Great Barrier Reef
Marine Park Authority

Ecosystem Based Management (EBM) Workshop

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EBM Approach – Case Study Great Barrier Reef Marine Park

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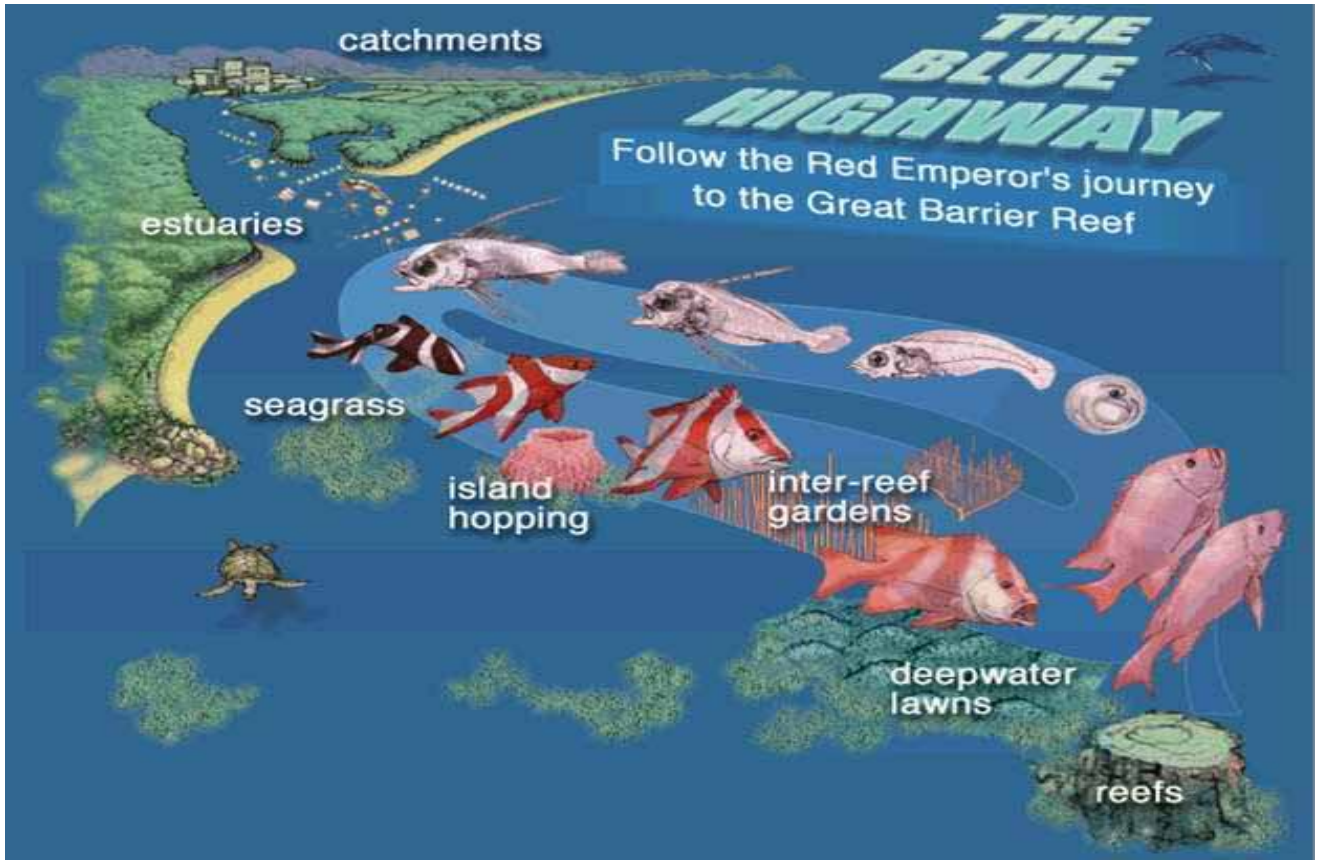
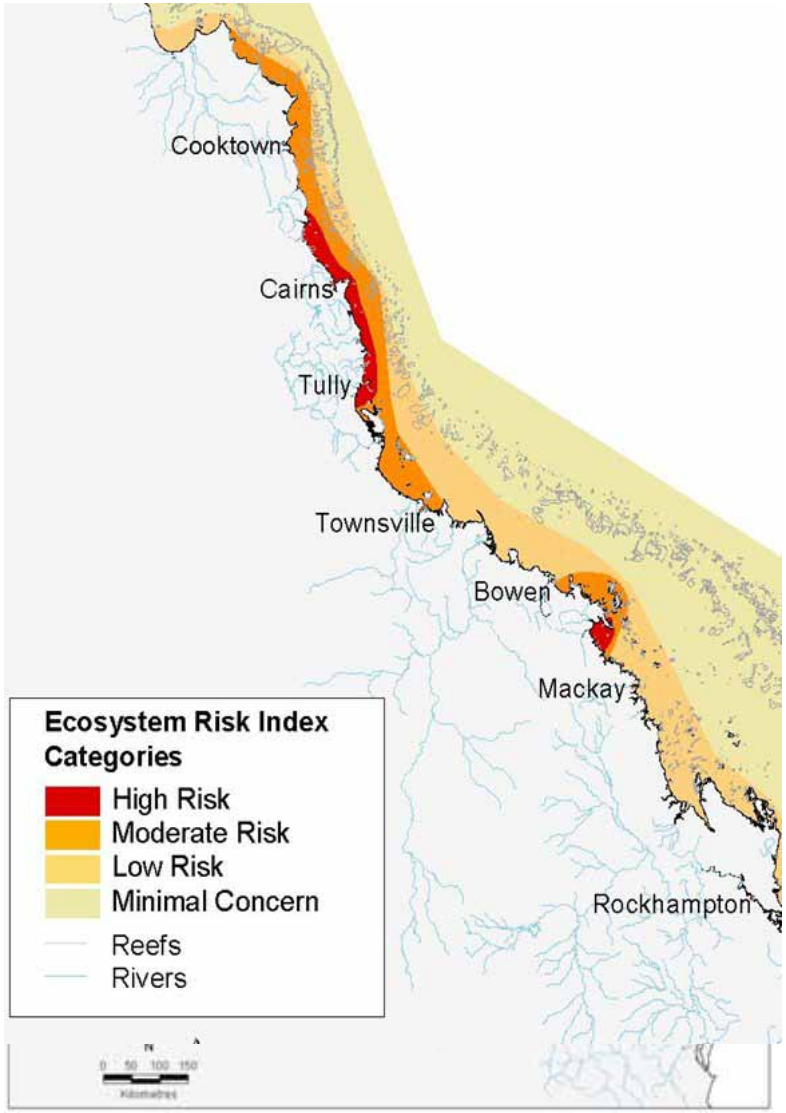
GREAT BARRIER REEF
THIS MAP IS INDICATIVE ONLY
PAPUA NEW GUINEA
CORAL SEA
FAR NORTHERN SECTION
CAIRNS SECTION
CENTRAL SECTION
GREAT BARRIER REEF
QUEENSLAND
GREAT DIVIDING RANGE
SOUTH PACIFIC OCEAN
GREAT BARRIER REEF MARINE PARK AUTHORITY

