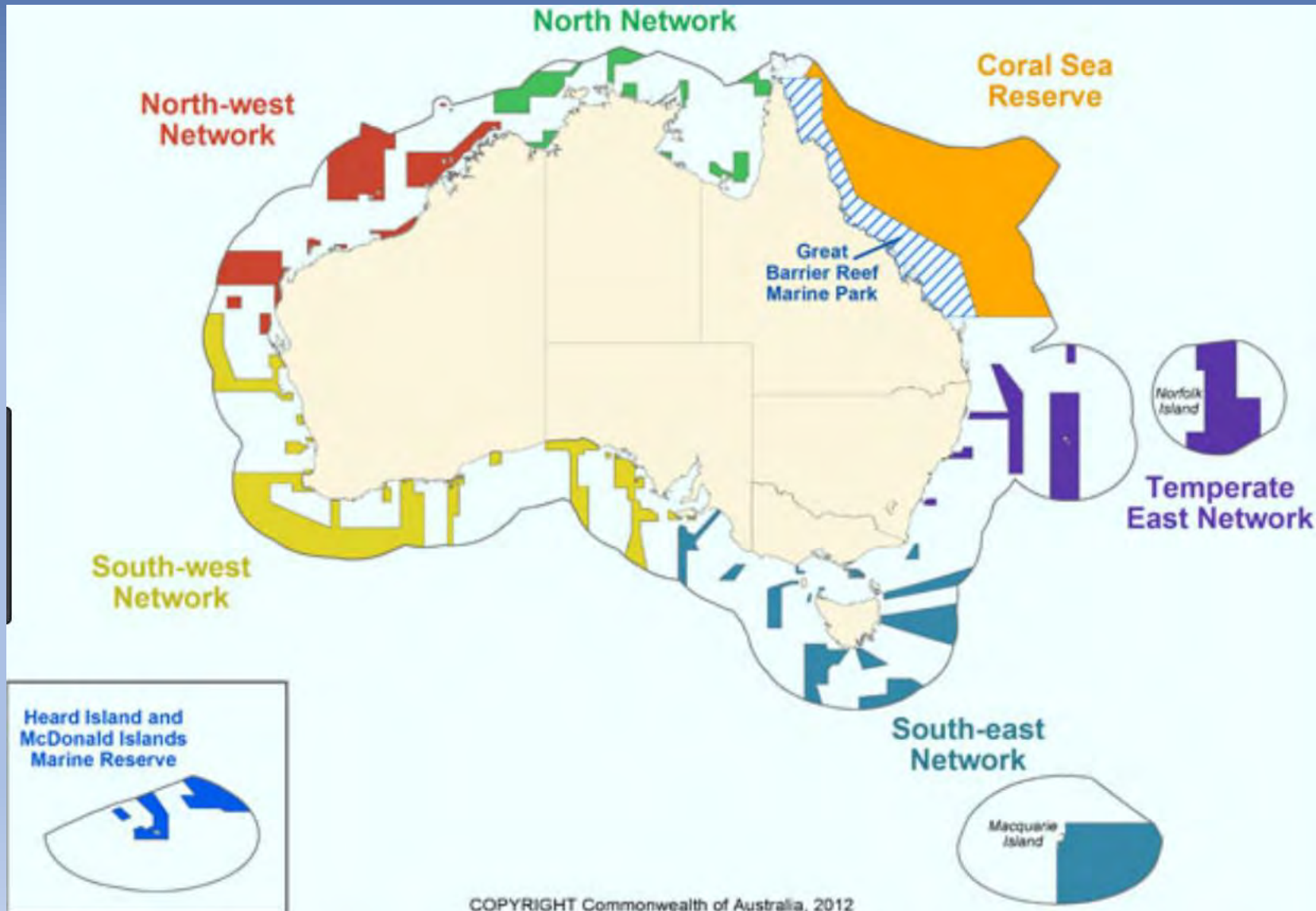
- [1.1 Category Ia – Strict Nature Reserve](#)
- [1.2 Category Ib – Wilderness Area](#)
- [1.3 Category II – National Park](#)
- [1.4 Category III – Natural Monument or Feature](#)
- [1.5 Category IV – Habitat/Species Management Area](#)
- [1.6 Category V – Protected Landscape/Seascape](#)
- [1.7 Category VI – Protected Area with sustainable use of natural resources](#)



