



Marmion Marine Park review and proposed expansion

Community Information Session
February 2022



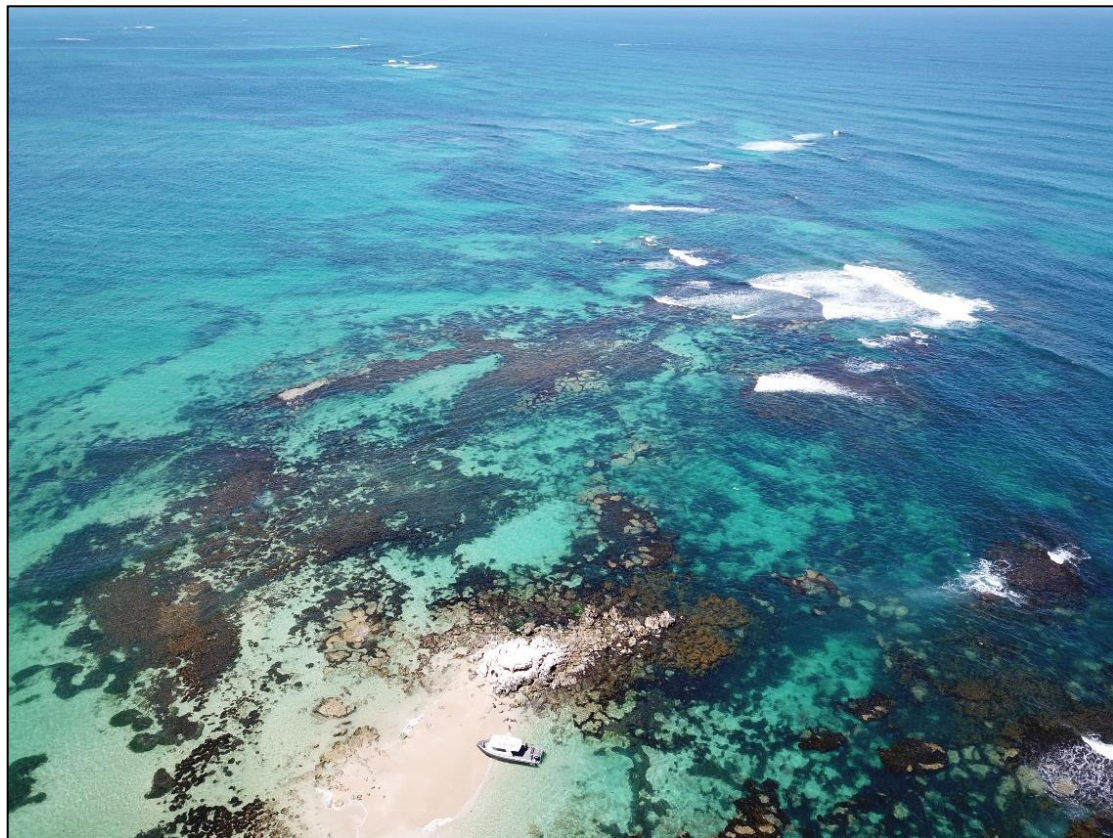
Acknowledgement of Country



Overview

To provide information on the proposed review and expansion

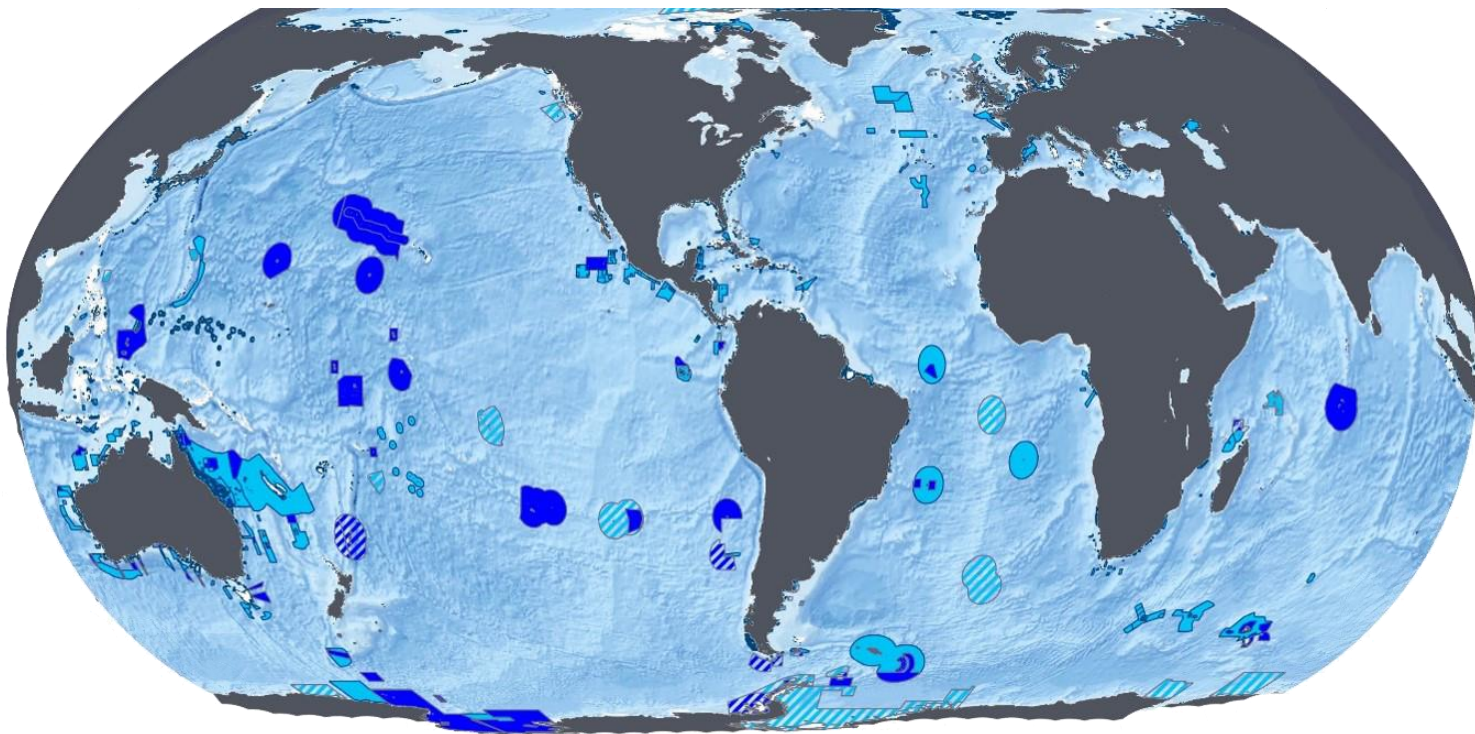
- Background
- Proposed area
- Marine park planning
- Marine science
- DPIRD role
- DPIRD research
- Questions



Background

- 1972 – EPA Conservation through Reserve Committee to establish system of nature reserves
- 1983 – System 6 Report, recommended marine reserve adjacent the northern Perth metro
- March 1987 – Marmion Marine Park gazetted
- Marmion Marine Park Management Plan 1992-2002