The system is interconnected



Today the four main issues facing the GBRWHA relate to:

- ***Water quality & coastal development***
- ***Fisheries***
- ***Tourism & recreation***
- ***Conservation, biodiversity & World Heritage.***



Reef Risk Assessment

Maximum risk from contaminated terrestrial runoff

Areas contains 438 inshore reefs, 462 km^2 of sea grass beds and large estuarine areas

Source: Devlin et al. in press

Science Panel findings – for the Reef

- **Clear evidence of adverse impacts on inshore areas, and coral reefs up to 20 km from shore**
- **First indication of trouble is loss of "bounce back" capability (resilience to disturbance)**

Science Panel findings

once damage is obvious it is too late

- **Overseas experience shows that by the time wide-spread effects are obvious, the system would be almost irreparably damaged.**

Science Panel conclusions

The Panel's findings confirm that in the best case:

there is a serious risk to the long term future of the inshore Reef area from poor water quality;

- **that there is potential for damage to other interrelated parts of the Reef system; and**
- **that action is necessary to avoid further damage and to allow affected areas to recover.**

MoU - Commonwealth-Qld Water Quality in the GBR

13 August 2002 – agreement signed

- Reef Water Quality Protection Plan
  - Draft Plan - released Jan 2003.
- Science Panel report
  - submitted 21 January 2003
- Productivity Commission report
  - finalised 25 February 2003

- **Draft Plan is currently under revision**
  - to incorporate results of the Science Panel and Productivity Commission Reports, and stakeholder input.

