

# Australian Marine Parks



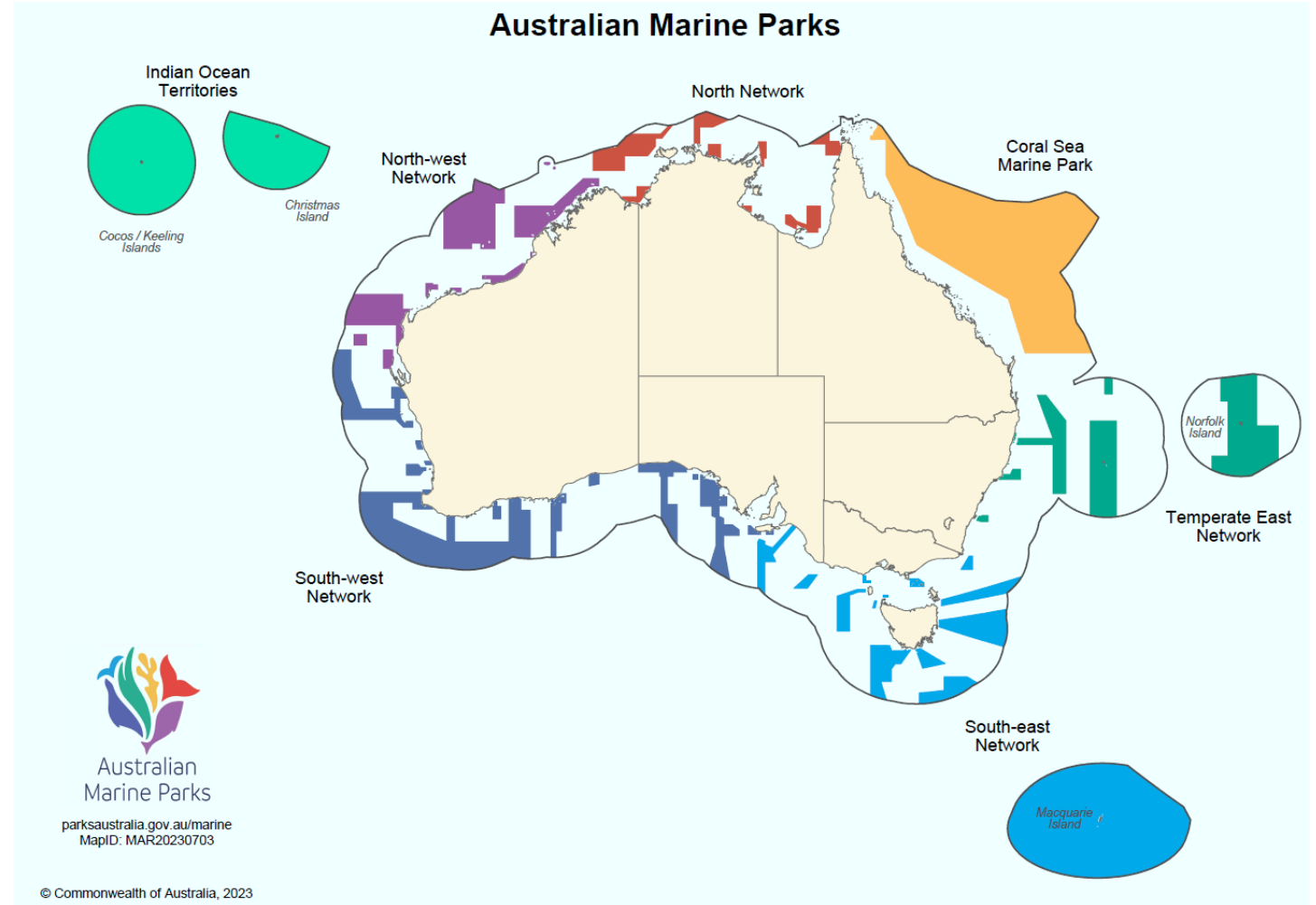
## Towards a National Management Effectiveness System for Australian Marine Parks

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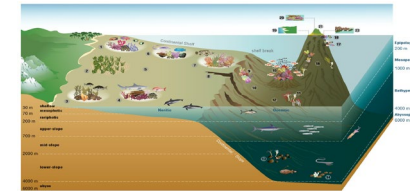
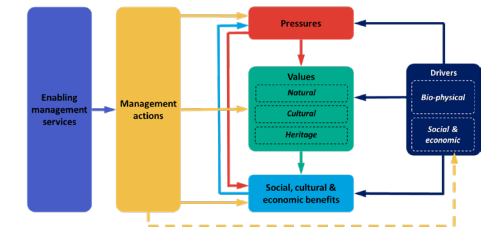
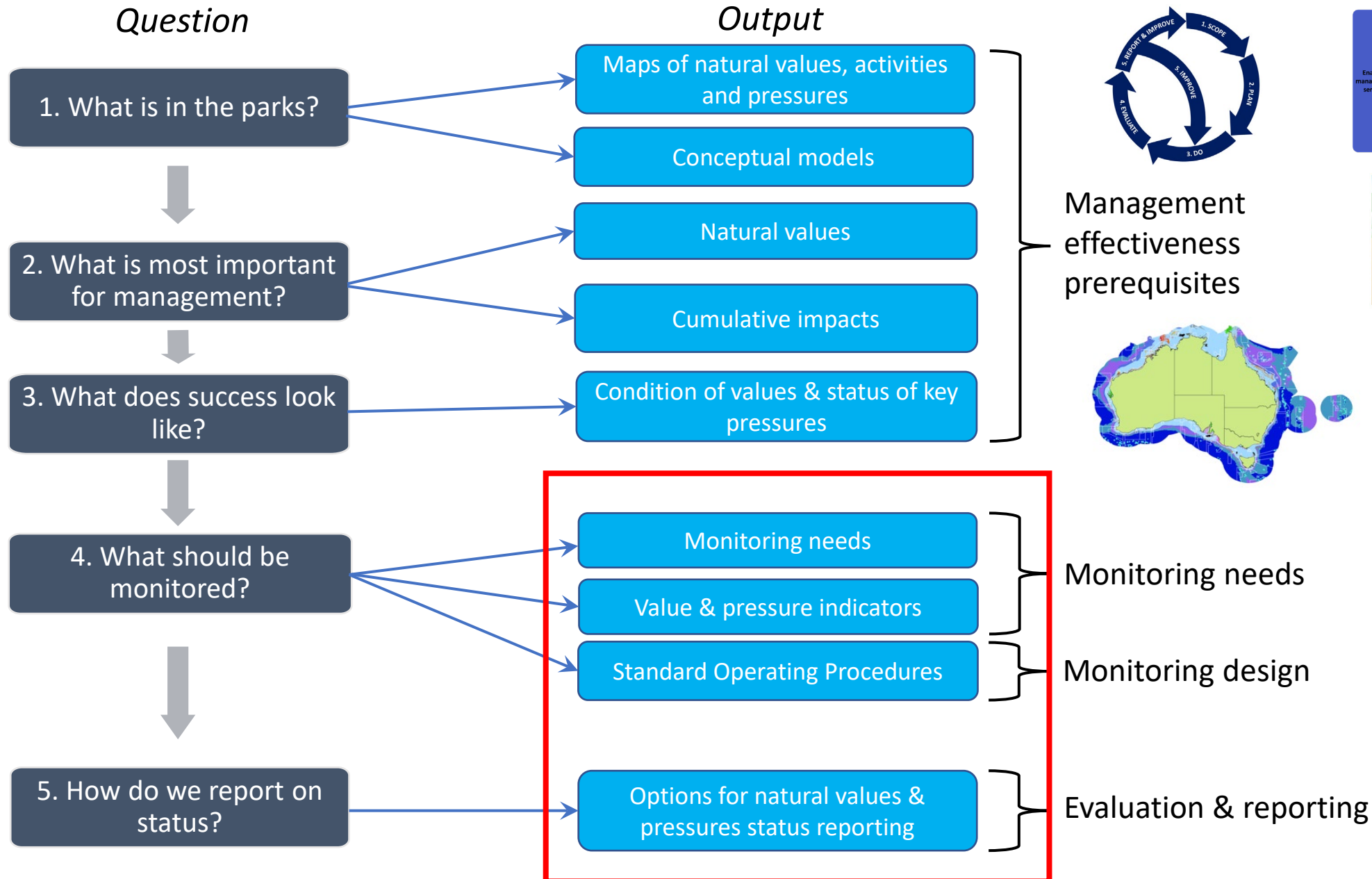