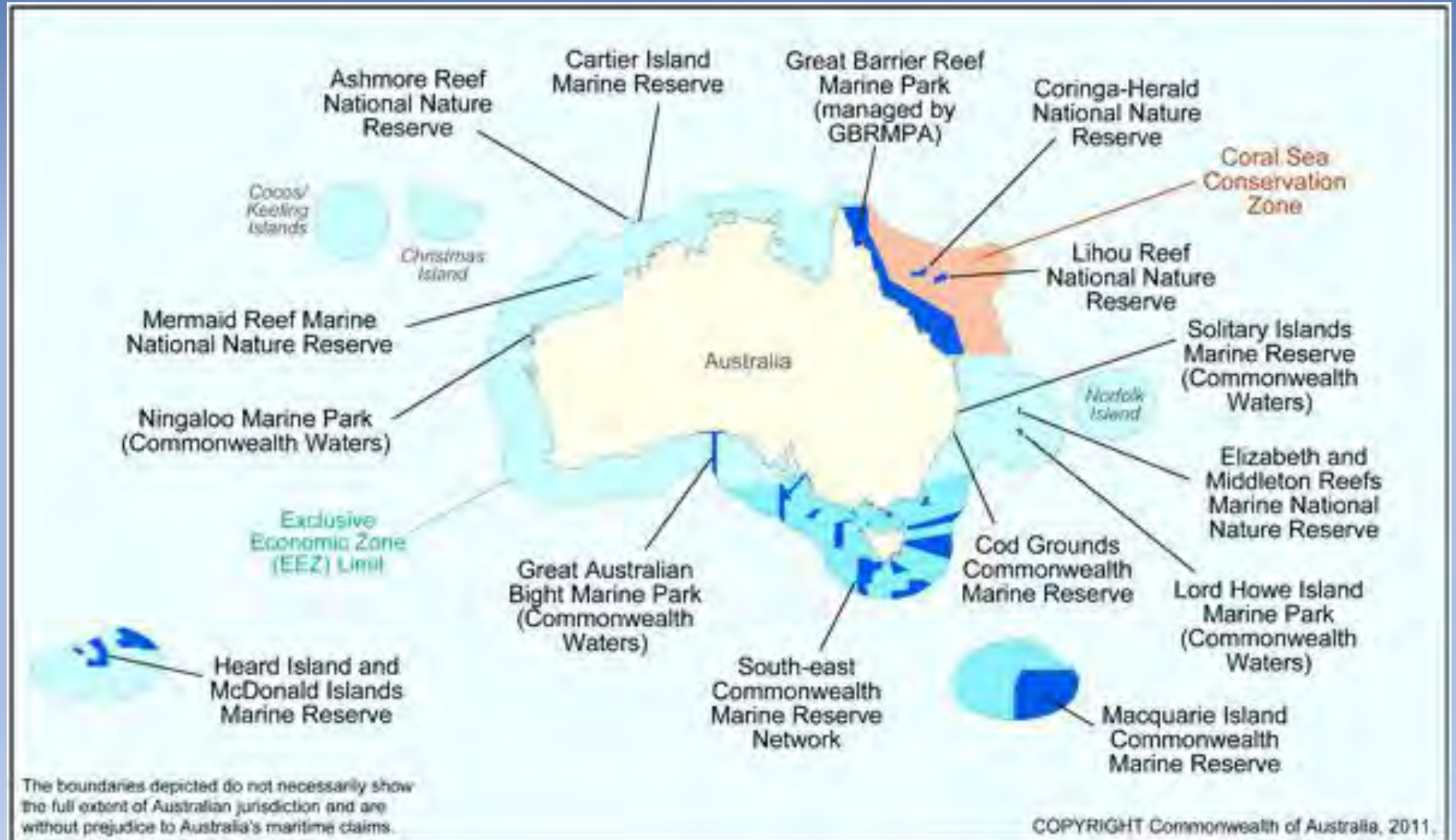
GBR Zoning

- [IUCN Category Ia](#) with an area of 859 square kilometres (332 sq mi) being about 0.2% of the marine park's area,
- [IUCN Category II](#) with an area of 114,309 square kilometres (44,135 sq mi) being about 33% ,
- [IUCN Category IV](#) with an area of 15,027 square kilometres (5,802 sq mi) being about 4% and
- [IUCN Category VI](#) with an area of 213,769 square kilometres (82,537 sq mi) being about 62%.

Under 7% no-take!!