Reef Water Quality Protection Plan

The Goal:

"Halting and reversing the decline in water quality entering the Reef within 10 years"

Objectives:

- **Reduce diffuse sources of pollutants entering the Reef**
- **Rehabilitate and conserve areas of the reef catchment that have a role in removing water borne pollutants**

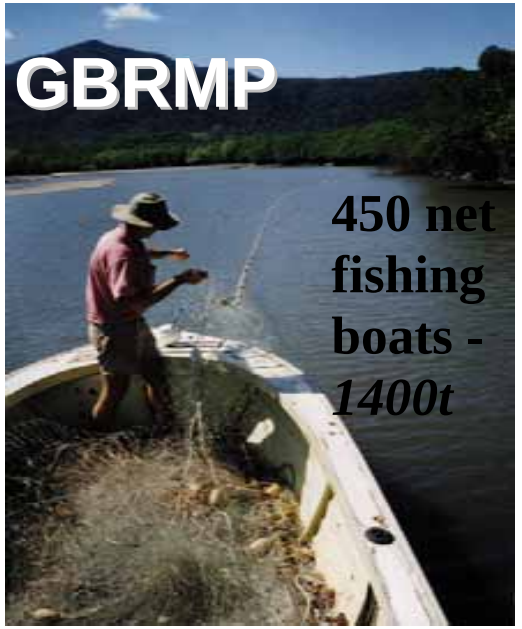
GBR Shipping

- ~7000 vessel passages
- ~ 2000 use the inner route
- ~20% transiting the inner not trading at Qld Ports
- 5-10% tanker movements
- Last 5 years ~190 incidents
- On average one vessel sinks every 2 months
- 4 major groundings in the GBR during the past 5 years

Prevention

- Regulation of discharges
- Prevention of accidents
  - Compulsory pilotage
  - Mandatory reporting
  - PSSA
  - MARPOL
  - Law of Sea - right of innocent passage
- GBR Shipping Review 2001
- Enforcement

Commercial Fisheries in the GBRMP

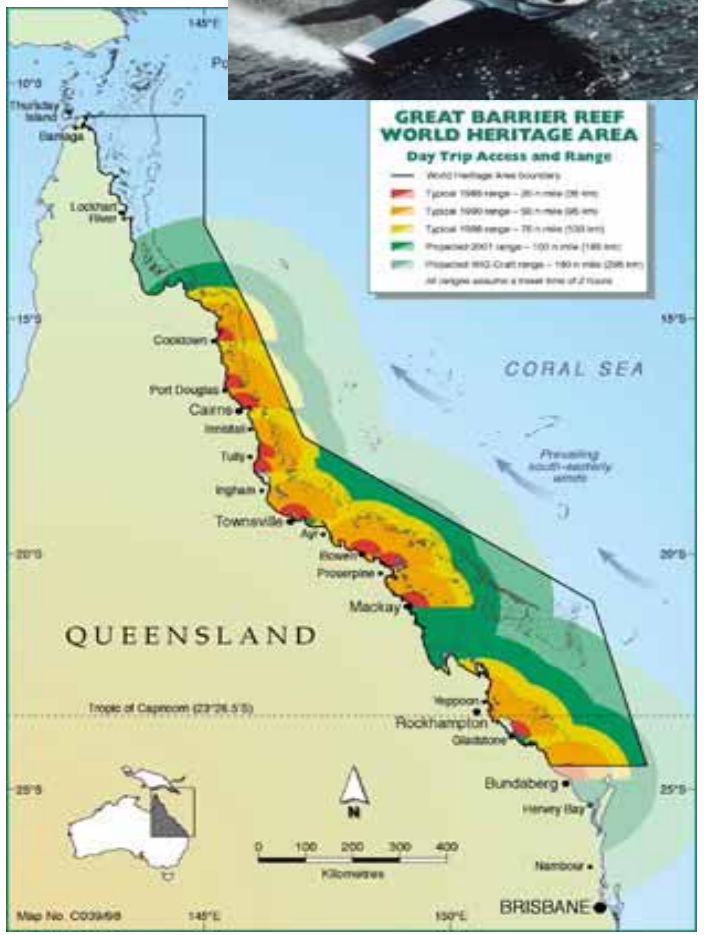


Managing the impacts of fishing

- Trawl management plan in place (effort capped and bycatch and turtle exclusion devices mandatory)
- Comprehensive trawl audit completed
- Reef line plan about to be released
- Active on all fisheries management advisory committees (MACs)
- Zoning plans