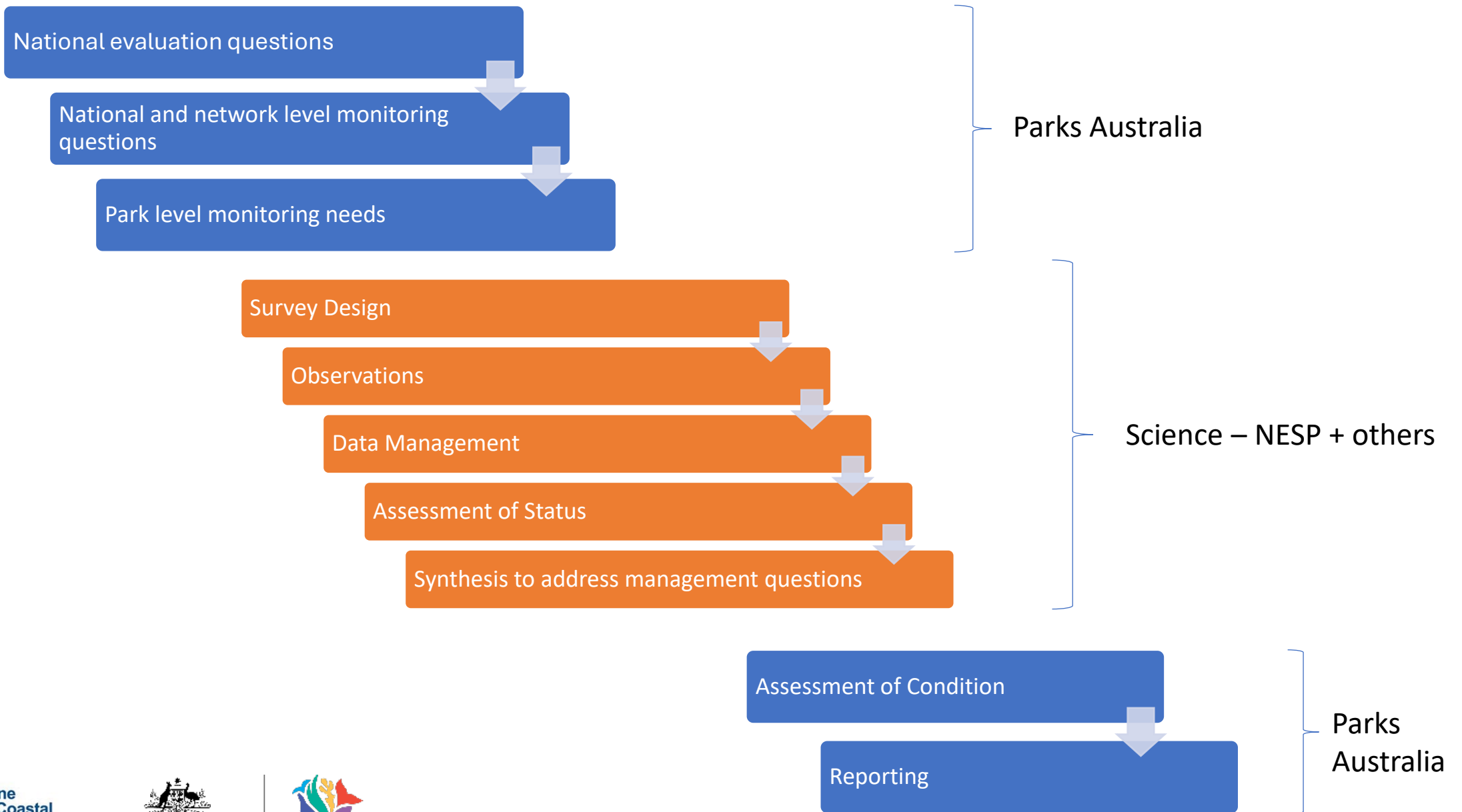
# Australian Marine Parks (AMP)

- 60 parks covering 3.8 million km<sup>2</sup> (43% of Australia's marine jurisdiction)
- Protecting & conserving the natural, cultural & heritage values
- Supporting the ecologically sustainable use & enjoyment they provide.