4.8%

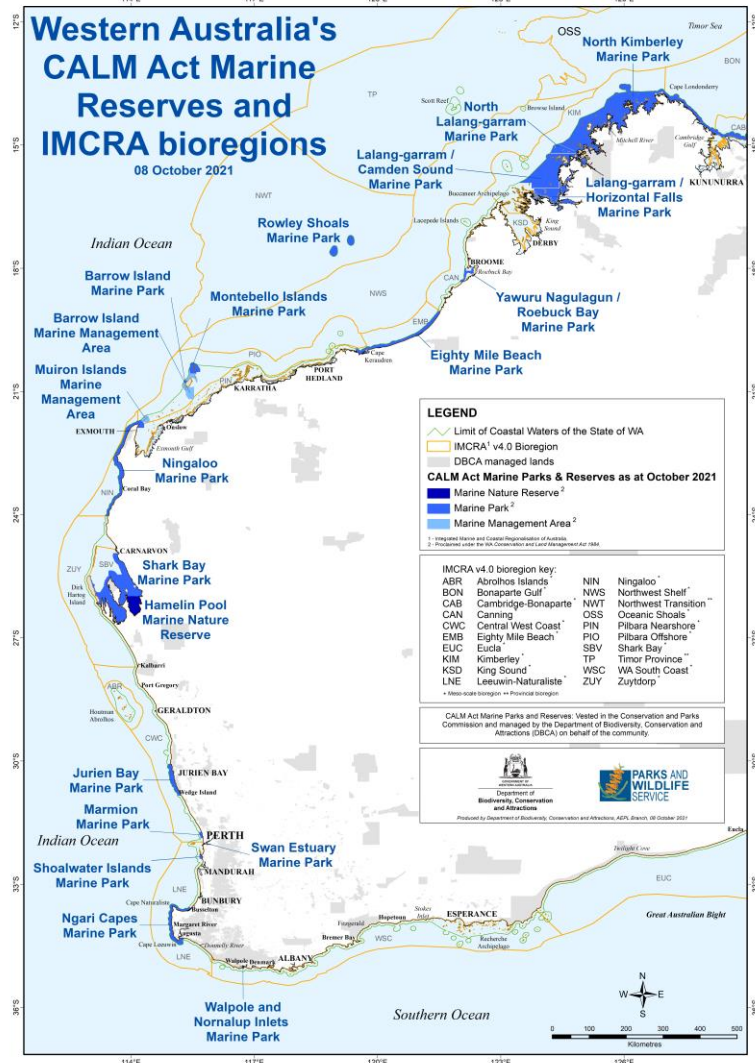
Marine Protected Areas

Establishing a National Representative System of Marine Protected Areas

Existing state wide marine reserve network

- 17 marine parks
- 2 marine management areas
- 1 marine nature reserve

Marine parks are vested, either solely or jointly with an Aboriginal body corporate, with the Conservation and Parks Commission under the *Conservation and Land Management Act 1984*



Marine park objectives

1. Conserve biodiversity values
2. Conserve the value of the area to the culture and heritage of Aboriginal people
3. Deliver and support more research and monitoring
4. Provide for on-going sustainable commercial and recreational uses
5. Increase public participation in caring for the marine environment
6. Contribute to the local economy



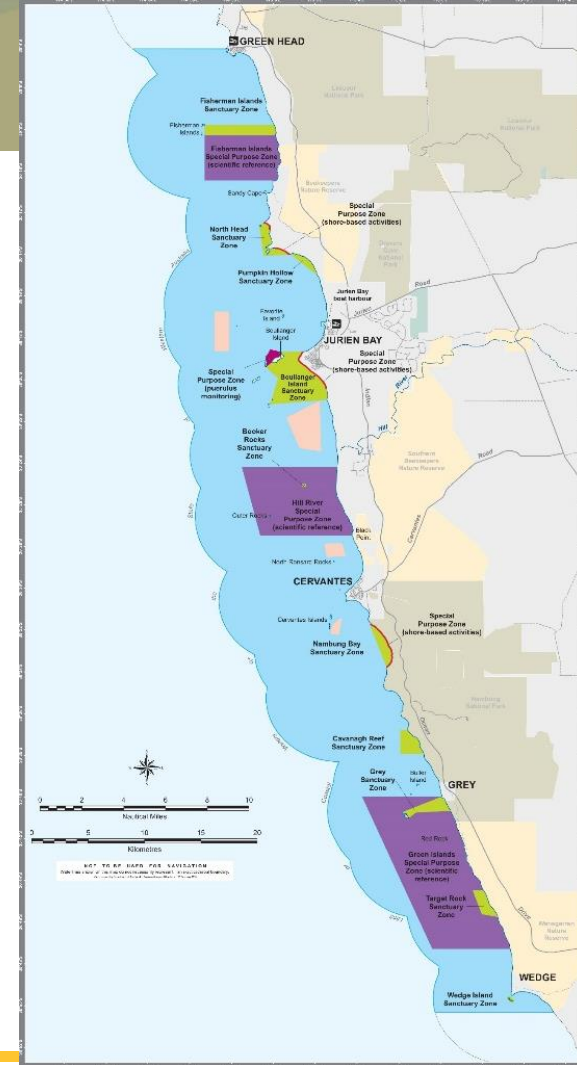
Zoning in marine parks

General use zones - all areas of a marine park not included in other zones where commercial and recreational activities consistent with the conservation of natural resources are permitted.

Recreation zones - provide for conservation and compatible recreational activities.

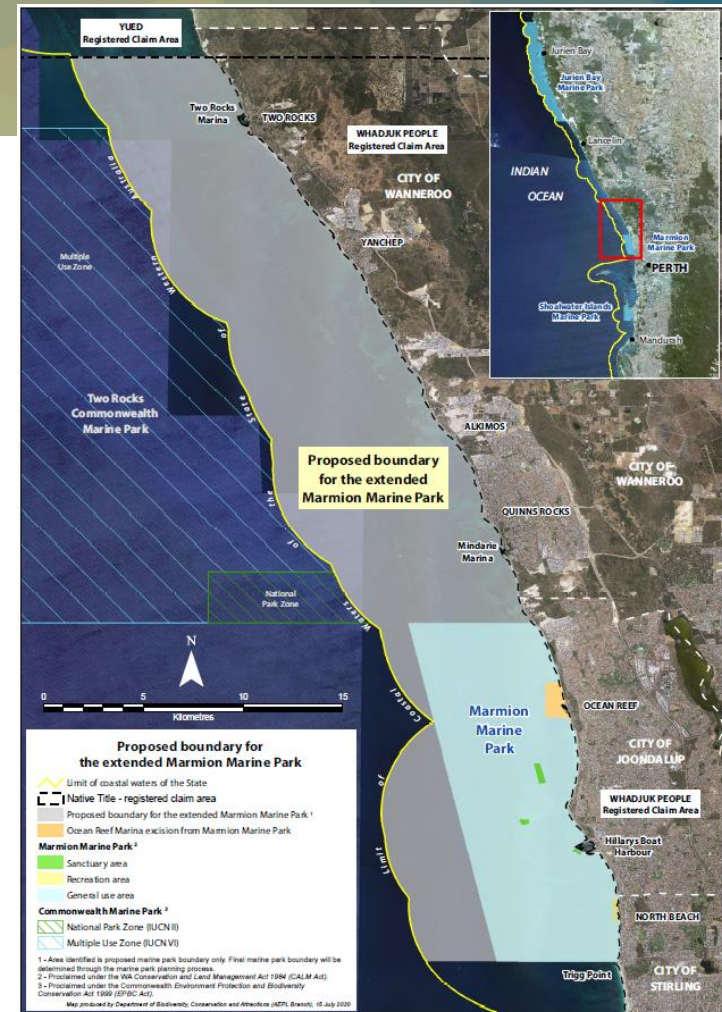
Special purpose zones - are managed for a particular conservation purpose e.g. benthic habitat protection.

Sanctuary zones - provide the highest level of protection for representative areas of marine habitats and wildlife.



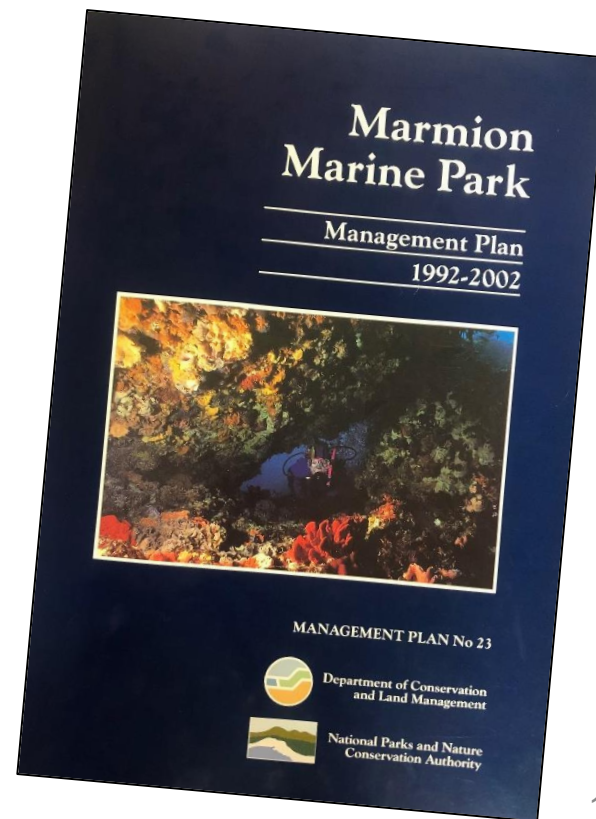
Proposed expansion boundary

- Proposed boundary identified through Plan for Our Parks
- Joint management with traditional owners
- Target date - 2024
- 9,500 ha to 34,500 ha
- From Trigg Point to Two Rocks



Why review and extend Marmion?