Tourism Issues

- Increasing range/types of tourism services
- Minimising impacts of competing & conflicting uses
- New technologies/ facilities

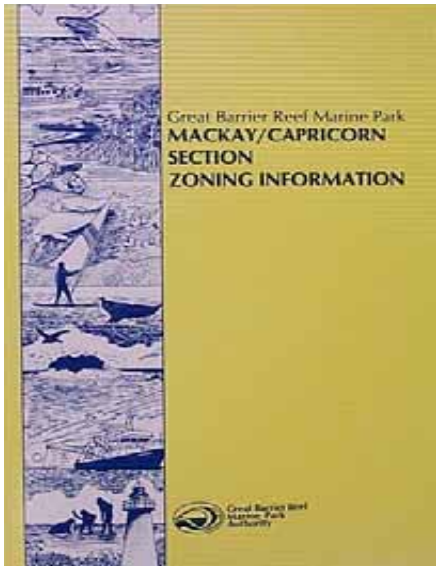


Conservation, Biodiversity & World Heritage Issues

- Rare & threatened species
- Representative areas - *protecting biodiversity*
- Large-scale disturbances
- Retaining World Heritage Values

Management tools for a

- Zoning Plans
- Reefwide policies
- Permits

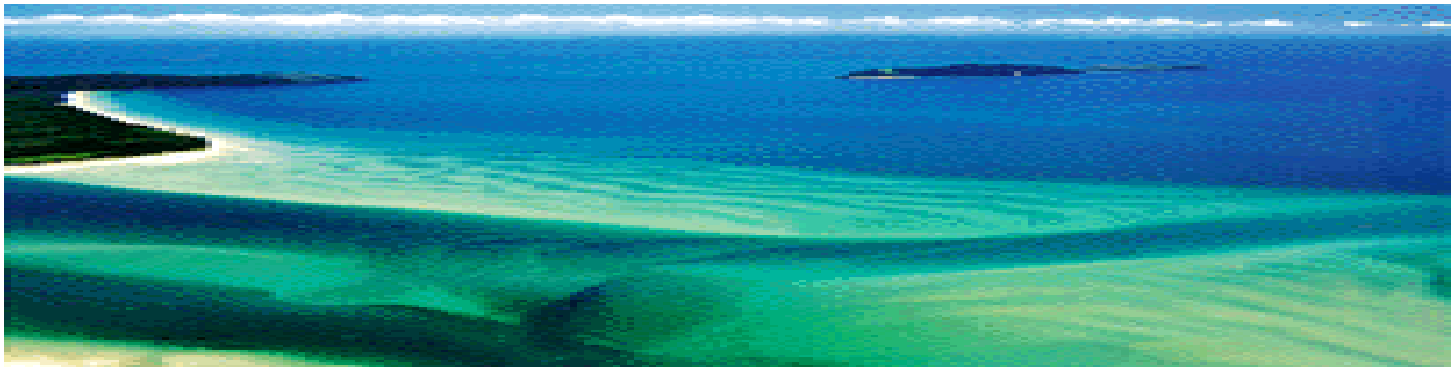


- Plans of Management for specific areas
- Site-specific regulations
- Site management plans

Representative Areas Program

A new and effective network of 'no-take' areas representative of all bioregions will help to:

- **maintain biological diversity**
- **maintain ecological processes and systems**
- **provide an ecological safety margin, and if necessary, enable species and habitats to recover**



