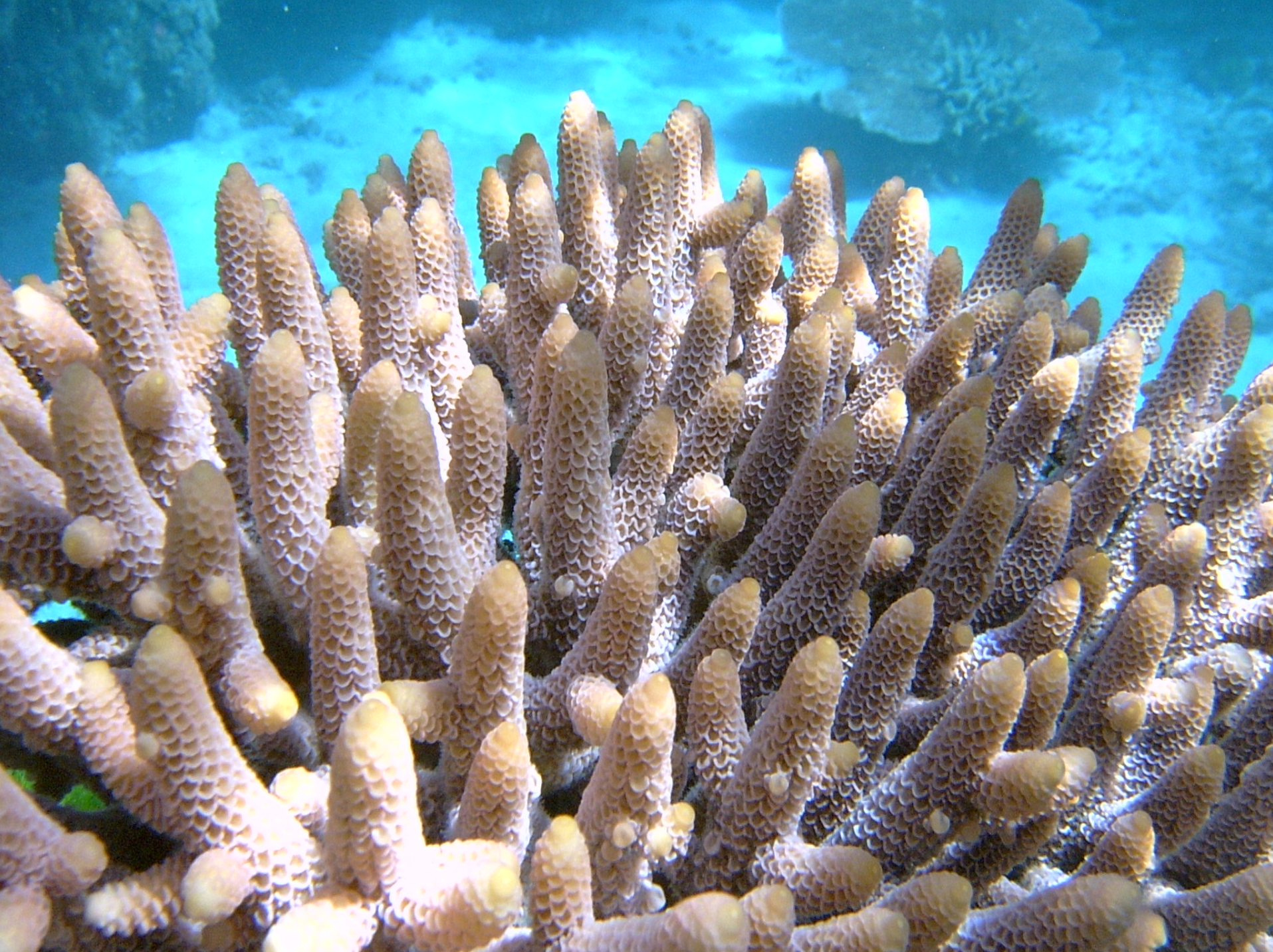
Offshore MPAs: The Opportunities and the Challenges

