

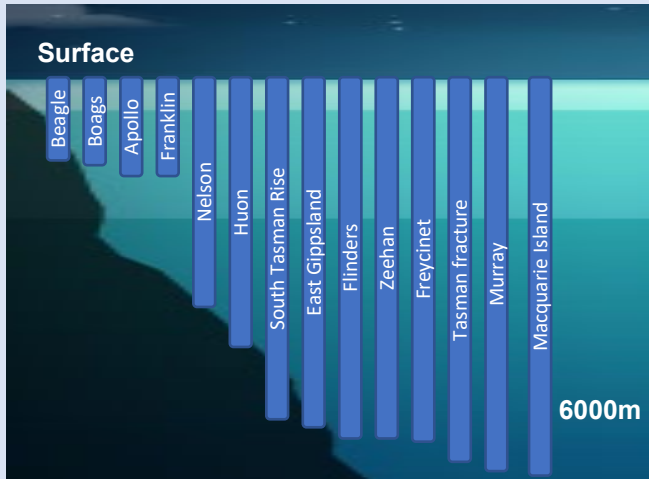
South-east Marine Parks Network state of knowledge



The 14 marine parks in this network contain a wide range of habitats and biological communities including deep rocky reefs, canyons and one of the world's largest cluster of seamounts (underwater mountains). The parks range in depth from 10 metres to over 6000 metres.

The network has an expanding level of knowledge from the increasing number of dedicated research voyages that have mapped the seafloor and undertaken biological surveys in many high priority areas. We are still learning what is in our parks, so monitoring is limited to deep coral communities on seamounts and a few deep reefs.

Depth ranges

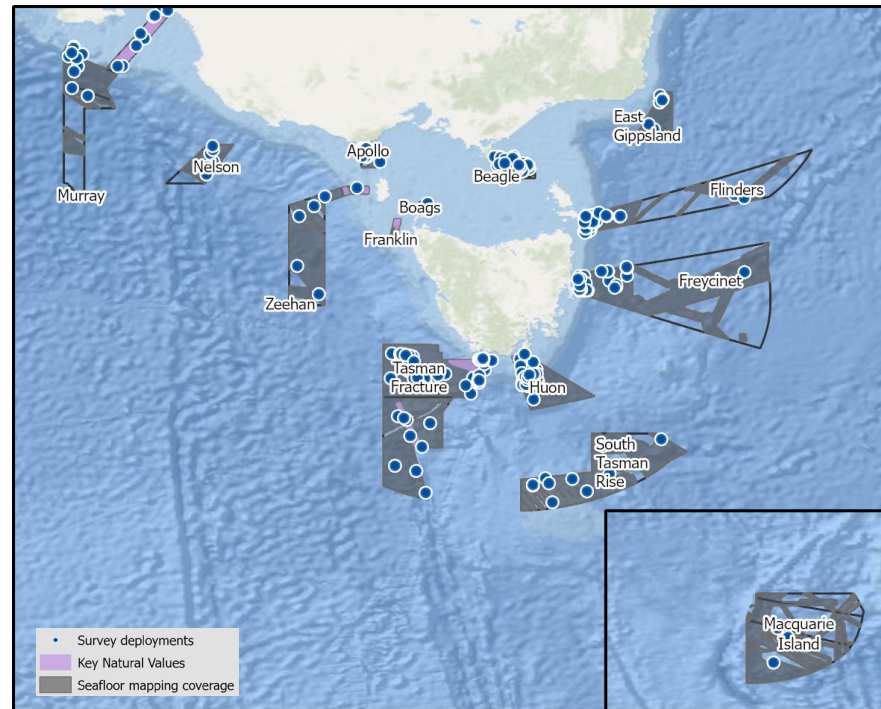


Overall knowledge status

Seafloor mapping

Biological surveys

	Apollo	Beagle	Boags	East Gippsland	Flinders	Franklin	Freycinet	Huon	Macquarie Island	Murray	Nelson	South Tasman Rise	Tasman Fracture	Zeehan
Seafloor mapping	Light Green	Light Green	Light Green	Light Green	Dark Green	Light Green	Dark Green	Dark Green	Light Green	Light Green	Light Green	Light Green	Dark Green	Light Green
Biological surveys	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Dark Green	Dark Green	Light Green	Light Green	Light Green	Light Green	Dark Green	Light Green