- 2016 WA Auditor General's Report – MMP outdated
- Ocean Reef Marina excision required management plan amendment
- Opportunity taken to review plan and extend park
- 2019 McGowan Government Plan for our Parks initiative
- Whole of government approach





1956 - Western rock lobsters at Trigg only a few metres from shore
(source: J Sue)



1957 – 34kg blue groper speared approx. 2 km off Whitford Beach.
Won the Marlin Trophy for biggest fish caught in Australia that year
(source: W Sharpe-Smith)



1953 - George Kirk with 18kg Dhufish, caught near western boundary of Marmion Marine Park.

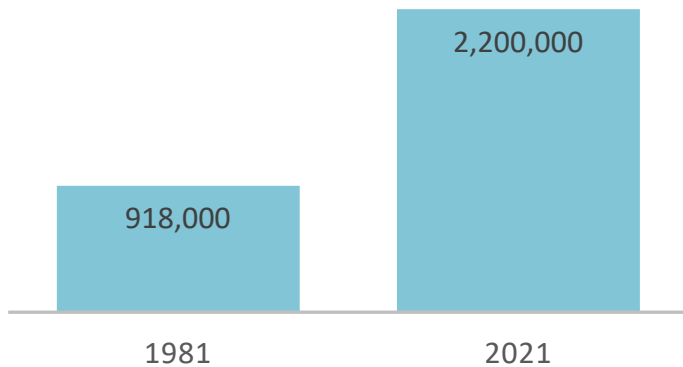


Hillary's 1987

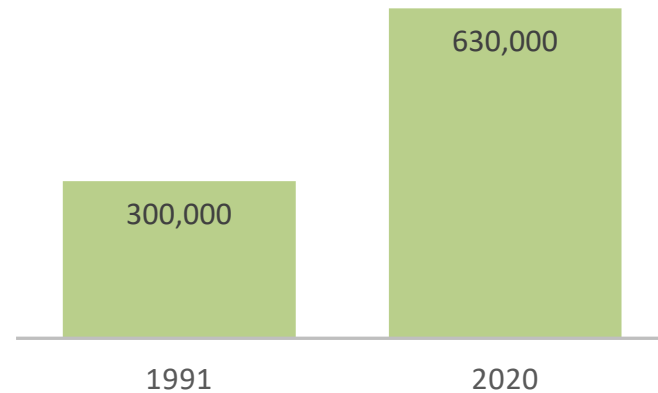


Alkimos 2019

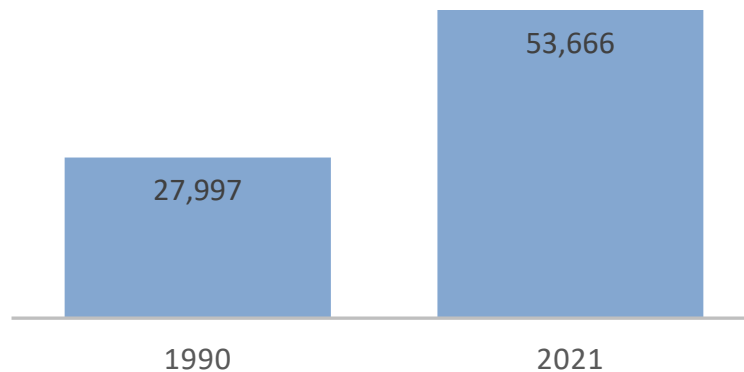
Metro population



WA recreational fishers



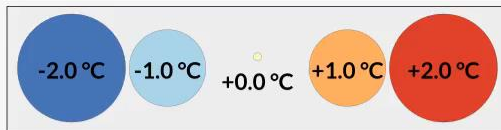
Metro boat ownership



Temperature Anomalies by Country

Years 1880 - 2017

1880



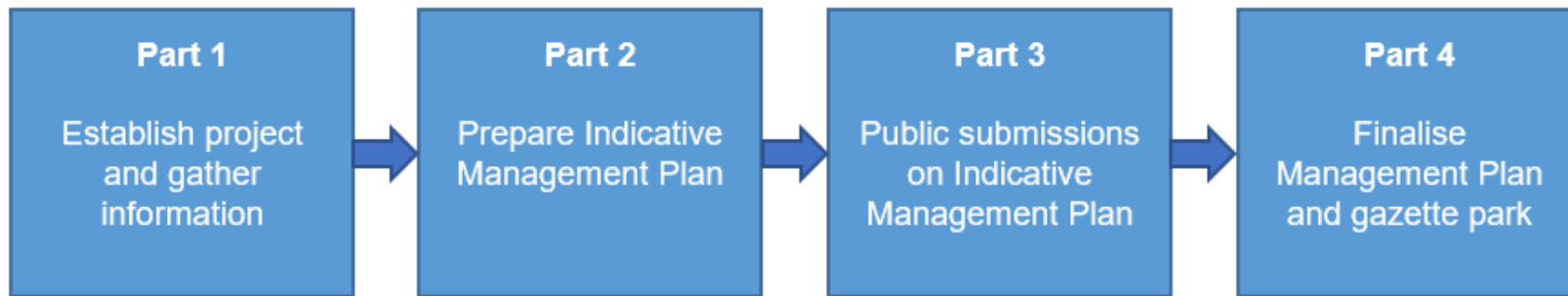
Data Source:
 NASA GISS, GISTEMP Land-Ocean Temperature Index (LOTI), ERSSTv5, 1200km smoothing
<https://data.giss.nasa.gov/gistemp/>
 Average of monthly temperature anomalies. GISTEMP base period 1951-1980.

Video license: CC-BY-4.0
 Antti Lipponen (@anttilip)

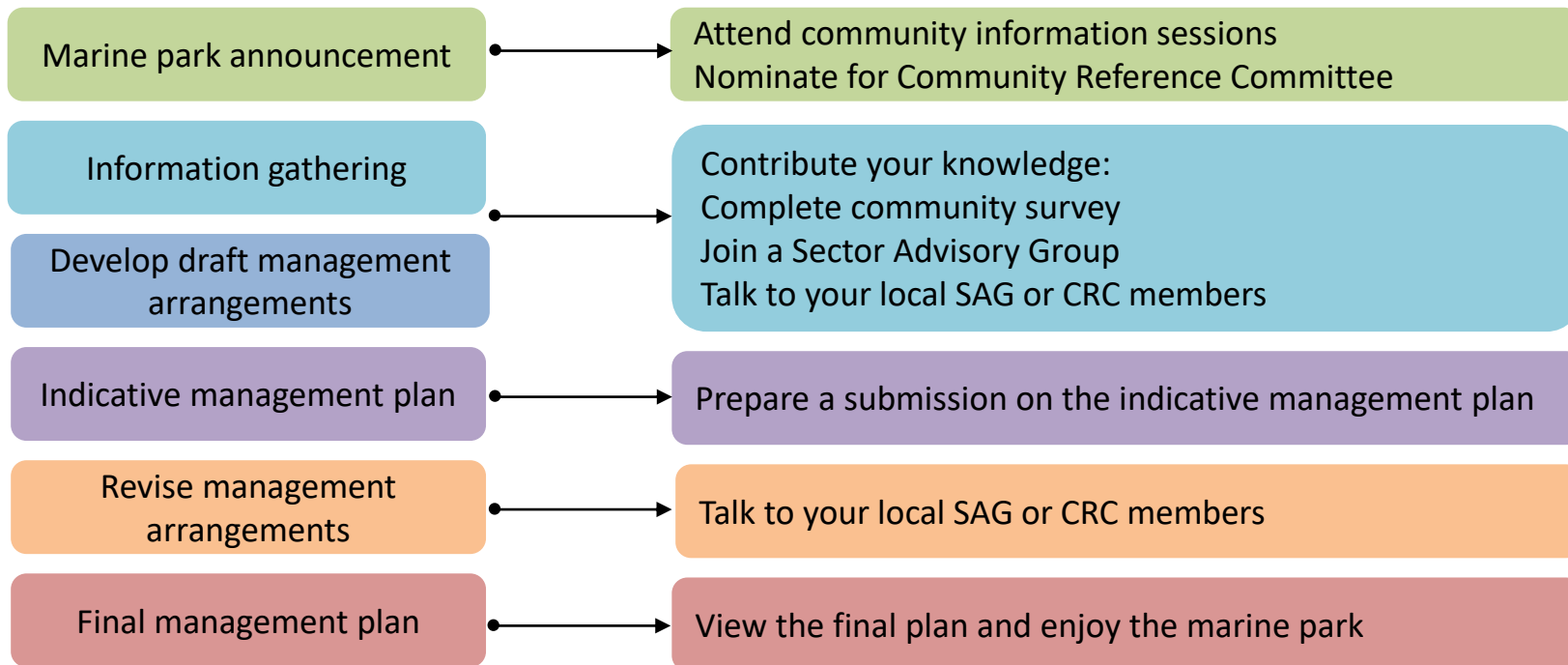
A wide-angle photograph of the ocean surface, showing gentle ripples and waves. The water is a deep blue color, and the horizon line is visible in the upper third of the frame. The sky is a clear, light blue.