# Management effectiveness design process





# National management effectiveness questions

**1. Were enabling management services adequate for management?**

Governance, partnerships,  
inputs, policies & procedures,  
knowledge & information  
management

+

**2. Did management actions help achieve management outcomes & AMP objectives?**

Actions, outputs & outcomes

+

**3. What was the level of pressures & drivers in the AMPs?**

Status & trend

+

**4. Were natural & cultural & heritage values conserved?**

Condition & trend

+

**5. What was the level of use in the AMPs and what social, cultural & economic benefits were derived?**

Uses/activities & benefits



# National & network level monitoring questions

*Natural & cultural values, benefits, pressures & drivers*

1. **Monitoring long-term trends** – What is the rate & direction of long-term change in the Australian Marine Parks?
2. **Monitoring zone effects** – What effect have zoning arrangements had on outcomes for values, benefits and pressures in Australian Marine Parks?
  - a) Have National Park Zones maintained condition of all natural values or allowed recovery from historical use?
  - b) Have Habitat Protection Zones maintained condition of habitat forming species or allowed recovery from historical use?
  - c) How do Multiple Use Zones compare to areas outside the AMPs?
3. **Monitoring effects of management** – Have management approaches and interventions mitigated the effect of pressures on values and benefits in the Australian Marine Parks?



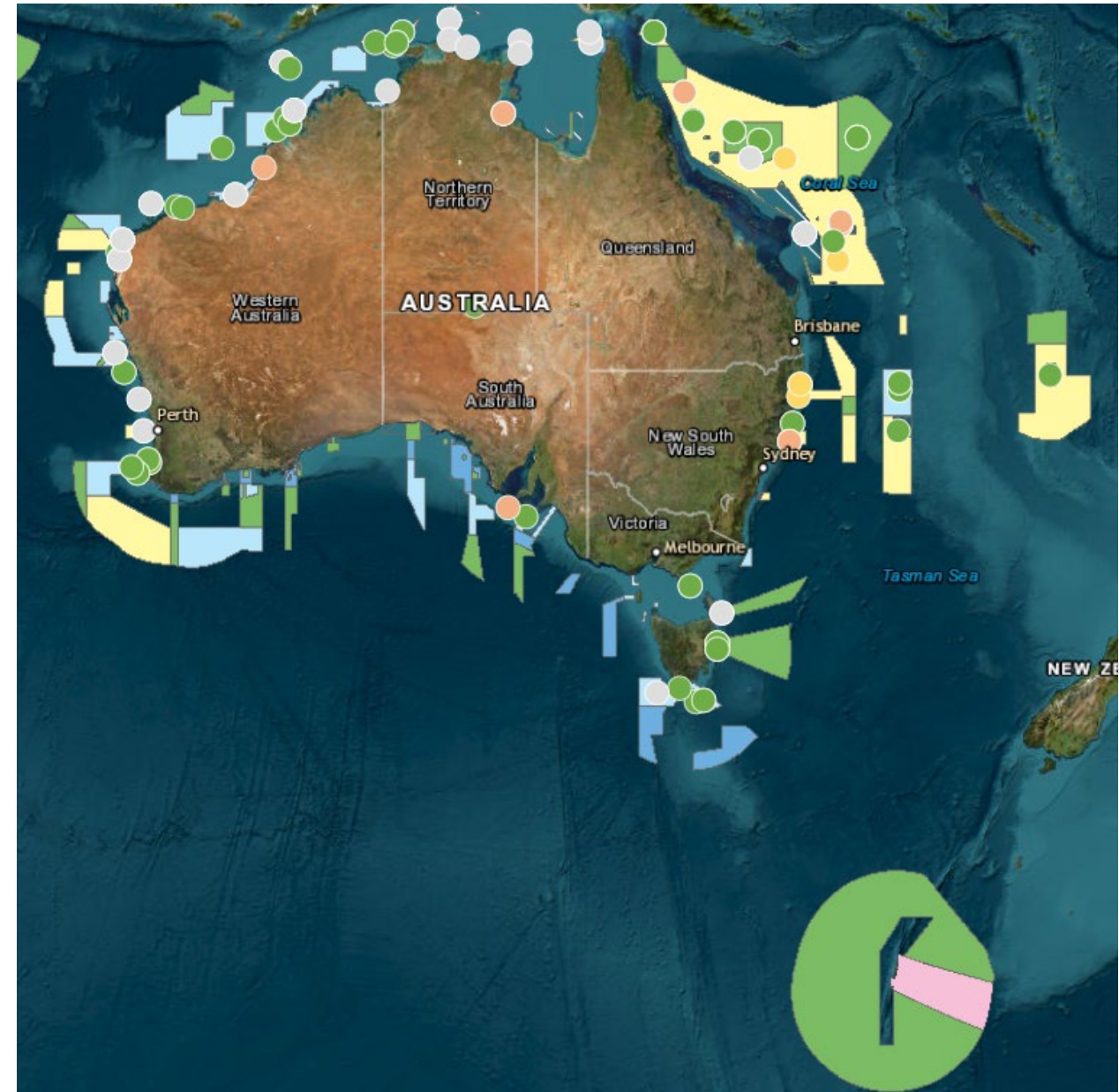
# Park level monitoring questions

<b>Conservation goal</b> Maintain condition or improve resilience of species and communities associated with <b>mesophotic rocky reefs</b> in the South-east Marine Parks Network.						
Zone	Main 'pressures'	Goal	Time-frame	Ecosystem components	Draft monitoring questions	Potential indicators
MUZ	Habitat modification (demersal trawl)*	Improve ↗	2057	<ul style="list-style-type: none"> <li>Sessile invertebrates</li> </ul>	Have sessile invertebrate communities recovered since demersal trawl was disallowed in 2007?	<ul style="list-style-type: none"> <li>Areal extent?</li> <li>% cover</li> <li>Height</li> </ul>
	Climate change	Improve resilience ↗	2033	<ul style="list-style-type: none"> <li>demersal fish</li> <li>mobile invertebrates</li> <li>sessile invertebrates</li> </ul>	<p>To what extent is climate change affecting our ability to protect and conserve natural values in Beagle MP mesophotic rocky reef?</p> <p>What is the contribution of climate to the total pressures affecting the natural values in Beagle MP mesophotic rocky reef?</p>	<ul style="list-style-type: none"> <li>Sea surface temperature (°C)</li> <li>Altered ocean currents</li> <li>Ocean acidity (pH)</li> <li>Community Temperature Index (CTI)</li> <li>Species range shifts</li> <li>Condition of habitat-forming species and associated organisms</li> </ul>