PICES

Honolulu

October 2004

Australian
Marine Protected Areas

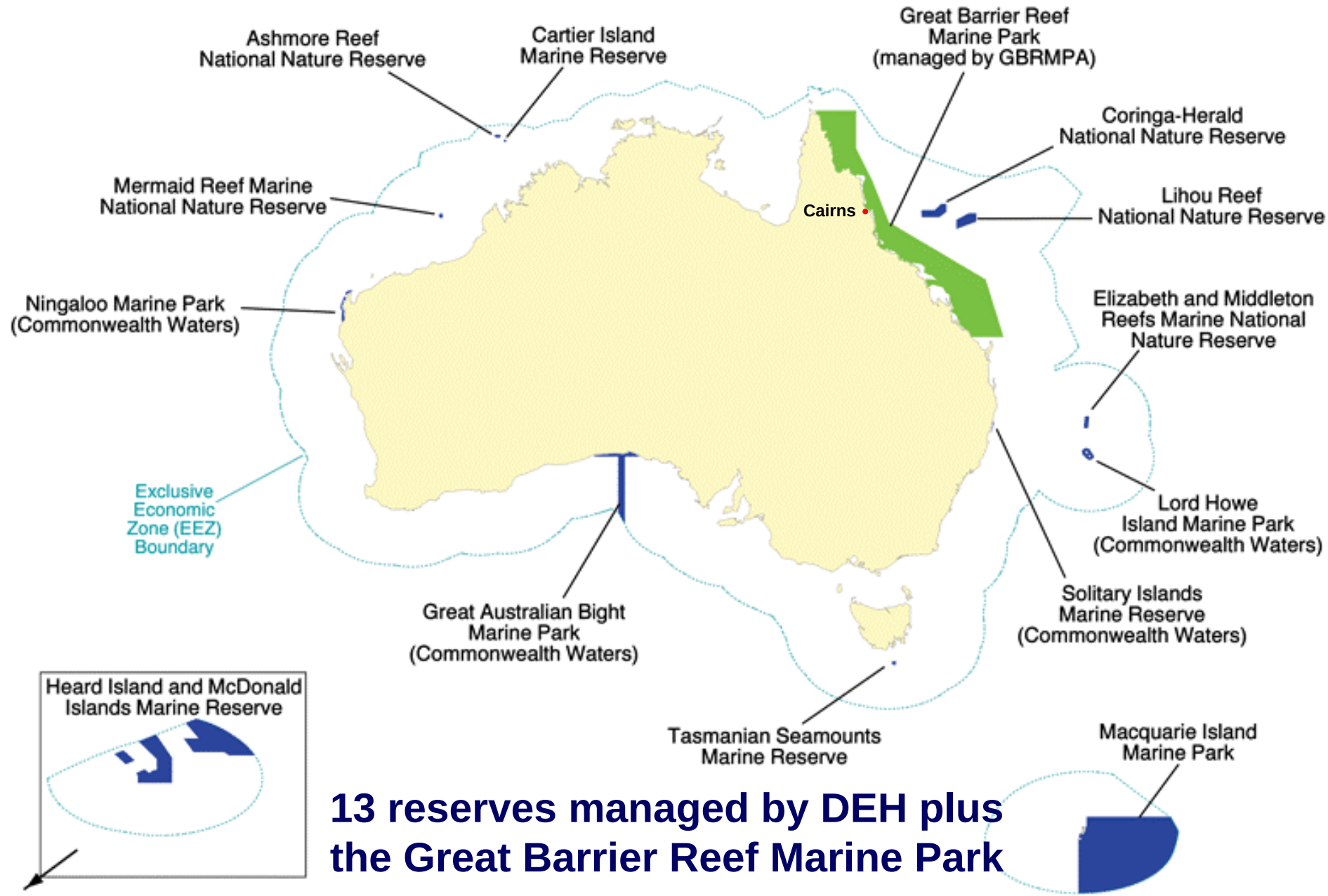


Presentation Outline

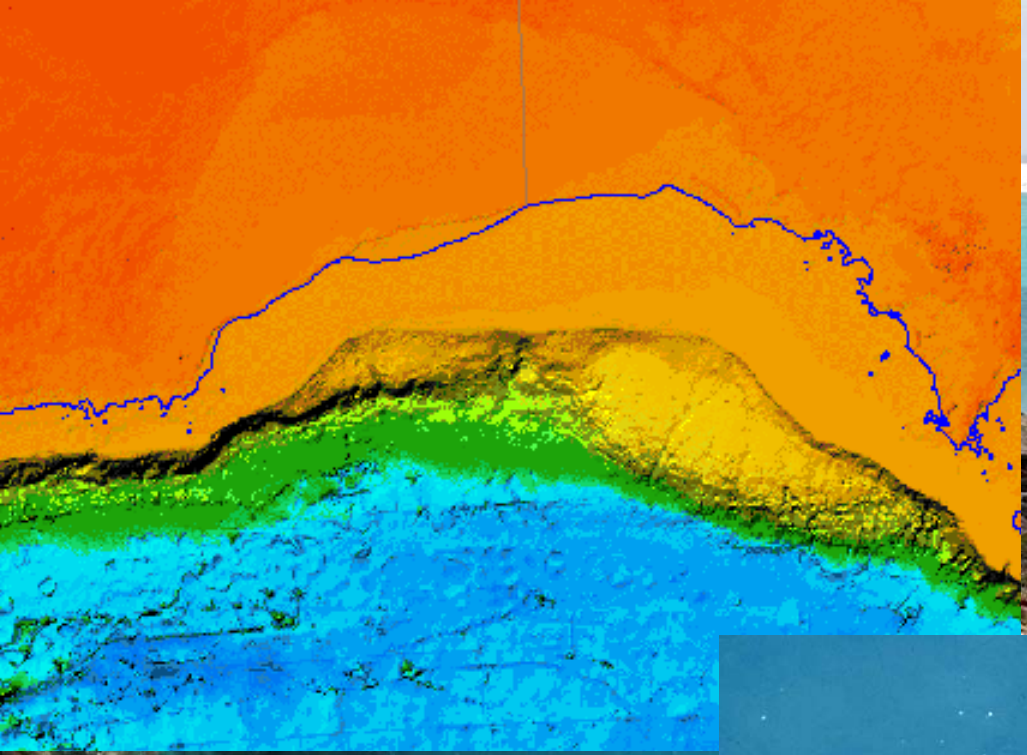
- Australian Marine context
- National Representative System of MPAs (NRSMPA)
- Australia's Oceans Policy
- Developing MPAs
  - The Science
  - The Stakeholders
- Outcomes and Lessons learned
- Conclusion – **Challenges for PICES?**

The Marine Context

- Australia's marine jurisdiction covers 11 million sq. km of ocean
- Range of habitats from tropical to sub-Antarctic
- State parks & fisheries marine protected areas (to 3nm)
- Great Barrier Reef Marine Park
- Australian (Commonwealth) Government marine protected areas (3 – 200nm)



13 reserves managed by DEH plus the Great Barrier Reef Marine Park



Context….