93% excess heat being absorbed by the oceans

Warming detectable to depth of 2 km



How can I get involved?



Marine Science Program Overview

What we do:

- Deliver science & biodiversity knowledge to support WA marine parks



How we do it:

- Monitor marine “ecological assets” that are important for biodiversity & conservation
- Collect time series data to assess trends in how healthy assets are

How it is used:

- Inform management decisions on site, location & state level pressures & activities for ecosystem benefit
- Feed into other research programs, Parks & Wildlife functions



Marmion Marine Park monitoring condition assessments

Value	Status		Assessment Confidence	
	Condition	Pressure	Condition	Pressure
Water Quality	Satisfactory	High	High	Medium
Macroalgal Communities	Good	Low	Low	Medium
Seagrass Communities	Good	Low	Low	Medium
Intertidal Reef Communities	Satisfactory	Moderate	Low	Medium
Finfish Communities	Unsatisfactory	High	Medium	Medium
Pinnipeds	Unsatisfactory	Moderate	High	Low



Condition of Macroalgal Communities

	Condition	Pressure
Status	Good	Low
Confidence	Low	Medium

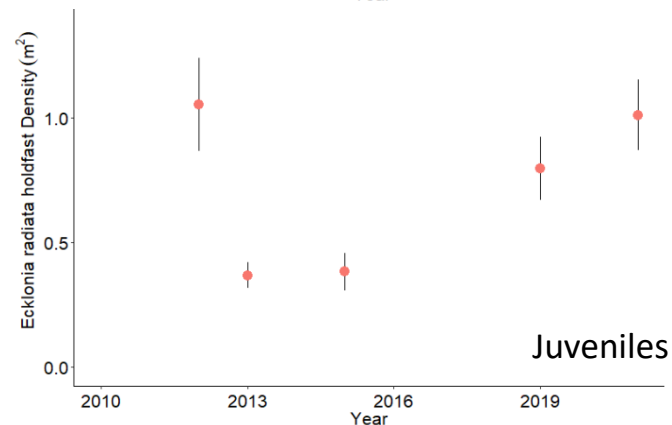
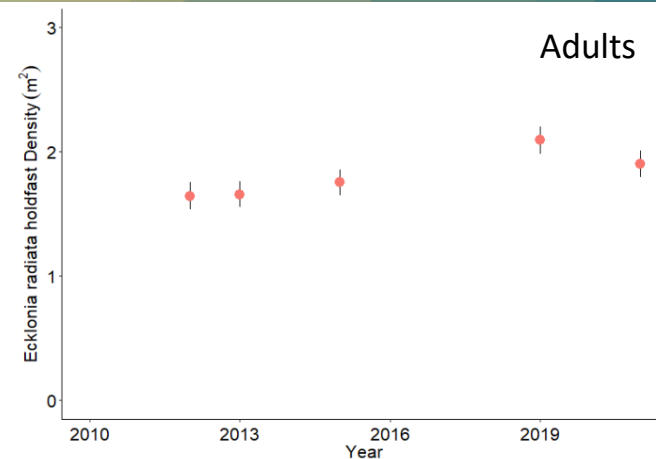


Adult density

- *Ecklonia radiata* stable
- Confidence will increase with more years of data

Juvenile Recruitment

- Variable
- Recovering since 2013

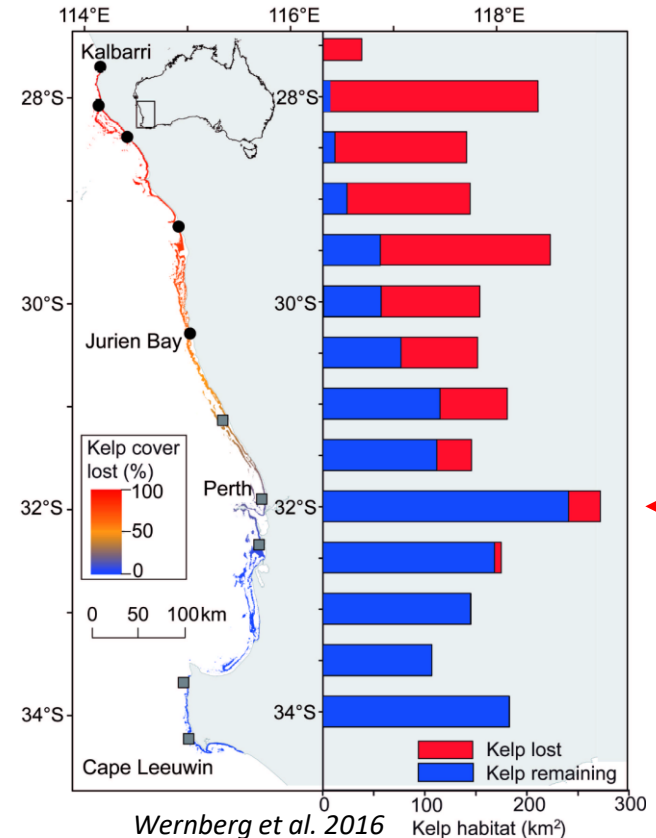


Pressure on Macroalgal Communities

	Condition	Pressure
Status	Good	Low
Confidence	Low	Medium

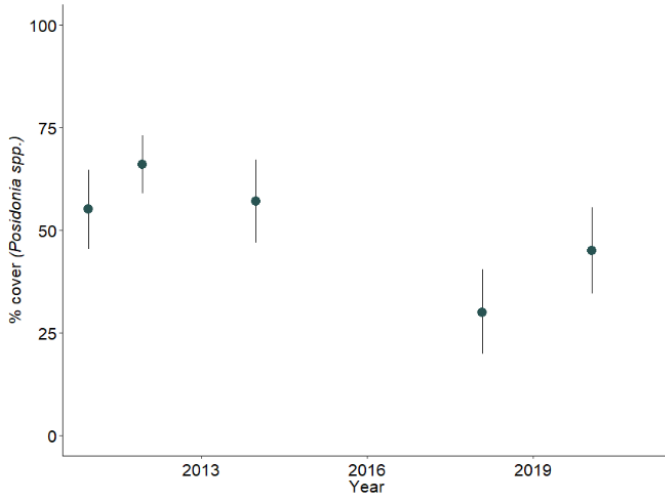
Main pressure is rising seawater temperature

Minor impacts to macroalgae was observed in Marmion after 2011 heatwave with minimal kelp lost