# Survey Design

- **Takes priorities from**
  - National Monitoring Principles
  - AMP management plan reviews and adaptive management .
  - Finalised national monitoring questions
- **Delivers**
  - Network level priorities
  - Park level Design
  - Key Climate Questions
- NESP MAC project 4.20,



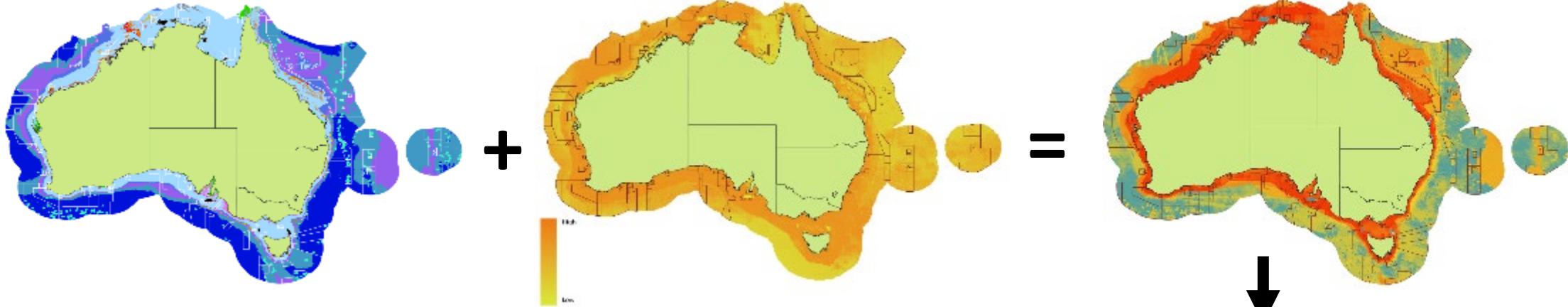


# Process for identifying monitoring needs

**Ecosystems**

**Activities** (and vulnerability assessment)

**Cumulative**



3

**Is there sufficient knowledge?**

to form a baseline and identify monitoring indicators?

2

**What else is of management interest?**

representation of Key Natural Values, bioregions, areas to test effectiveness of zoning

1

**Where do we expect to see a change in condition of natural values due to:**

Mitigation or removal of pressures

Ongoing pressures responsive to management

Pressures less responsive to management

Yes

4

**Refine list of monitoring priorities based on:**

Financial and logistical constraints, established monitoring programs and partnership opportunities, and management information needs.

No,  
becomes a  
research need

# Observation and on ground monitoring

## Takes priorities from:

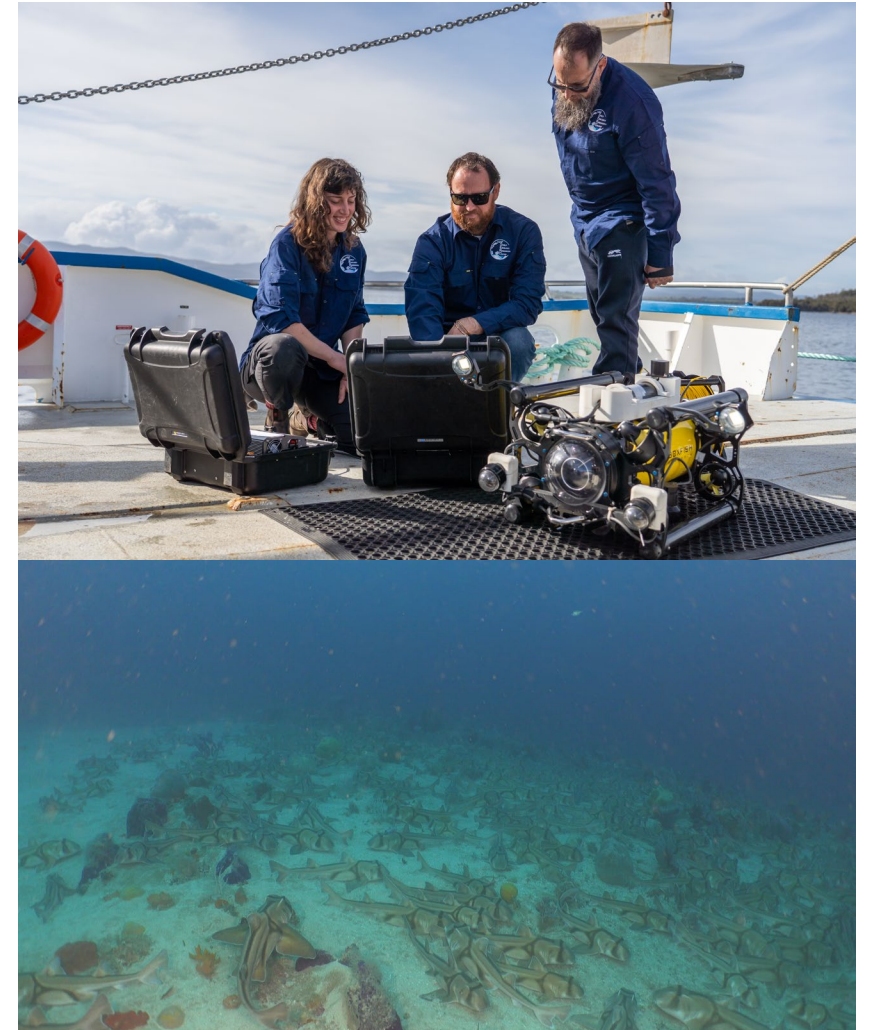
- Standard Operating Procedures (<https://marine-sampling-field-manual.github.io/>)
- Logistical considerations
- Gear used, frequency, timing
- **Delivers**
- Repeatable observations of ecosystem components within the Natural Values Common Language

## First repeat surveys in Beagle MP

- ROV surveys recently completed
  - Large aggregations of Port Jackson sharks
  - Juvenile & adult long spined urchins & associated barren
- Further surveys planned