- Unique management issues
  - remote, deep ocean
  - shared borders with 7 coastal nations
  - information poor / research costly
  - costly & dangerous to patrol

⇒ Need for strong partnership between science, industry and government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National Representative System of Marine Protected Areas (NRSMPA)

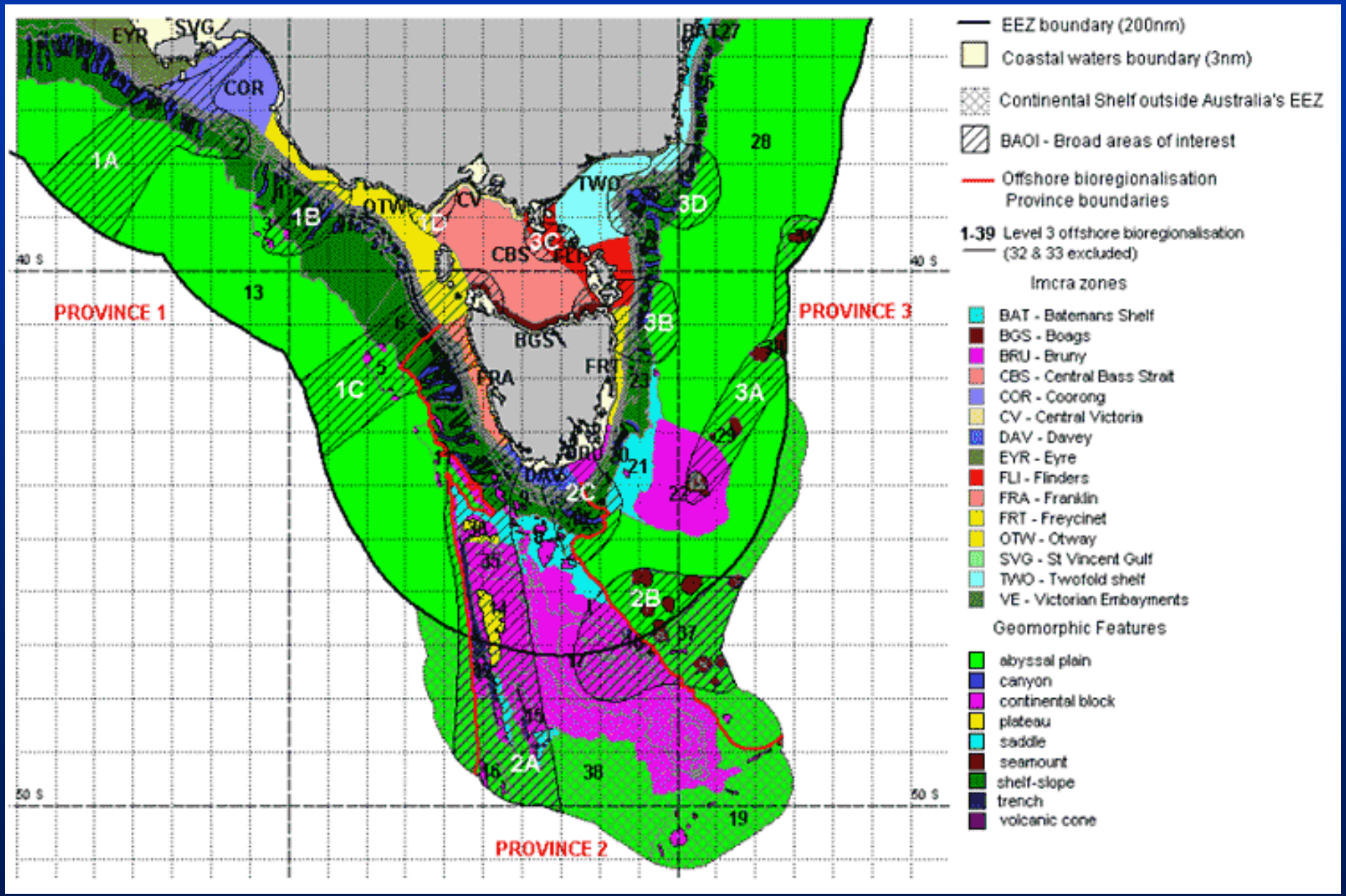
- Uniting national governing policy framework
- General guidance for all jurisdictions
- Environmental, social, cultural & economic criteria – used as layers in MPA design

Primary goal: to establish a national system of MPAs that will be C, A and R.