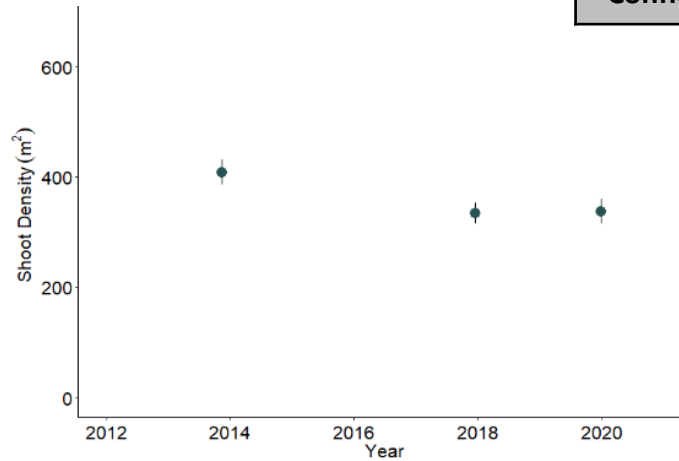


Condition of Seagrass Communities

	Condition	Pressure
Status	Good	Low
Confidence	Low	Medium



Posidonia sinuosa cover
Minor declines 2014-16



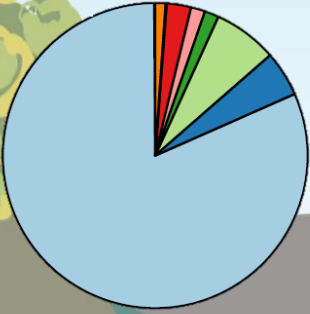
Posidonia sinuosa shoot density
Stable, monitoring again 2022



Condition of Invertebrate Communities

We're working for
Western Australia

Inner Intertidal Zone



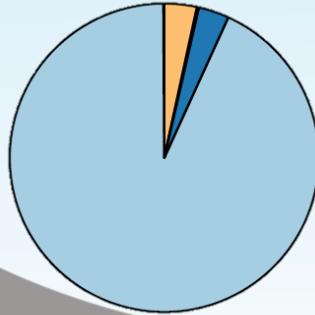
Highest species richness

44 species recorded

- *Prothalotia pulcherrimus* (54.6 %)
- *Lunella torquata* (9.0 %)
- *Meridiastra occidens* (6.6 %)
- *Mitrella austrina* (5.7 %)
- *Macroschisma productum* (4.8 %)



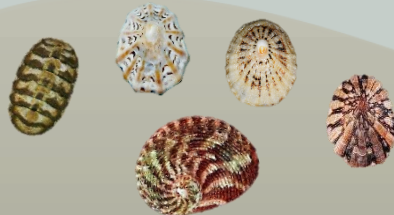
Outer Intertidal Zone



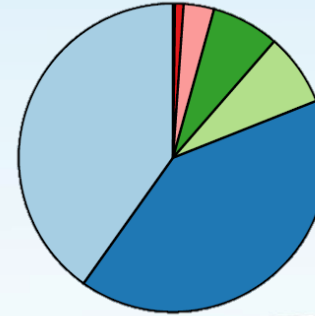
Highest abundance*

23 species recorded

- *Patelloida alticostata* (58.3 %)
- *Haliotis roei* (18.2 %)
- *Scutellastra peronii* (10.5 %)
- *Lottia onychitis* (4.9 %)
- *Liolophura hirtosa* (3.1 %)



Offshore Zone



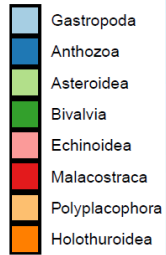
29 species recorded

- *Actinia tenebrosa* (36.4 %)
- *Haliotis roei* (11.0 %)
- *Euplica scripta* (7.2 %)
- *Lunella torquata* (7.0 %)
- *Septifer bilocularis* (6.9 %)



Community composition

Class

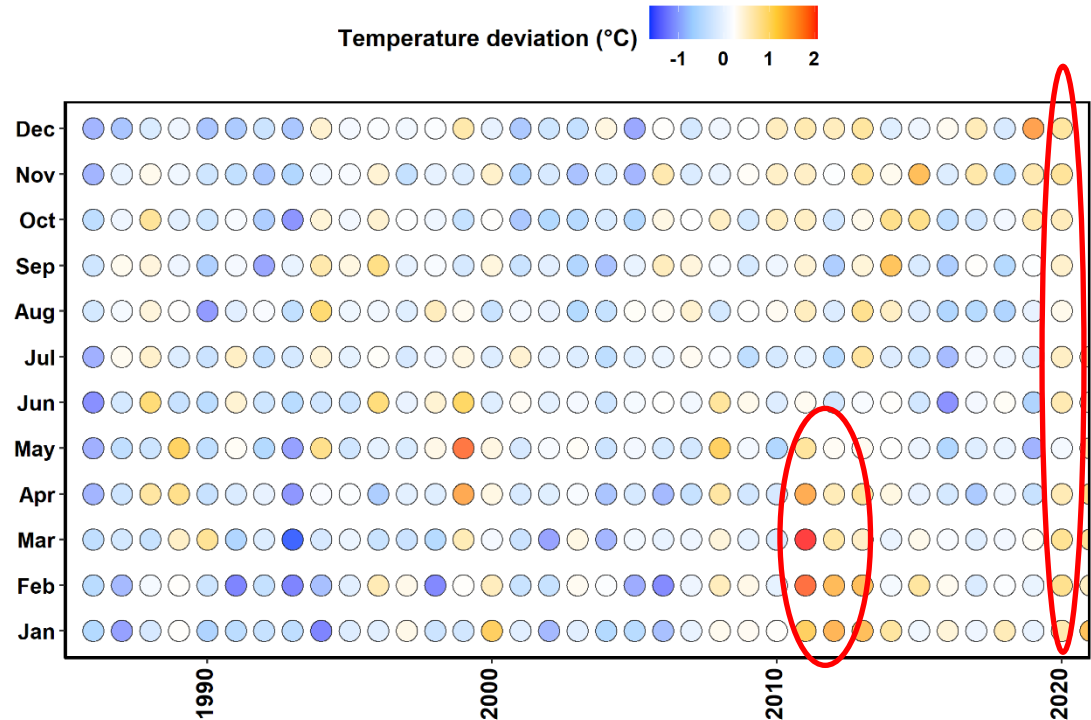


* 5 times higher abundances than any other platform zone

Seawater temperature = greatest pressure on benthic communities

	Condition	Pressure
Status	Satisfactory	High
Confidence	High	Medium

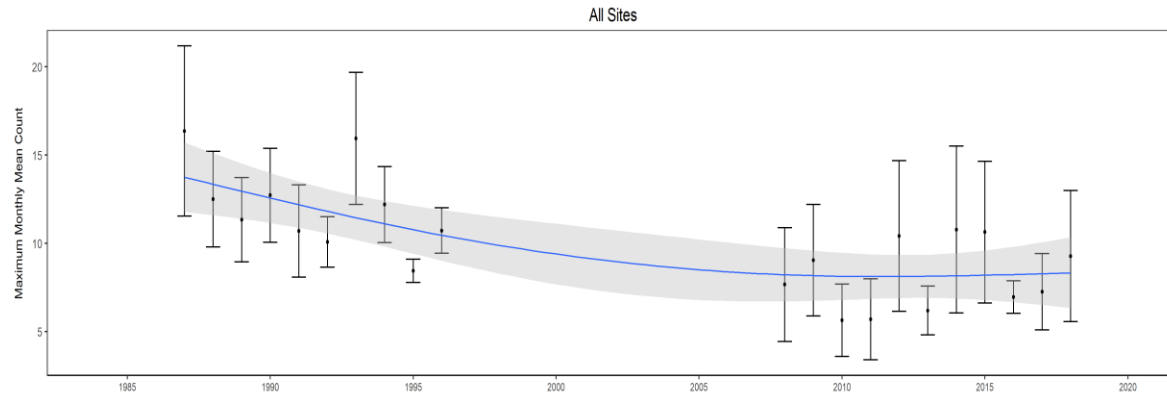
- Overall increasing temperature
- Sporadic 'hot years'
2011-2013, 2020-2021



Condition of Pinnipeds

	Condition	Pressure
Status	Unsatisfactory	Moderate
Confidence	High	Low

- Long-term decline in male monthly haul-out numbers, but stable in recent years
- Key pressure is human disturbance at haul-out sites mainly Little Island & Burns Rocks
- Research underway on foraging grounds, population estimates