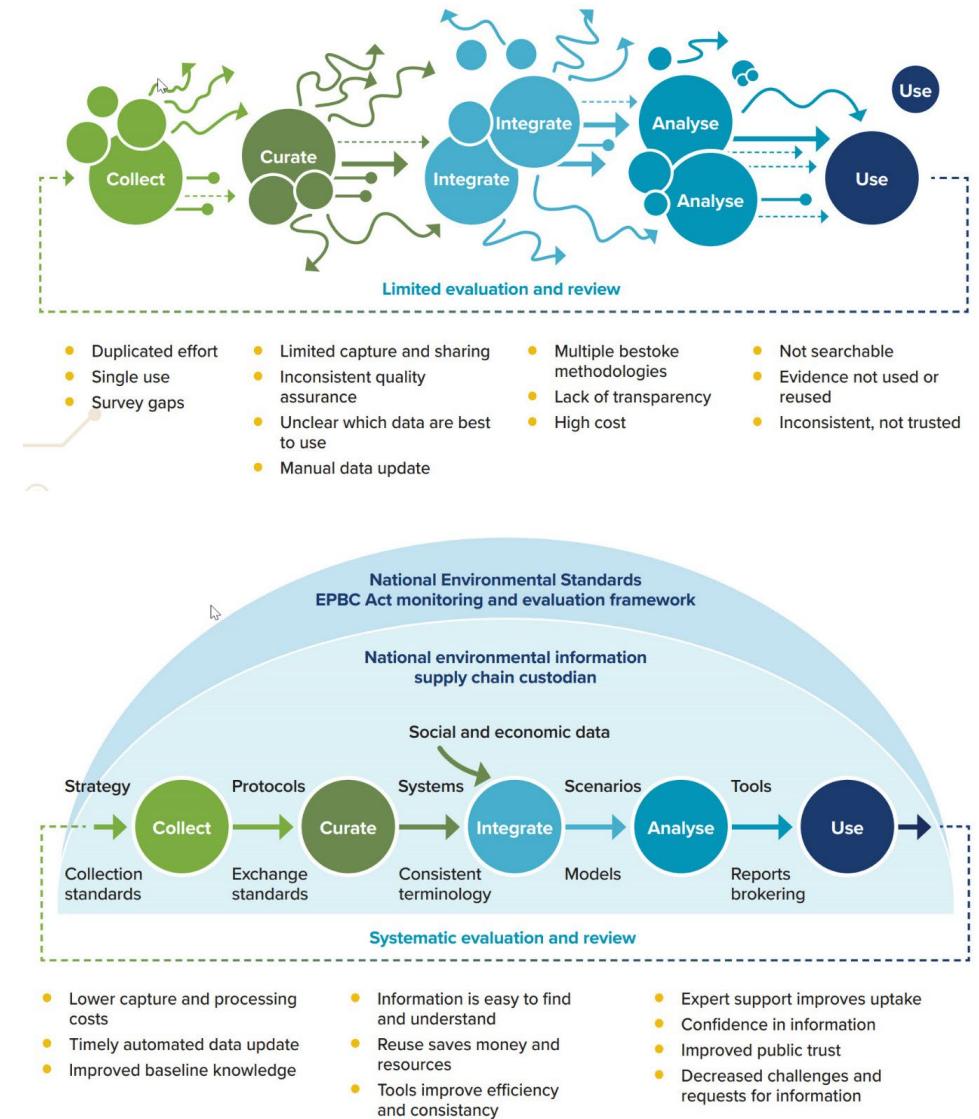
## Multiple surveys of Geographe

- BRUV assessments of demersal fish & seagrass
- NESP MAC Projects 2.1, 4.21, 1.4



# Data Management

- **Takes Priorities and information from**
  - Survey programs
  - National data management initiatives
- **Delivers**
  - FAIR Data
  - Streamlined & efficient process
  - Observation Repository
  - Data Pipeline
  - Information on Drivers and uses in AMPs & Network
- NESP MAC projects 2.3, 4.20, 4.21