Low	<ul style="list-style-type: none"> No or limited seafloor mapping or biological surveys have occurred
Medium	<ul style="list-style-type: none"> Sufficient mapping of only some identified priority park values Surveys only partially describe habitat and communities of identified priority park values
High	<ul style="list-style-type: none"> Sufficient mapping of many to most identified priority park values Surveys adequately describe habitat and communities in many to most identified priority park values

First Nations knowledge

First Nations people have key knowledge and cultural obligations to care for Sea Country in and around Australian Marine Parks. This state of knowledge will be revised over time with additional information, including working with First Nations to understand priorities identified for Sea Country.

Social, economic and heritage knowledge

A national social and economic benchmark survey was conducted in 2020 that covered awareness and use of the parks².

The network is the resting place for four known shipwrecks, as well as several unlocated shipwrecks.

Further information:

- Hayes et al. (2021). [Designing a Targeted Monitoring Program to Support Evidence Based Management of Australian Marine Parks: A Pilot on the South-East Marine Parks Network.](#)
- Navarro et al (2021) [Social and economic benchmarks of the Australian Marine Parks.](#)

| State of Knowledge published Feb 2023 |

Interactive [Map](#) and [Report](#).

South-east Marine Parks Network state of knowledge



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Informing marine park design

Australian Marine Parks are designed to protect representative areas of Australia's ocean environment. Science was critical to inform the design of the South-east network, including:

- detailed surveys of species and habitat at different depths (available for a very limited area of these waters)
- bathymetry (studying and mapping the sea floor)
- bathomes (areas defined by depth)
- species community and distribution maps
- key ecological features
- biologically important areas.
- provincial and mesoscale bioregions.

Social and economic data was also used to help provide opportunities for sustainable human use and enjoyment of the marine parks.

Understanding bioregions

The information and models were used by scientists to classify large areas of ocean with broadly similar characteristics, such as ecological regions or 'bioregions'. This information was combined and analysed to provide the [Integrated Marine and Coastal Regionalisation of Australia](#) (IMCRA). The first version of IMCRA was released in 1998, and has been updated as new information became available. Large provincial bioregions were created in 2004 and inshore mesoscale bioregions were developed in the latest version, IMCRA 4.0, released in 2006.

Understanding of bioregions contributed to the design of a comprehensive, adequate and representative marine park system that position Australia as a world leader in marine protection.

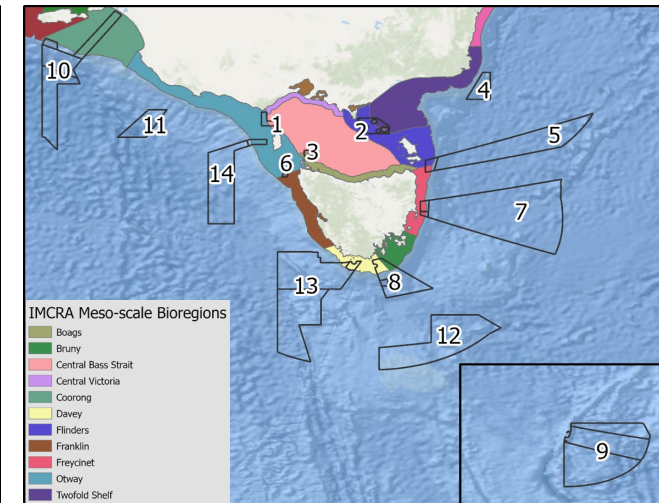
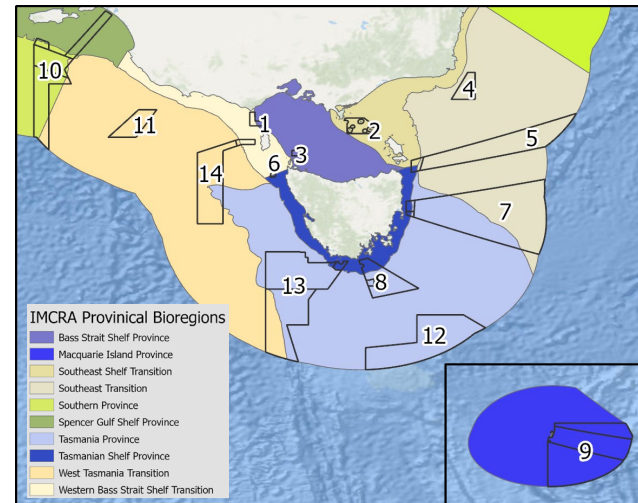
Apollo	Beagle	Boags	East Gippsland	Flinders	Franklin	Freycinet	Huon	Macquarie Island	Murray	Nelson	South Tasman Rise	Tasman Fracture	Zeehan
1	2	3	4	5	6	7	8	9	10	11	12	13	14