Australia's Oceans Policy (1998)

- Regional Marine Plans (RMP)- primary tool for delivering Oceans Policy
  - planning process seeks to integrate the use, management & conservation of marine resources at the broad ecosystem level
- RMP, tool to accelerate the development of the National Representative System of marine protected areas
  - South-east – first region to start large scale NRSMPA
  - Commenced MPA work in 2002

The South-east Region



Oceans Policy…..
The South-east region

- Around 15% of Australia's coastline and up to 50% of the population
- Involves 4 State Governments
- $19 Billion industries, employing at least 300,000 people
- High level of endemism –fish and seafloor fauna
- Most contentious and highly used marine region

Developing MPAs

General Policy

- Partnership between science, marine users, government and community
- Large MPAs – multiple use and no-take.
- Achieve NRSMPA objectives while minimising costs – policy flexibility
- Building capacity of key sectors to contribute and work together
- Adaptive approach – improve zoning and management as more knowledge is acquired

Developing MPAs….
Underpinning Policy Principles

- Strong **science base** underpinning identification and selection of MPAs
- Need to **value industry / community** expertise in designing MPA process
  - Shipping, ports, oil and gas, tourism and fisheries
- Achieving biodiversity conservation objectives in **balance** with economic, social & cultural interests

Scientific Context

- Identifying scientists
- Determining the most useful science
- Recognising constraints
- Core data sets
  - Inshore and offshore mapping of Eco-regions
  - Seafloor mapping
- No consistent fine scale habitat mapping
  - Use of surrogates?

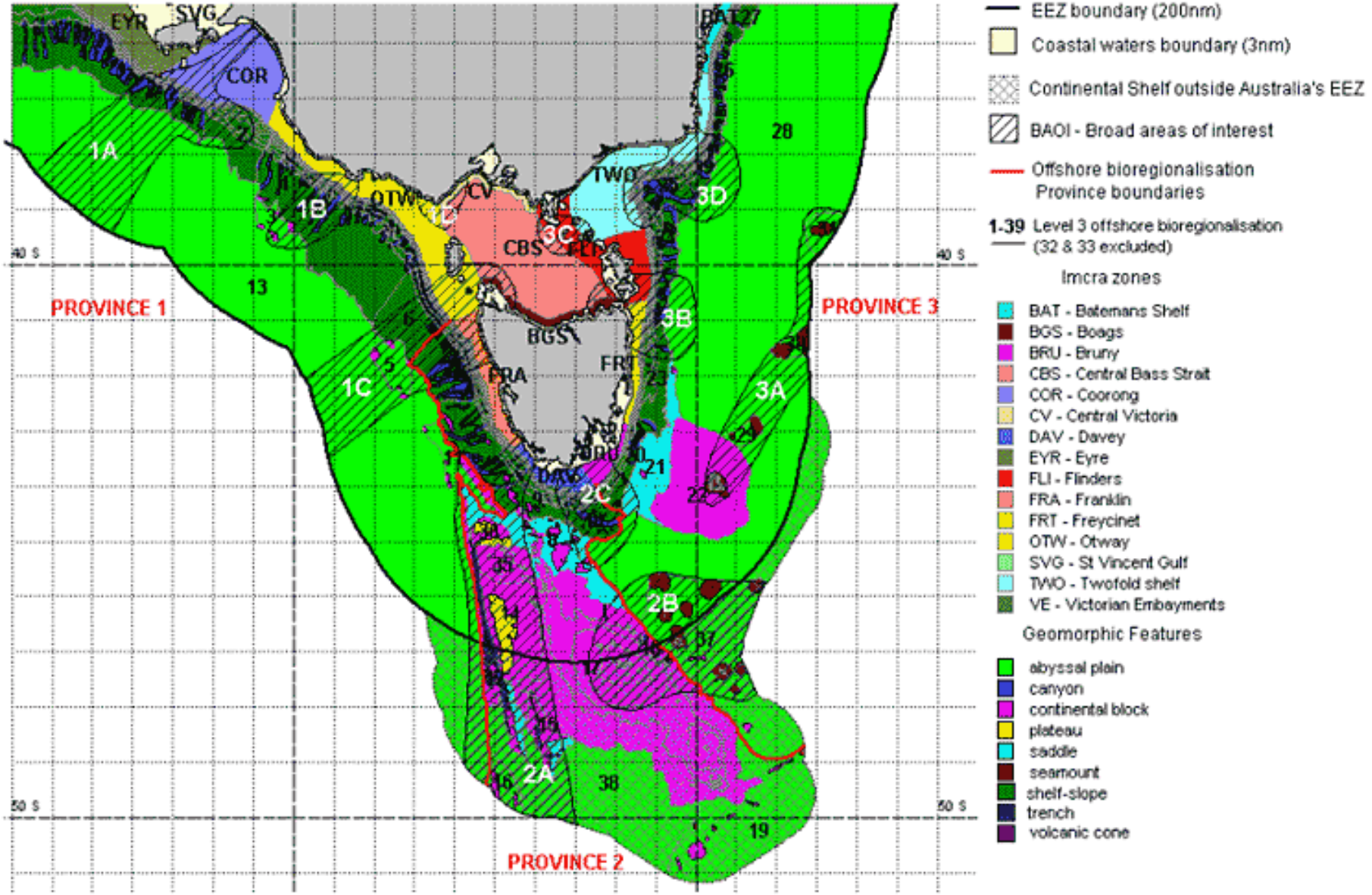
Scientific Context….