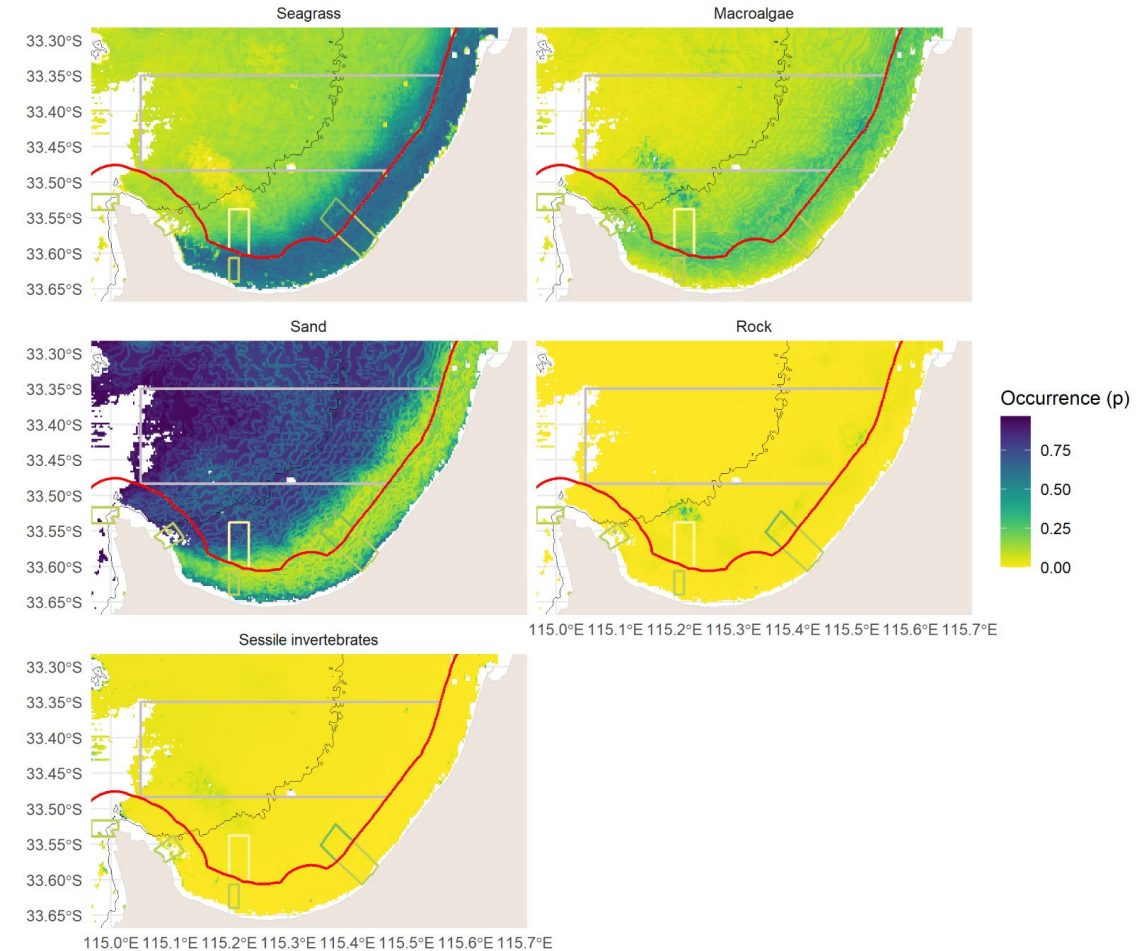
# Assessment of Status

## Takes

- Data on observations, past and current use, climate and other drivers
- Aligns observations to Natural Values Common Language ecosystems

## Delivers

- Spatial status of distribution of values in NVCL ecosystems
- Temporal change of values in NVCL ecosystems
- NESP MAC project 4.2

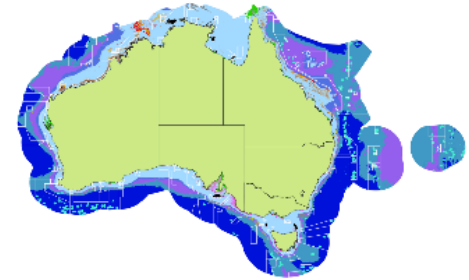




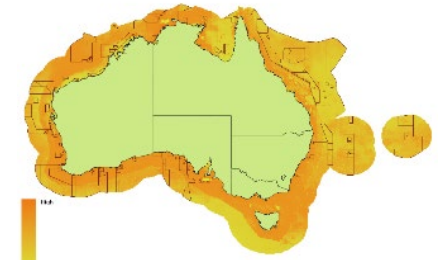
# Synthesis to address monitoring priorities

- **Takes**
- Assessment of status
- Parks Australia priorities
- **Delivers**
- Summaries of status and trend at network and AMP scales as determined by Parks
- Status and trend of ecosystems and ecosystems components within AMPs to test management effectiveness where needed.
- NESP MAC Project 4.2, 5.6