IMCRA Provincial Bioregions	Percent	Bioregion Area (km ²)
Bass Strait Shelf Province	2%	56,595
Macquarie Island Province	34%	475,466
Southeast Shelf Transition	8%	43,416
Southeast Transition	28%	233,231
Southern Province*	30%	119,462
Spencer Gulf Shelf Province	17%	29,338
Tasmania Province	31%	300,018
Tasmanian Shelf Province	18%	20,205
West Tasmania Transition	12%	289,881
Western Bass Strait Shelf Transition	6%	31,746
Central Eastern Province	0%	33,018

IMCRA Mesoscale Bioregions	Percent	Bioregion Area (km ²)
Boags	6%	4,518
Central Bass Strait	1%	49,311
Central Victoria	1%	2,766
Batemans Shelf	0%	596
Flinders	17%	14,799
Twofold Shelf	3%	28,021
Coorong	17%	29,317
Bruny	20%	3,096
Davey	44%	4,426
Franklin	1%	7,868
Freycinet	22%	4,815
Otway	6%	31,746

* Figures include a portion of Western Eyre Marine Park (in the South-west Network)

Proportion of bioregions within Australian Marine Parks in the South-east marine region



Representative areas network

The South-east network includes all 11 Provincial bioregions in the South-east marine region, except the Central Eastern Province (later represented in Temperate East Network). Mesoscale bioregions were not targeted by the original network design (IMCRA 4.0 was finalised later), but are also included to varying degrees within the parks. Mesoscales bioregions focus on ocean environments on the continental shelf, providing additional understanding than provincial bioregions which combined shelf and offshore information.

Ongoing science and adaptive management

The Australian Marine Park science program is providing new information to improve our knowledge and understanding of the natural, cultural, social and economic values of the parks and the pressures on those values is key to managing our parks effectively. Increasing knowledge will help us to review and adapt park management and design to best protect these special places.

Further information:

1. [Australian Marine Parks science under the surface](#)
2. [Goals and principles for the establishment of the National Representative System of Marine Protected Areas in Australian waters.](#)

South-east Marine Parks Network state of knowledge



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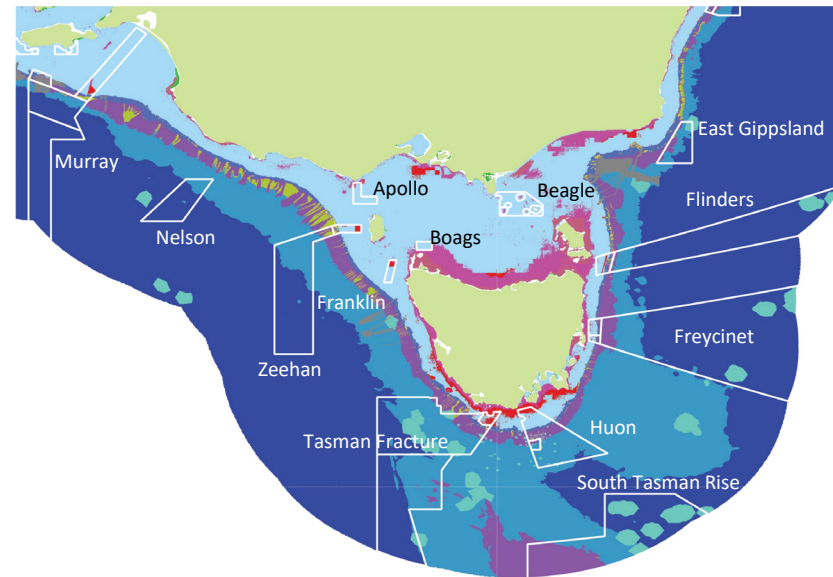
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Natural values in more detail

The [natural values](#) described in the South-east network management plan in 2013 were by necessity high level and were focused on [provincial bioregions](#), [Key Ecological Features](#) and [Biologically Important Areas](#). Understanding of the natural values within the network has improved significantly since the management plan came into effect, enabling better descriptions of the natural values within the Australian Marine Parks.