- Key challenges
  - Working with limited knowledge of deep, temperate waters
  - How to sample representativeness (of eco-regions) and hot spots where known
  - Making scientific inputs accessible and useable for stakeholders
  - Utilizing stakeholder expertise and knowledge
  - Achieving ecologically sound MPAs?

Scientific Context…..
Broad Areas of Interest (BAOI)

- Eco-region maps used to refine SE Region into 11 Broad Areas of Interest (BAOI)
- MARXAN (Possingham, Ball); algorithmic decision support tool
- Give stakeholders certainty
- Aim to include at least 1 MPA in each BAOI

Eco-Regions and Broad Areas of Interest (BAOI)



Scientific Context…..
Ecological Specifications

- **Developed jointly by Federal Dept Environment and Heritage, CSIRO and the Federal Oceans Office**
- **Specifications or 'ecological rules' for designing MPAs within each BAOI**
  - to ensure that representative samples of each major ecosystem type are protected

Available at:
http://www.deh.gov.au/coasts/mpa/commonwealth/identifying/index.html

Scientific Context…..
Ecological Specifications

- **Limited fine-scale data available**
- **Costly to acquire and may take many decades**

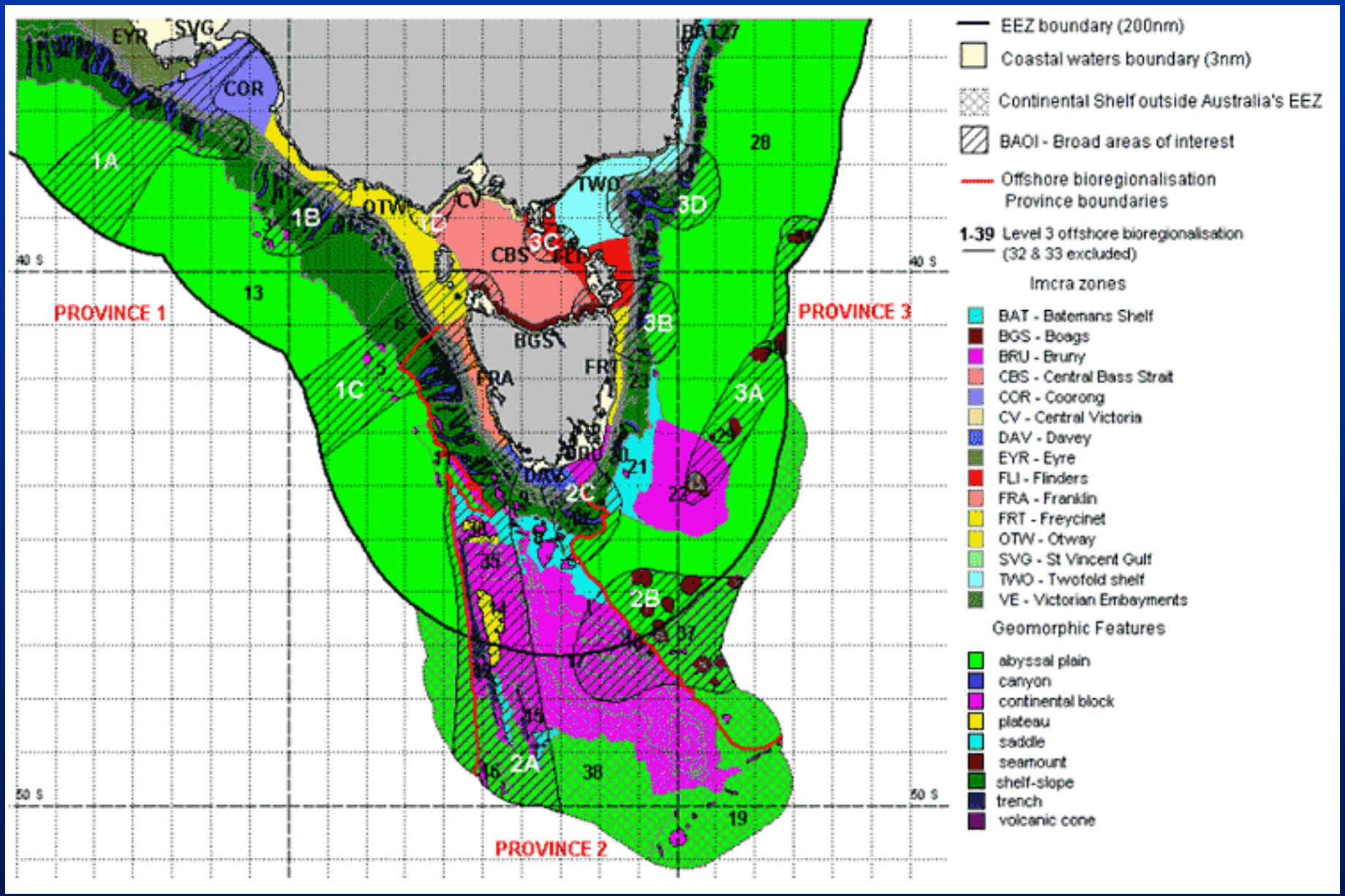
Therefore - precautionary approach to reserve design, based on surrogates for broad-scale ecosystems