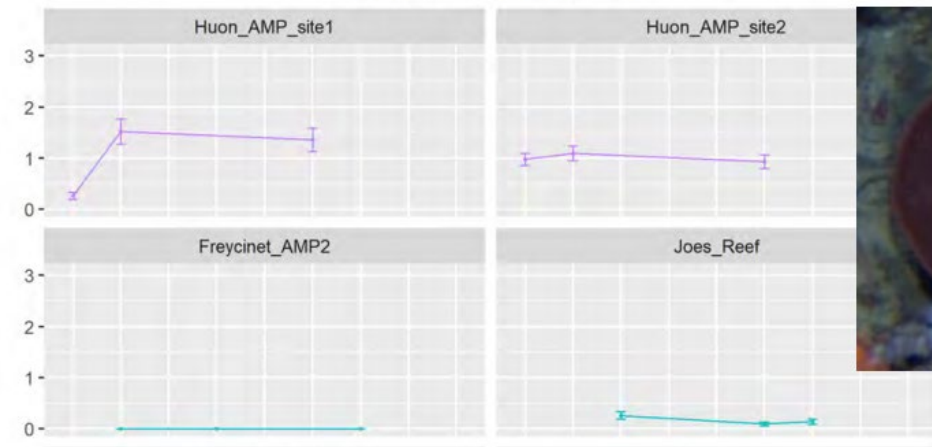
NVCL  
Ecosystems



Uses and Drivers

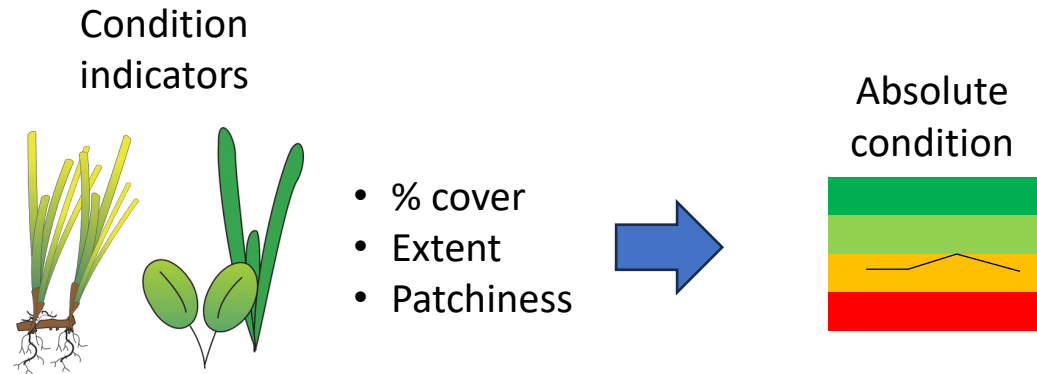


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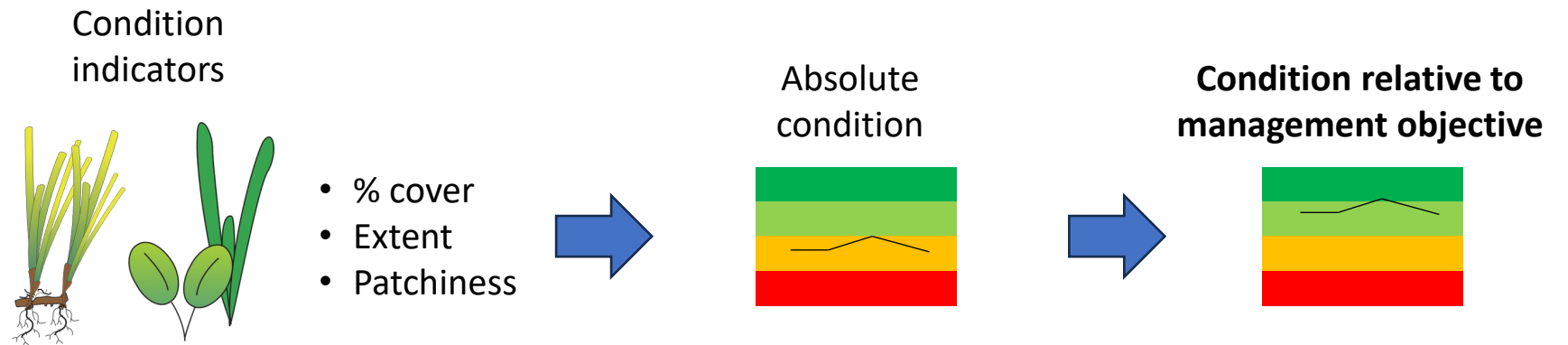


# Condition assessment options

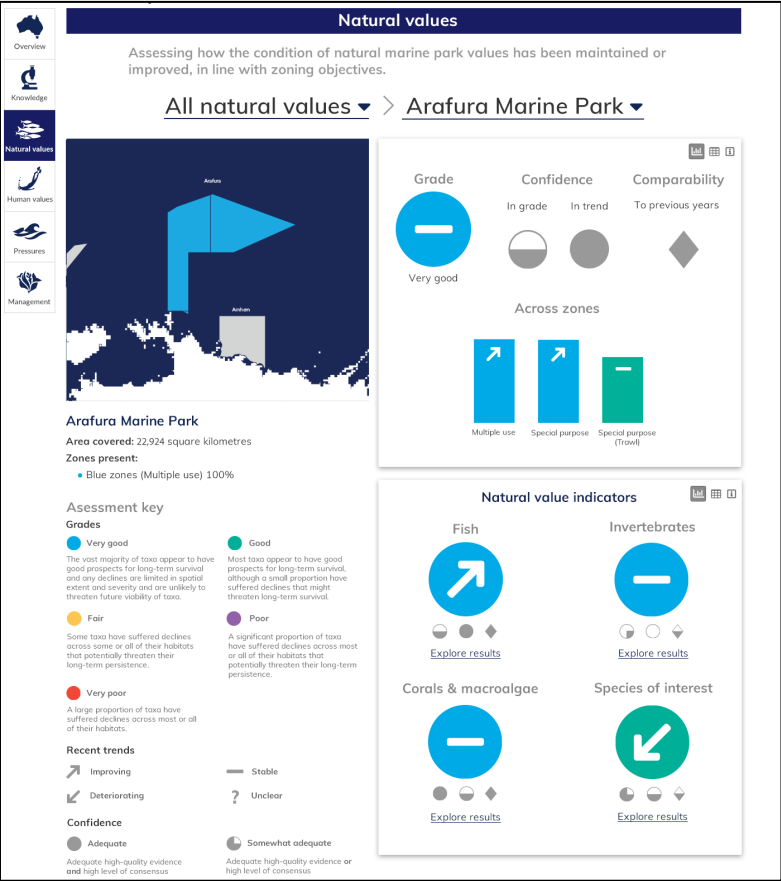
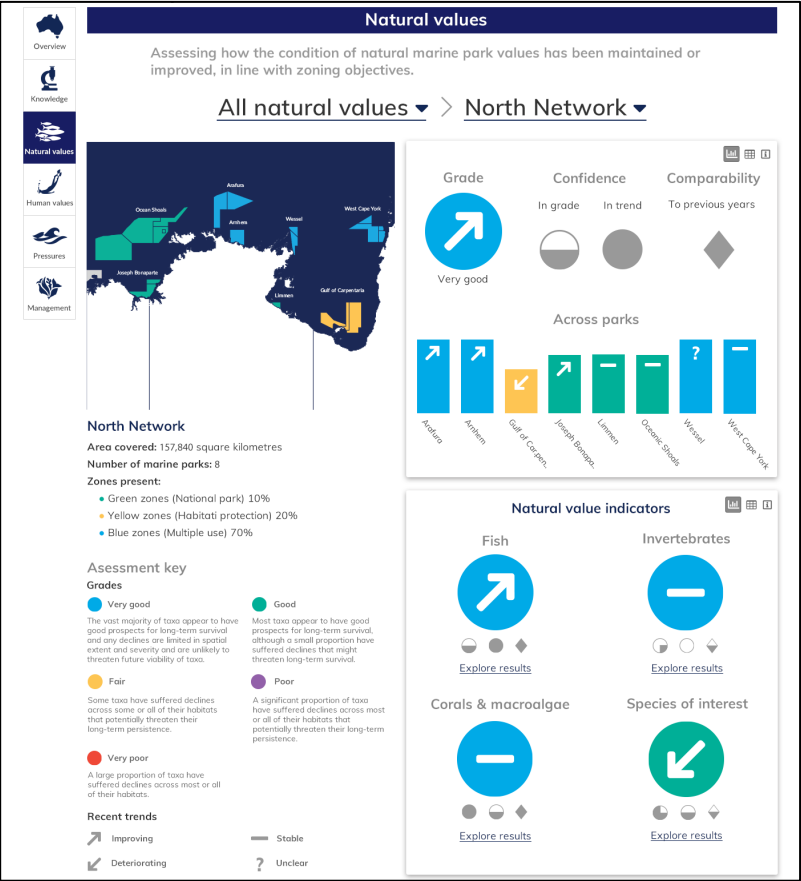
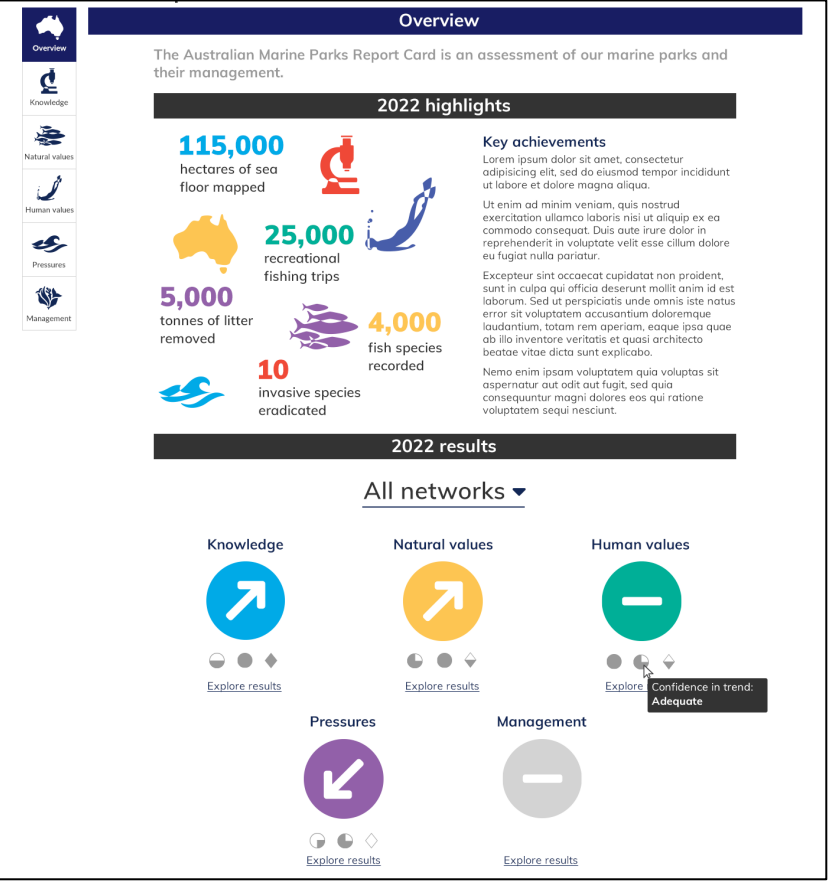
Option 1