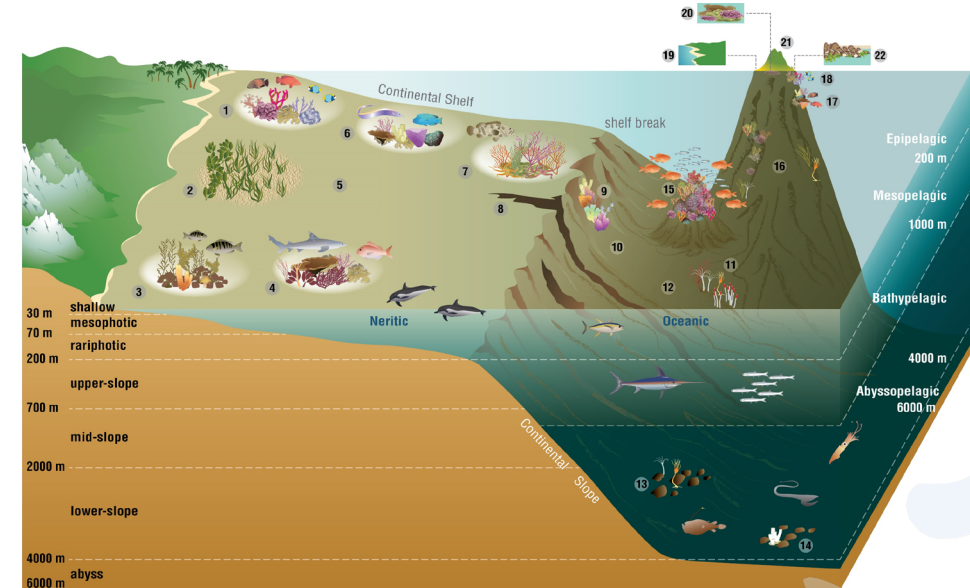
A natural values common language has been developed to provide a nationally consistent terminology for describing what is in the marine parks. It is based on broad national open water (pelagic) and seafloor (benthic) ecosystems, such as deep (mesophotic and rariphotic) reefs and ecosystem components including immobile (sessile) invertebrates like sponges and coral.

Better definition and understanding of ecosystems and communities associated with them is helping to prioritise science and management to best protect them.



* Shallow rocky reef ecosystems occur outside of park boundaries.

Note: Macquarie Island Marine Park is not shown on this map. It has limited surveys and further knowledge is needed to accurately identify ecosystems



- | | | | |
|-------------------------------|--------------------------|-----------------------------------|---------------------------|
| 1 shallow coral reefs | 7 rariphotic shelf reefs | 13 lower-slope reef and sediments | 19 beaches |
| 2 shelf vegetated sediments | 8 shelf-incised canyons | 14 abyssal reef and sediments | 20 intertidal coral reefs |
| 3 shallow rocky reefs | 9 upper-slope reefs | 15 seamount reefs | 21 islands |
| 4 mesophotic rocky reefs | 10 upper-slope sediments | 16 seamount sediments | 22 rocky shores |
| 5 shelf unvegetated sediments | 11 mid-slope reefs | 17 oceanic mesophotic coral reefs | |
| 6 mesophotic coral reefs | 12 mid-slope sediments | 18 oceanic shallow coral reefs | |

Ecosystems in the network

There are 22 seafloor (benthic) ecosystems and four open ocean (pelagic) ecosystems present across Australian Marine Parks. Thirteen of the benthic ecosystems exist in the South-east Marine Parks Network, not including shallow coral reefs (1), shallow rocky reefs (3), mesophotic coral reefs (6), oceanic mesophotic coral reefs (17), oceanic shallow coral reefs (18), beaches (19), intertidal coral reefs (20), islands (21) and rocky shores (22).

Further information:

1. Hayes et al. (2021). [Designing a Targeted Monitoring Program to Support Evidence Based Management of Australian Marine Parks: A Pilot on the South-East Marine Parks Network](#).