30 Reef
40 Non-Reef
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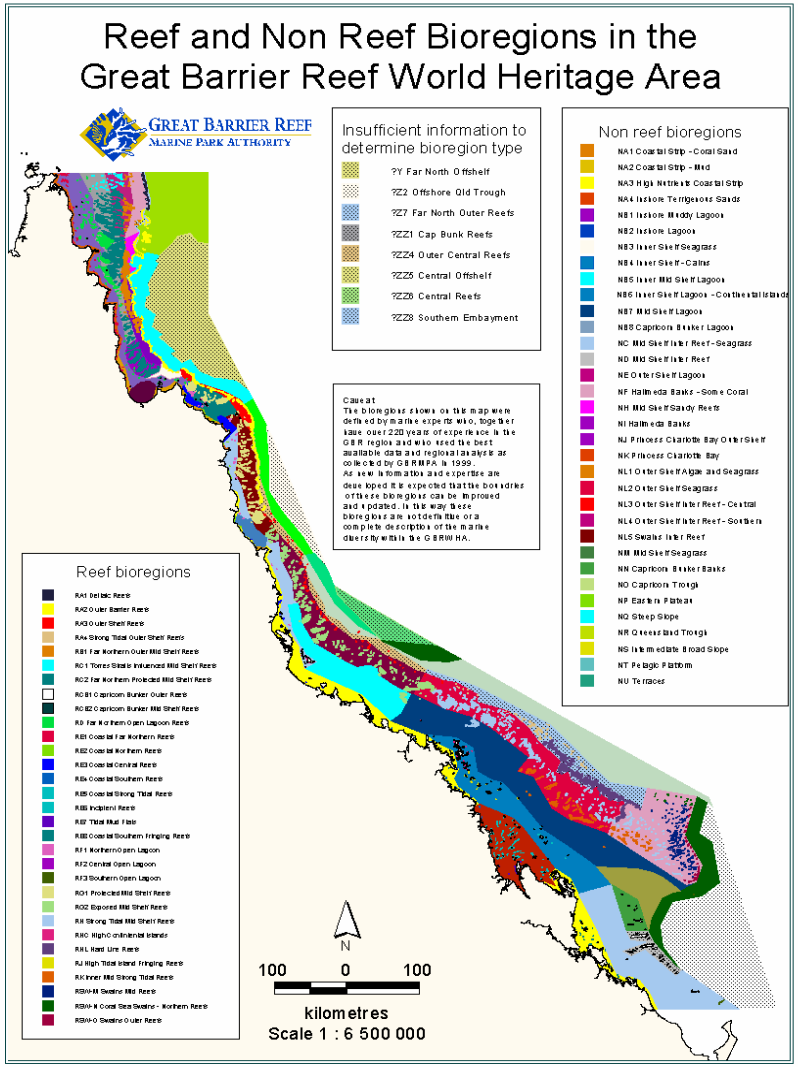
70 bioregions



Adaptive Management

Required to meet changing circumstances:

- changing patterns of use
- technological change
- social change
- political change
- dynamic systems → natural changes

Lessons learnt for broad scale ecosystem management from the GBRMPA

General Management

- **We are managing in a context of *uncertainty*. Managing for ecological sustainability in the context of uncertainty is best done at the broad ecosystem scale.**

General Management cont

- **At the broad scale, management is more likely to gain political support if it provides for a *range of sustainable* uses rather than management for a single or limited purpose. Multiple use planning and management needs to reflect the range of habitats their varying *biodiversity* and their *capacity* to support various uses.**

General Management cont

- **Emphasis needs to be placed on understanding the *connectivity* of the various components and policy makers should seek to maintain this function as a fundamental principle of the management framework.**

- **Management should clearly identify the *nature and extent of threats* to ecosystem health and function and *communicate* these to the broader community, stakeholders and political decision shapers.**

General Management cont

- **An effective compliance program is essential to the respect and integrity of any protected area management regime.**

Research and Management

- **There needs to be effective cultural and institutional *alignment* between research and management so that research efforts are orientated towards information needs for management.**

- **Research and knowledge collection should seek to provide an understanding as to the *functioning* of the broader ecosystem in terms of its component parts and the connectivity.**

Research and Management cont

- **Delaying management action in the hope of acquiring perfect knowledge and scientific understanding is folly. Management decision-making needs to be progressed based on *best available science* and a judgement and *weight of evidence basis*.**

GBRMPA Legislation and Governance

- **A *solid legislative framework* reflecting the extent of the ecosystem and principles of ecological sustainable development provides the foundation for effective long- term management.**

- **The legal framework needs to clearly spell out the *governance* arrangements for management.**

GBRMPA Legislation and Governance cont

- **Cross-jurisdictional management requires detailed and binding agreements on responsibilities and this need to be subject to regular *evaluation and performance audit*.**
- **Where politically possible cross- jurisdictional arrangements should identify *ultimate responsibility* for ecosystem functioning and health and not confuse this with sectoral management responsibilities.**

GBRMPA Legislation and Governance cont

- **Community and stakeholder engagement needs to be *central* to the ecosystem management framework. It must to be constant, transparent and consist of both formal and informal mechanisms. It should reflect both direct users and those whose interests are implicit or distant yet politically weighty.**

An important lesson….

“…. it is better to create and manage successfully an MPA which may not be ideal in ecological terms but which nevertheless achieves the purpose for which it is established than it is to labour futilely and vainly to create the theoretically ‘ideal’ MPA”.

(Kelleher & Kenchington, 1992)