Coral Sea



Spatial management Coral Sea

2012. Tony Burke Plan of management

2015-2016. Common wealth Marine Reserves
Review: Expert Scientific Panel

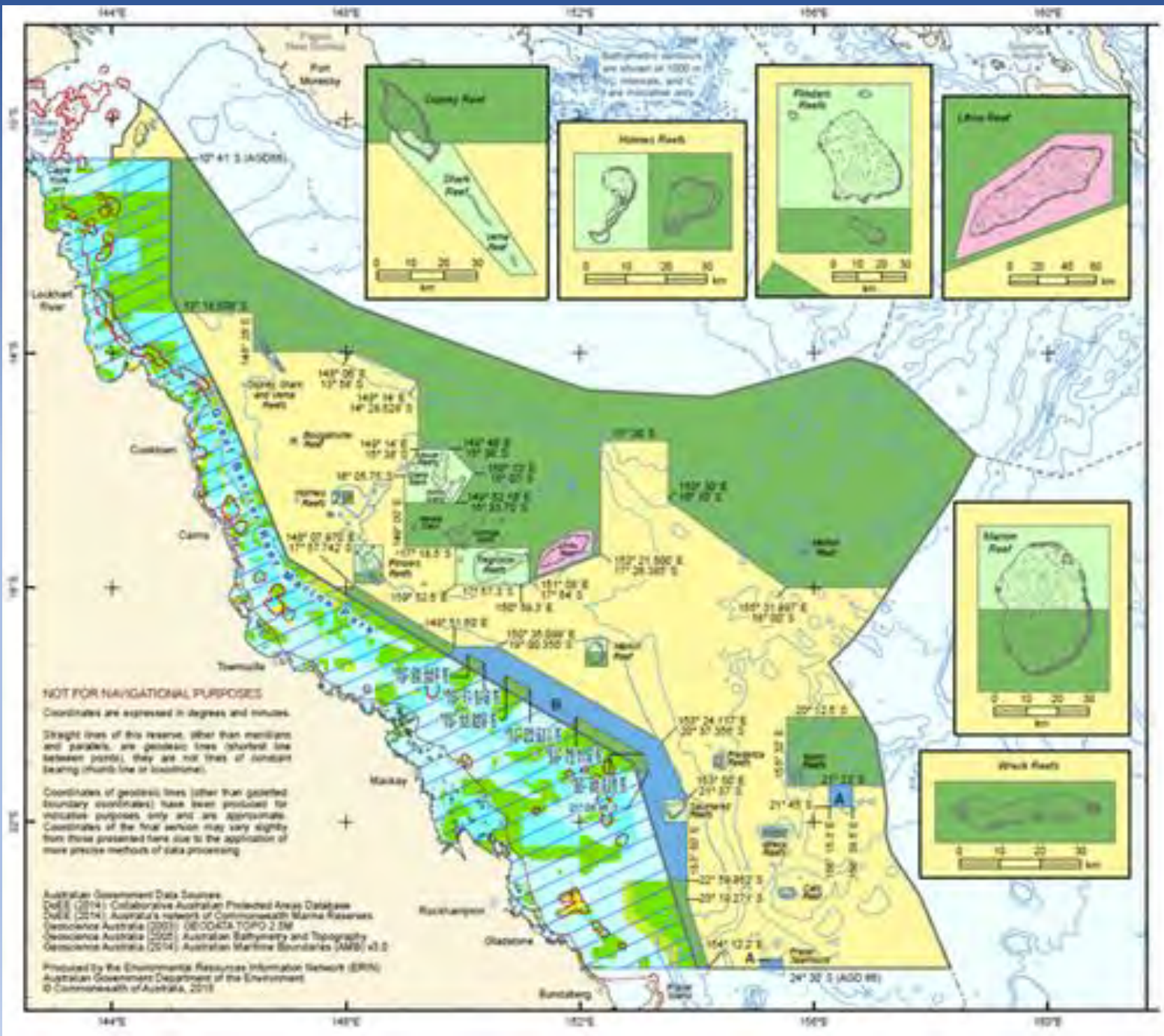
2017. New draft management plans released
endorsed Hon Josh Frydenberg