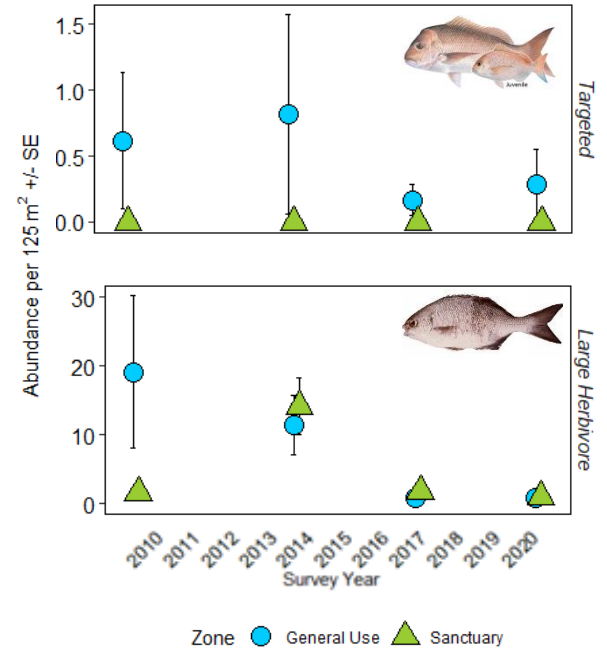
Australian sea lion

Condition of Finfish Communities

	Condition	Pressure
Status	Unsatisfactory	High
Confidence	Medium	Medium

-Stereo-DOV surveys showed that 'targeted species' abundance low likely due to combination of historical overfishing & small/shallow Sanctuary Zones

-Other piscivores, herbivores & invertivores present

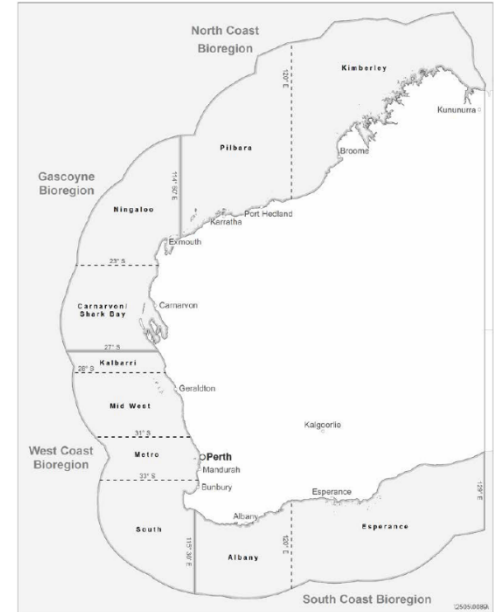
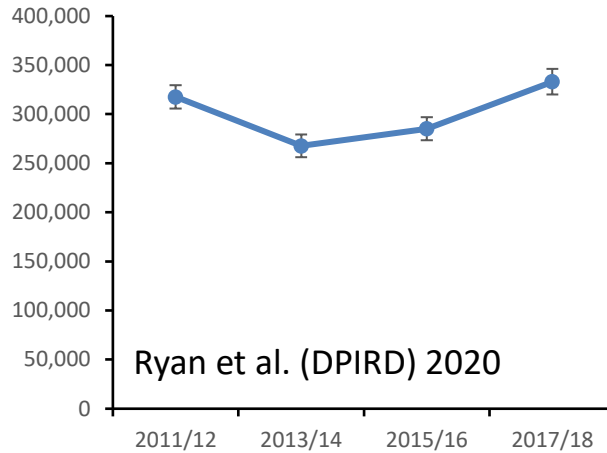


Pressure on Finfish Communities

	Condition	Pressure
Status	Unsatisfactory	High
Confidence	Medium	Medium

- Fishing activity (DPIRD)
- Seawater temperature
- Habitat change

Recreational fishing events from
boats in west coast bioregion





Jurien Bay



Marmion



A blueprint for conserving marine biodiversity

Sanctuary zones that are:



Connected

To other sanctuary zones



Large

Larger zones are more effective than smaller



Old

Have been protected over time



No-take

No extractive activities are permitted



Enforced

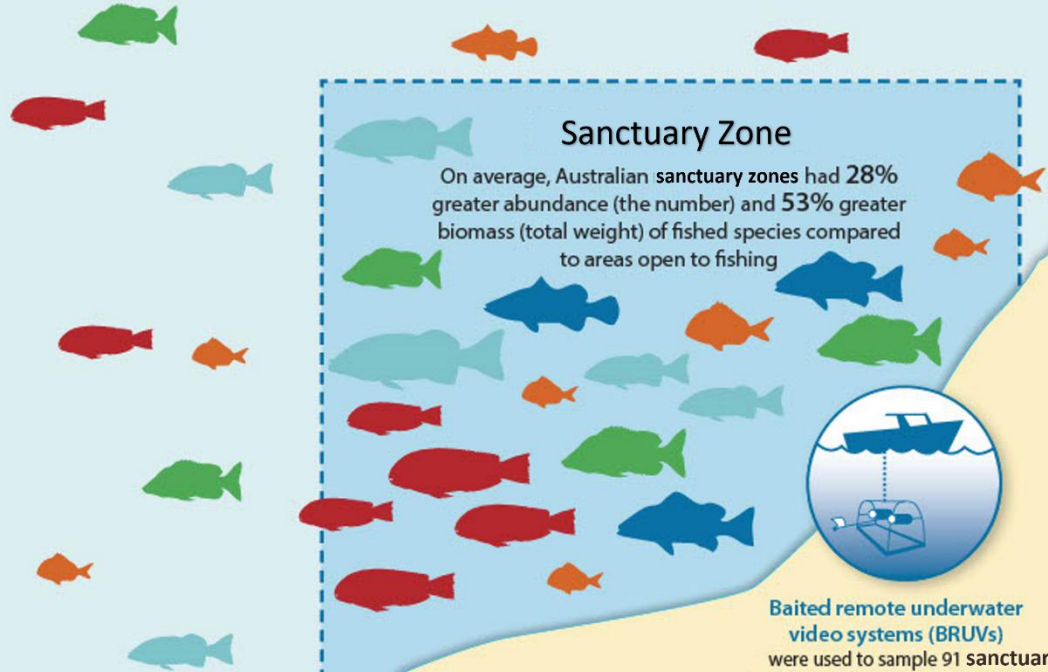
Compliance with restrictions is ensured



Deep

Extends from shore to deeper waters

provide increased conservation benefits

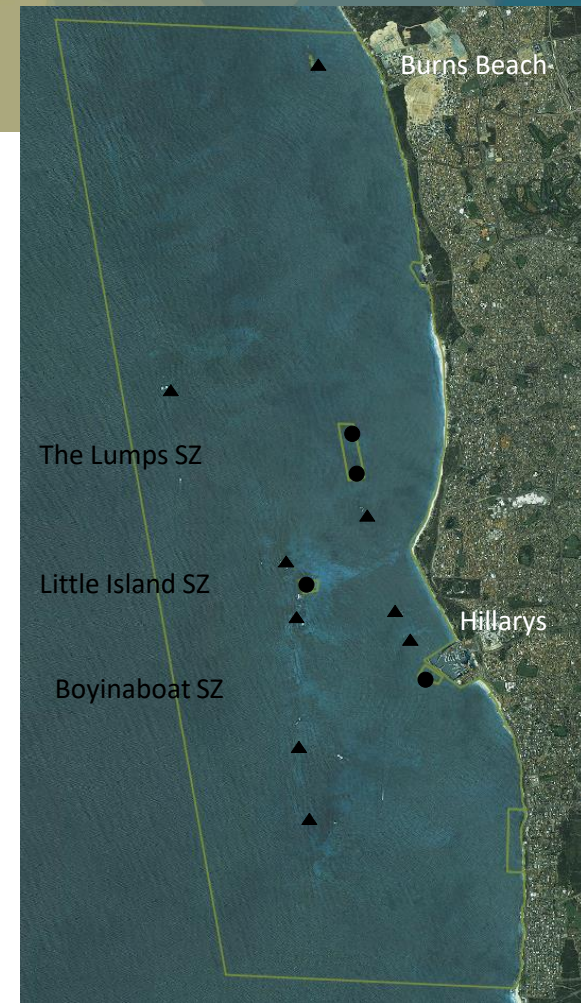


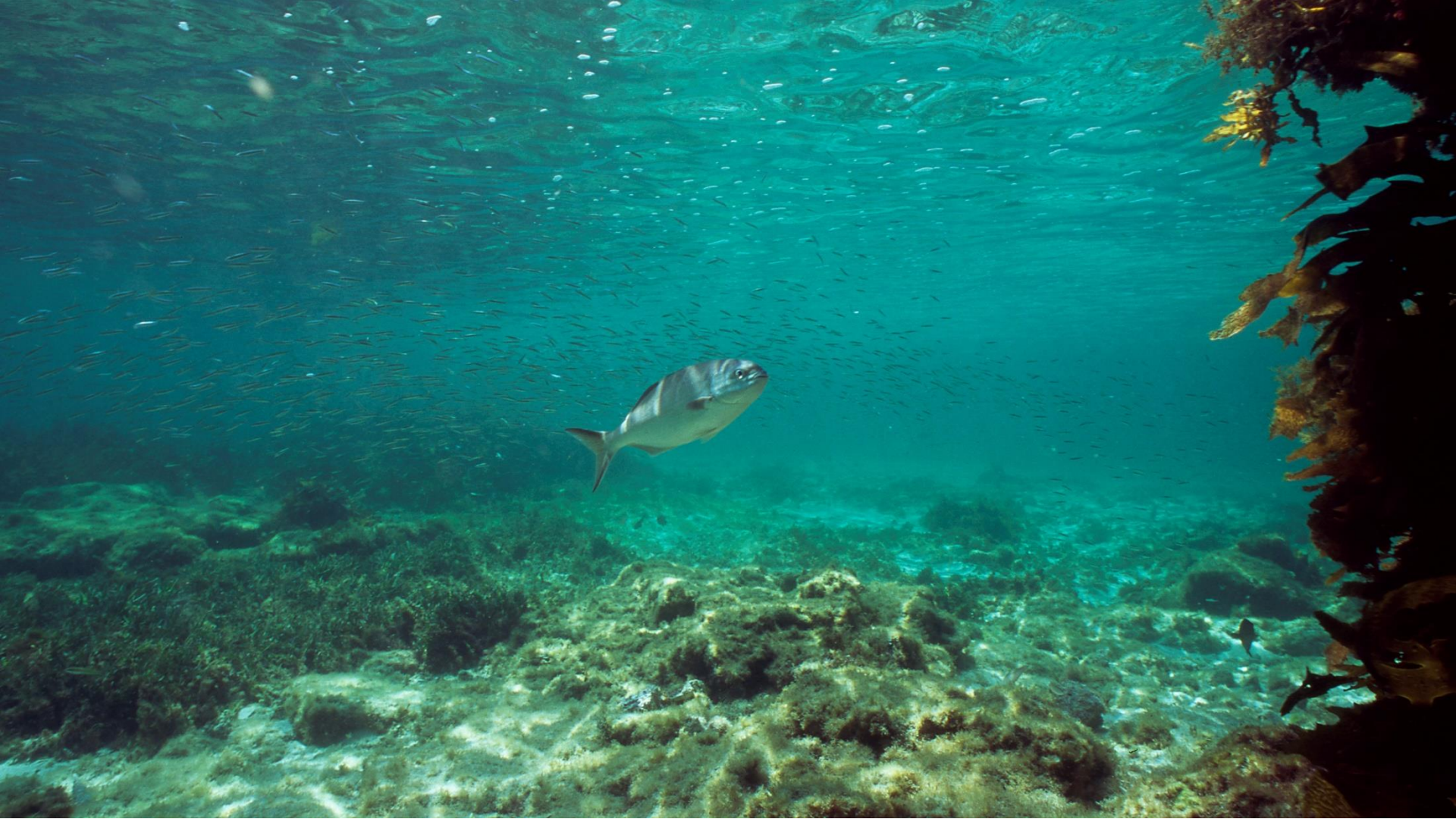
Goetze et al. 2021 Global Change Biology
DOI: 10.1111/gcb.15635

Baited remote underwater video systems (BRUVs) were used to sample 91 sanctuary zones around Australia. BRUVs can sample deeper waters off limits to divers and increase the proportion of fished species observed.



Going forward: BRUVS (baited remote underwater video systems) as an added method for target species assessment







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DPIRD role in State Marine Parks

Marmion Marine Park review and proposed expansion

Community Information Session

Overview

1. DPIRDs lead agency role
2. DPIRD role in marine parks
3. Fishing interests in study area



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DPIRD is the lead agency for -



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- Management & conservation of WA fish and aquatic resources:
 - Commercial, recreational, charter and customary fishing
 - Aquaculture
 - Pearling
- Monitoring and assessment of WA's fish stocks and fisheries
- Compliance and education activities (inside and outside marine parks)
 - Land and sea patrols (visible and covert)
 - Infringements, warnings or notices
 - Investigations and prosecutions
- Marine park compensation processes
- Implementing Aboriginal economic development initiatives



Statewide bioregions



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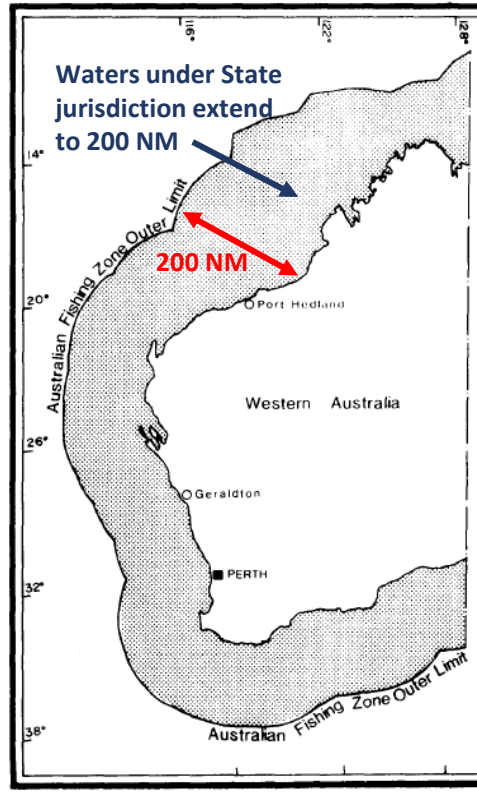
Marmion Marine Park
falls within the West
Coast Bioregion



WA's managed waters

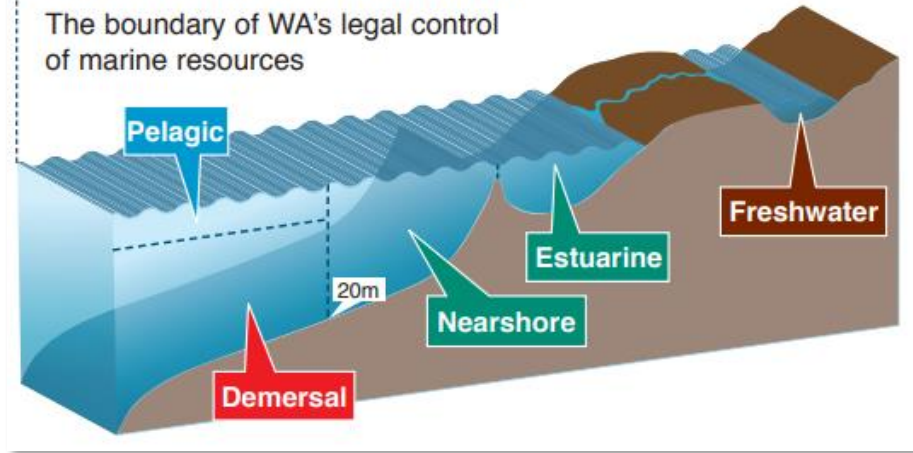


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200 mile Economic Exclusion Zone

The boundary of WA's legal control of marine resources



Finfish Categories

Demersal finfish generally live on or near the ocean floor usually at depths of more than 20 metres.

Large pelagic finfish are those that usually inhabit the surface or middle depths of the ocean.

Nearshore and estuarine finfish typically live in the estuary reaches of rivers and/or in the ocean usually in depths of water up to 20 metres.