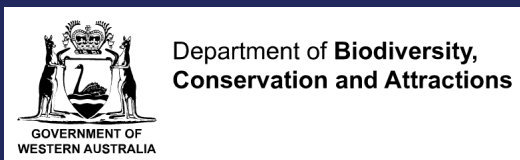


Option 2



# Reporting for park management & management plan reviews?





Australian  
Marine Parks

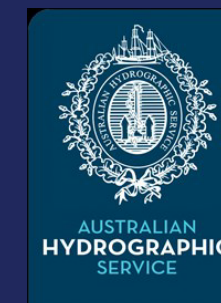
Thank you



Conservation Science Section  
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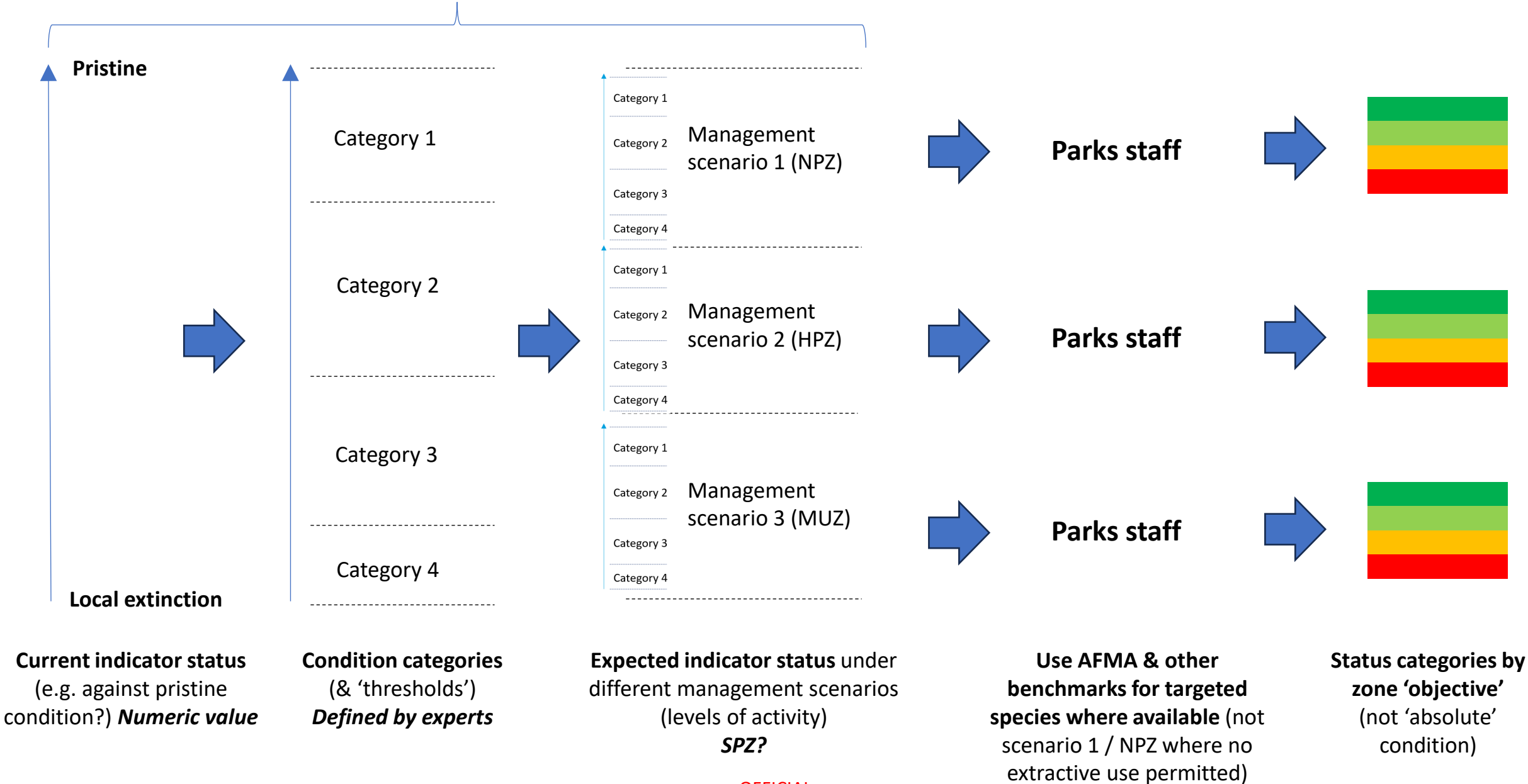




# Summary

OFFICIAL

Expert opinion



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