Available at:
http://www.deh.gov.au/coasts/mpa/commonwealth/identifying/index.html

Scientific Context…..
Information base within which the specifications are applied

- Underpinned by Eco-Region Mapping
  - 1 set based on the shelf to 200m isobath
  - 2nd Set mapping deep water outside the continental shelf beyond 200m isobath
  - 3 hierarchical scales:
    - LEVEL 1: large scale provinces
    - LEVEL 2: shelf, slope and abyssal plain
    - LEVEL 3: geomorphic units eg. seamounts, canyons etc

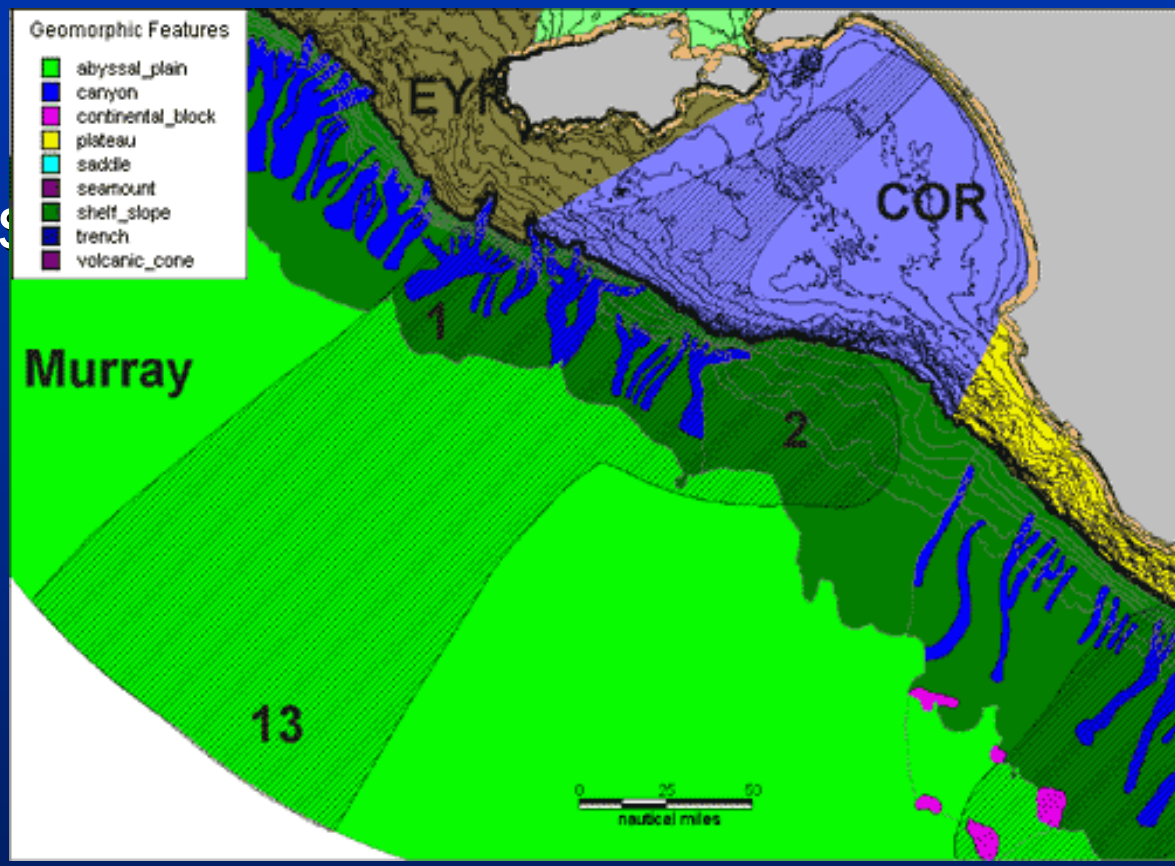
BAOIs and Eco-Regions map



Example: Murray Broad Area of Interest

MPA to include:

- Coorong eco-regions
- 2 adjacent canyons and intervening seafloor
- Each of the Level 3 geomorphologic Regions
  - Slope with canyons (1)
  - Slope with no canyons (2)
  - Continental rise/abyssal plain (13)



The Stakeholders

- **Fishing Sector**
  - What is in and out of multiple-use?
  - Structural adjustment for fishers?
  - Value of fisheries knowledge?
- **Oil and Gas**
  - Operating in MPAs?
  - MPAs and unexplored areas
  - Adaptive approaches to zoning
  - Partnership in knowledge acquisition