2012

No Take. 50%

Habitat Protection 30%

General Use 20%

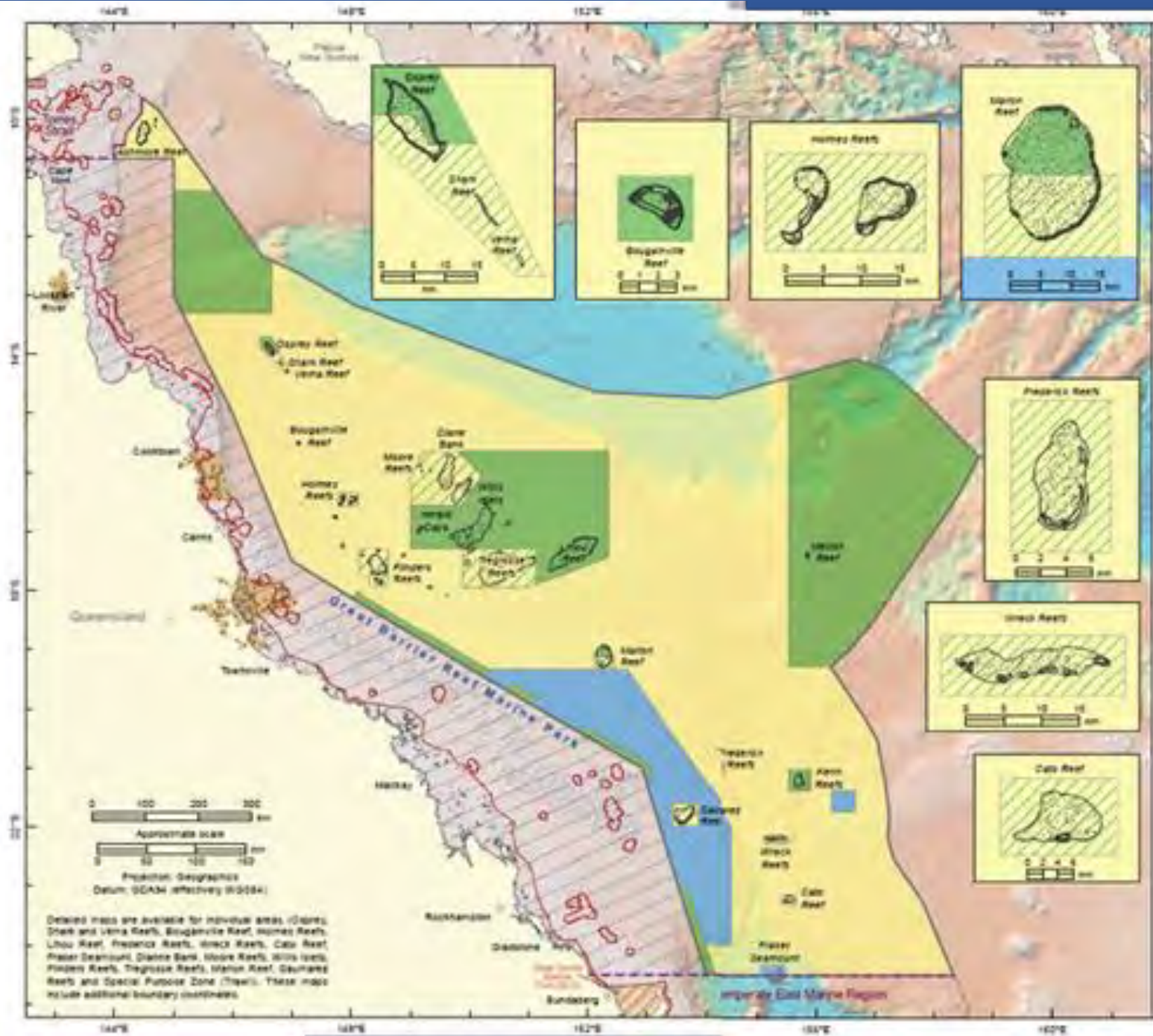


2018

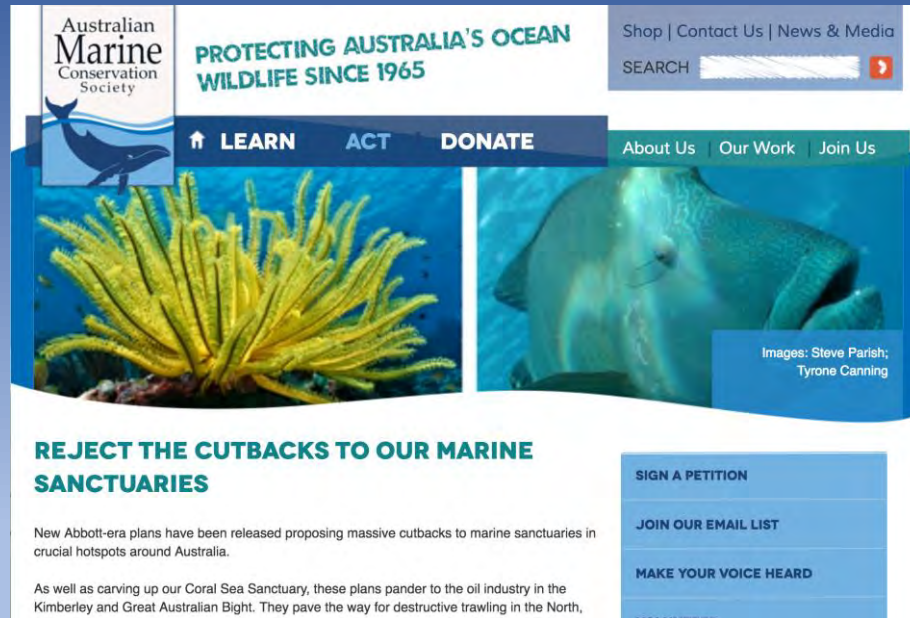
No Take. 25% (38% CMRP)

Habitat Protection 65%

General Use 10%



Action



Safeguarding Australia's Marine Parks Network: the science case

We, the undersigned scientists, are deeply concerned about the future of the Australian Marine Parks Network and the apparent abandoning of science-based policy by the Australian Government.

On 21 July 2017, the Australian Government released [draft management plans](#) that recommend how the Marine Parks Network should be managed. These plans are deeply flawed from a science perspective.