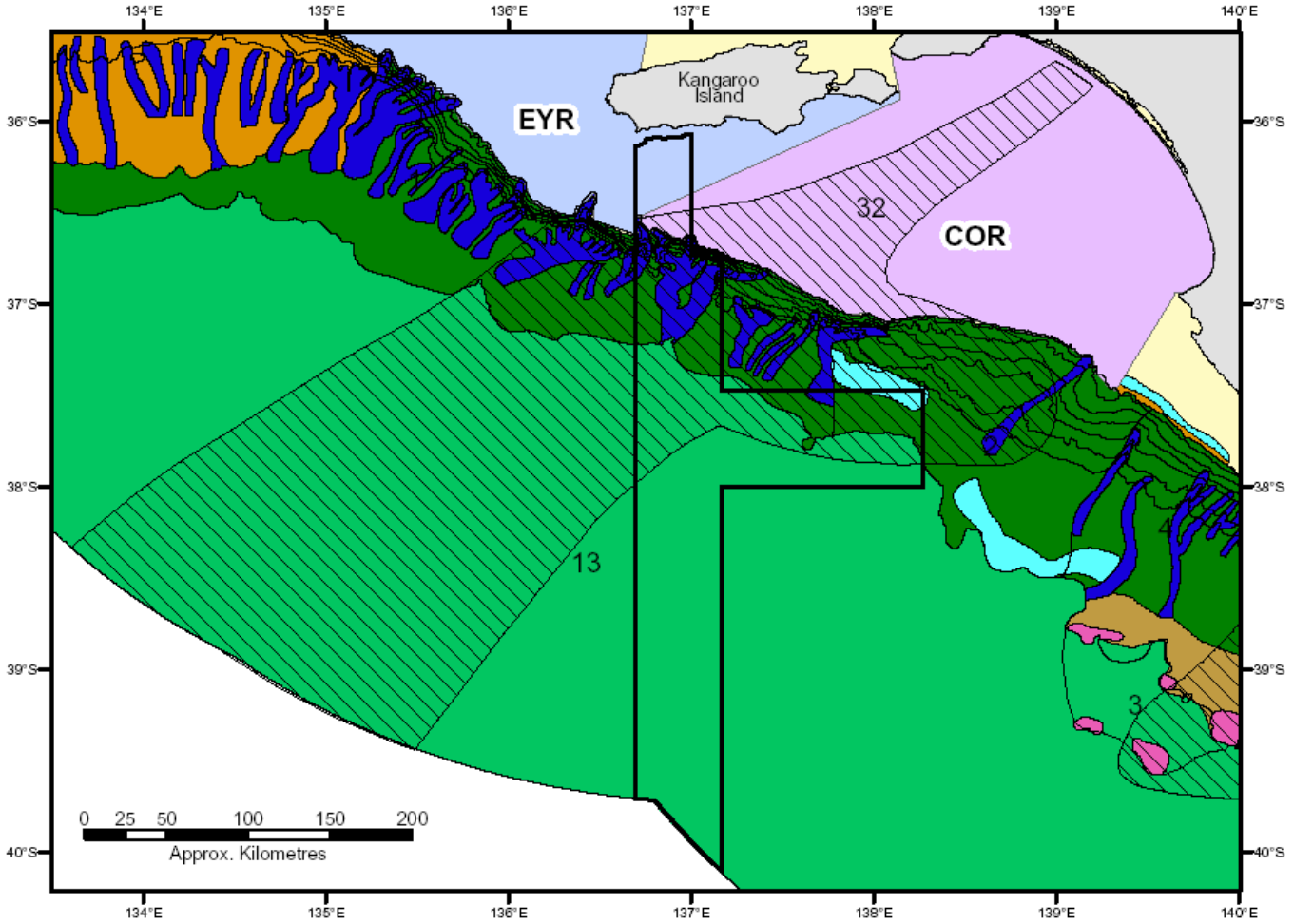
The Stakeholders

- **Conservation Sector**
  - Organising the sector to work cross sectorally
  - Credibility of Industry knowledge?
  - % targets for No-take
- **Government**
  - Whole-of-Government approach?
  - Costs of MPAs – decision for whole of Government
  - Integration of MPA and industry development policies
  - Integration of fisheries and MPA theory and practice

MPA Progress in the SE

- Process – scientifically credible & open to stakeholder input
- Best available science used to:
  - Identify 11 Broad Areas of Interest
  - Develop specifications on how to identify candidate MPAs within each of the Areas of Interest
- Two MPA candidate sites identified – in Murray & Zeehan

Candidate MPA - Murray Broad Area of Interest



Broad Area of Interest

Candidate MPA

proposed boundary

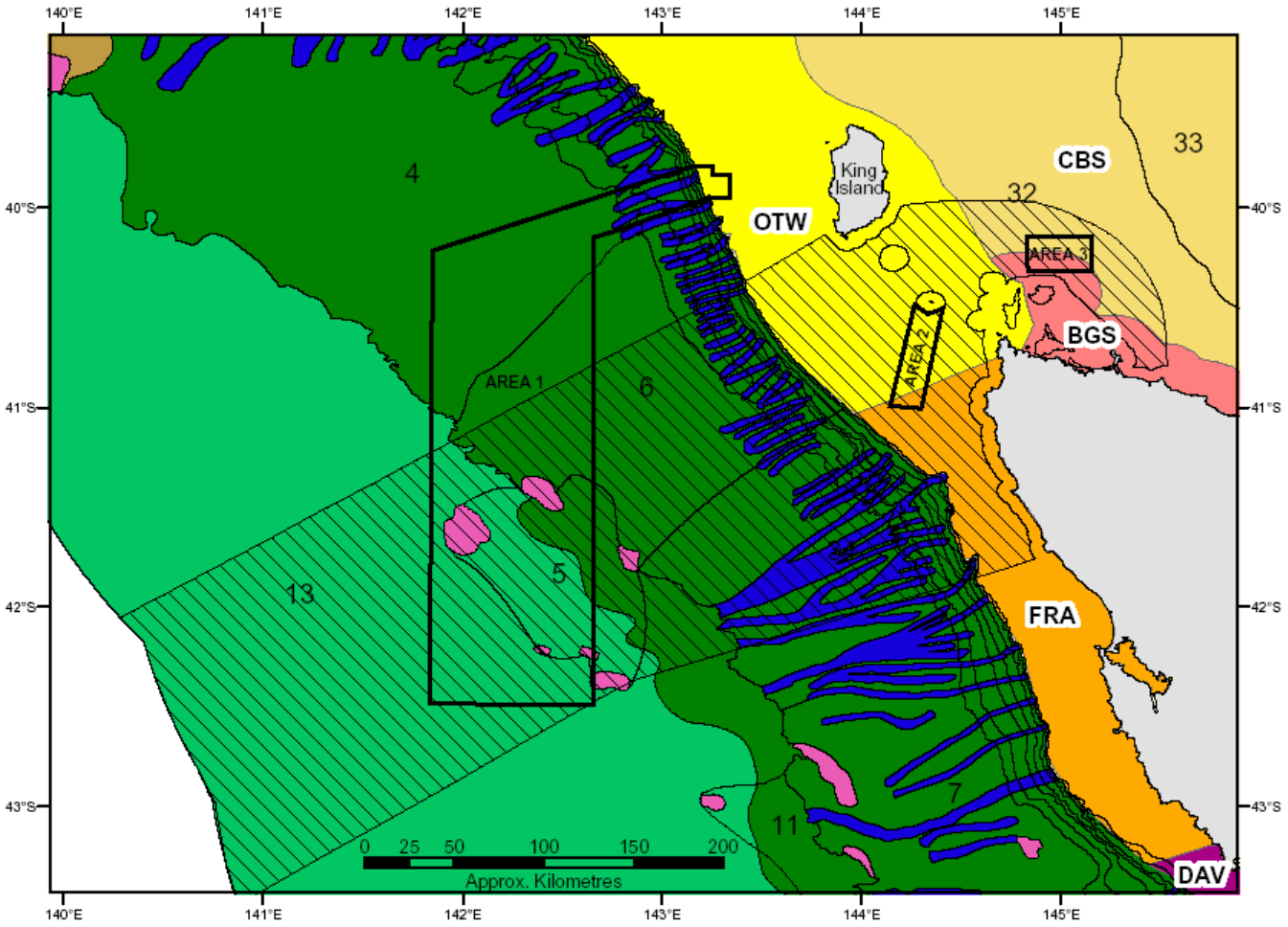
Geomorphic Units

- Land
- abyssal-plain
- trench/trough
- canyon
- escarpment
- shelf
- slope
- terrace
- knoll/abyssal-hills/ hills/mountains/peak

IMCRA Regions

- COR - Coorong
- EYR - Eyre

Candidate MPA - Zeehan Broad Area of Interest



Broad Area of Interest

Candidate MPA

proposed boundary

Geomorphic Units

- Land
- abyssal-plain
- slope
- canyon
- knoll/abyssal-hills/ hills/mountains/peak
- ridge

IMCRA Regions

- BGS - Boags
- CBS - Central Bass Strait
- DAV - Davey
- FRA - Franklin
- OTW - Otway

Lessons learned

- First attempt at the process
- Learning how to provide a scientifically defensible process that keeps science accessible to stakeholders
- Importance of integrating MPA objectives with other Govt policies and legislation
  - displaced fishing effort
  - energy policy
- Support for stakeholder engagement not universally popular

Lessons Learned….

Ongoing commitment to:

- Enhancing science inputs to guide stakeholders
  - SE MPA Scientific Reference Panel
  - Scientific Peer Review Panel – to review CAR of MPA candidate options prior to declaration
  - Independent scientific assessment of MPA options against specifications
  - System-wide review against CAR principles before commencing declaration

Conclusion – PICES?

Issues for PICES?

- Need to act now
- MPAs can be a useful tool if there is partnership and agreed approaches
- Scientists don't always make the best facilitators for MPA development
- MPAs provide a good mechanism for integrated management in a spatial context:
  - Fisheries, government, oil and gas (where relevant), green groups, tourism and others need

Conclusion – PICES???....

- If Offshore MPAs are the chosen tool for Integrated spatial conservation management, then:
  - use the best science available – hot spots and representative approaches
  - early involvement of marine users in MPA development
  - Strong legislative backing and Government will
  - Resources
  - Flexible but GENUINE integration of fisheries and other knowledge
  - Minismise socio-economic impact costs
  - Adapt zoning and management over time
  - Consider long-term compliance and arrangements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www.deh.gov.au/coasts/mpa