DPIRD role in marine parks

DBCA, traditional owners and DPIRD play key roles in marine parks:

- DBCA is the lead agency for establishment and management of marine parks in WA
- Traditional owners are joint managers and ensure cultural aspirations and values are accounted for
- DPIRD facilitates fisheries stakeholder input into the marine park planning process
- DPIRD is proposed to be a joint partner in the marine park process and member of the joint management body

DPIRD works in partnership with DBCA and traditional owners:

- On the Marmion and future marine planning processes, to ensure better outcomes
- Consultation and engagement with fisheries stakeholders and community members
- Provision of fishing data and information



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Ministerial approval required

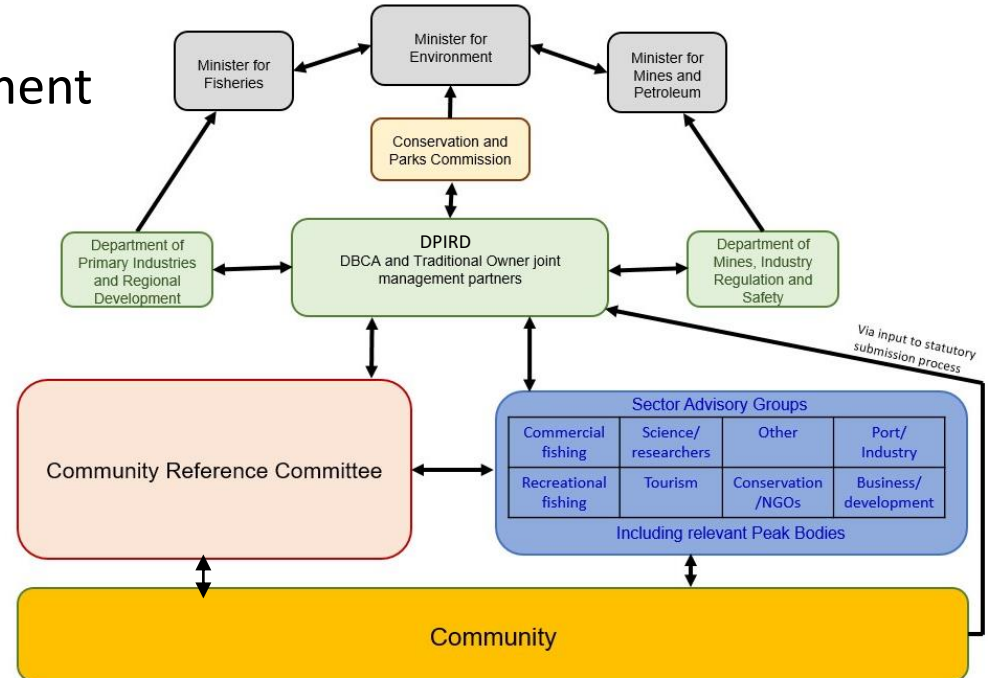


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Approval from both the **Minister for Fisheries** and the **Minister for Mines and Petroleum** is required before the **Minister for Environment** can:

1. Release an indicative management plan;
2. Create an area of water as a marine reserve; and
3. Approve the final marine park zoning scheme.



Process for implementing Fisheries legislation in marine parks



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During marine park planning process:

- DPIRD works in partnership with DBCA and traditional owners
- Consults with stakeholders
- Makes recommendations to Minister for Fisheries
- Seeks approval from Minister for Fisheries (noting also needs final approval from Minister for Mines and Petroleum)

Following establishment of marine park zoning scheme:

- Zoning schemes that result in changes to fishing activity require legislation
- Fisheries legislation is drafted under the FRMA
- 12-month transition period commences
- Fishing prohibitions take effect once 12-month transition period ends

Doc. Number 4.47 [H]
This original order was published in Government Gazette No. 22 on 16/02/2018.
Fish Resources Management Act 1994
PROHIBITION ON FISHING (EIGHTY MILE BEACH MARINE PARK ORDER 2018
Order No.3 of 2018
FD 4180/17 [1275]
Made by the Minister under section 43.
1. Citation
This instrument is the <i>Prohibition on Fishing (Eighty Mile Beach Marine Park) Order 2018</i> .
2. Interpretation
In this order -
<i>land hermit crab</i> means fish of the species <i>Coenobita variabilis</i> ;
<i>marine aquarium fish</i> has the same meaning as in the relevant management plan in force with respect to the Marine Aquarium Fish Managed Fishery;
<i>Recreation Area</i> means all the areas specified in Schedule 2;
<i>Sanctuary Area</i> means all the areas specified in Schedule 1;
<i>Special Purpose Area</i> means the areas specified in Schedule 3;
<i>specimen shell</i> has the same meaning as in the relevant management plan in force with respect to the Specimen Shell Managed Fishery.
3. Prohibition on fishing
(1) A person must not fish by any means in -
(a) a Sanctuary Area; or
(b) a Recreation Area.
(2) Subclause (1)(b) does not apply with respect to a person fishing for a recreational purpose in accordance with the Act.
(3) A person must not, in a Special Purpose Zone (mangrove protection) -
(a) fish for a commercial purpose; or
(b) fish from the shore; or
(c) fish for specimen shell.
<small>DISCLAIMER: This is not an official version. Although this document has been carefully collated from each of the relevant issues of the Government Gazettes in which the principal notice and any subsequent amendments were published, its accuracy cannot be guaranteed. Accordingly - (a) no warranty is given that it is free from error or omission nor as to the accuracy of any information in it, and (b) the State of Western Australia and its servants expressly disclaim liability for any act or omission done in reliance on the document or for any consequence of any such act or omission.</small>

Summary of fishing interests

- Recreational fishing
- Charter fishing
- Customary fishing
- Commercial fishing



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Recreational fishing



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High value for recreational fishing including -

- **Shore based fishing** – From a variety of fishing platforms such as beaches and groynes.
 - *Herring, yellowfin whiting and tailor.*
- **Boat-based fishing** – Boats launch from Trigg Point, Hillarys, Ocean Reef, Mindarie and Two Rocks.
 - *Rock lobster, pink snapper, WA dhufish, baldchin groper, herring and gummy shark.*
- **Snorkelling and reef walking** – The Marmion Marine Park falls within the Perth Metropolitan Zone for Roe's abalone, with over 18,000 licences issued in 2020/21.

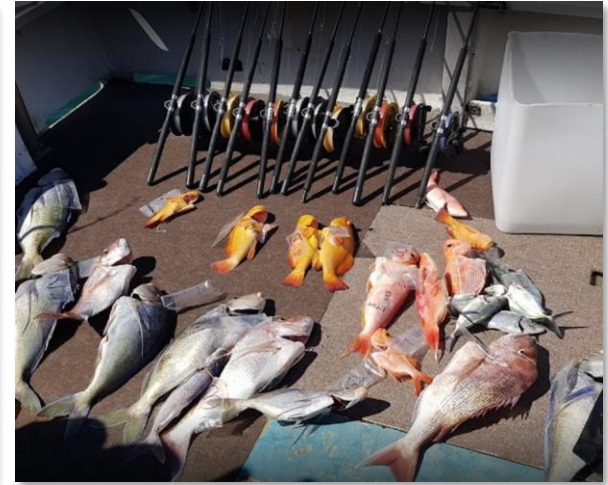
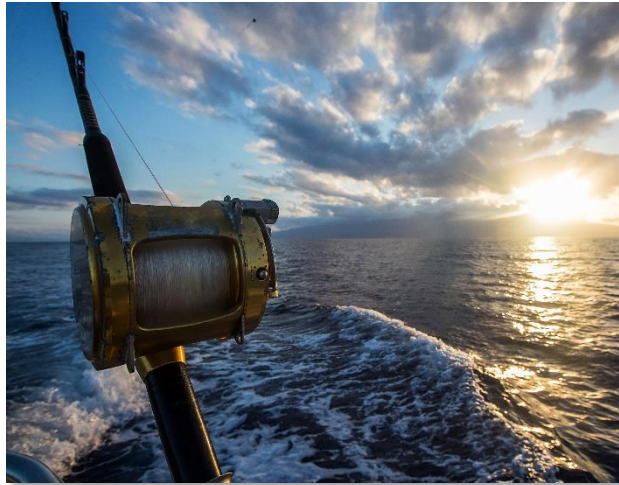


Charter fishing



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High value for charter and fishing tours
16 charter fishing tour operators



Customary fishing



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- DPIRD acknowledges the importance of customary fishing in WA and in Perth
- DPIRD is working on new arrangements for customary fishing. This will be progressed in consultation with all relevant stakeholders.

“Food from the sea and waterways are a major resource for Noongars: djildjit (fish), warden noorn (eel), abalone, cobbler, marron and gilgies”

Kawalilak, R. (ed), 'Hunters and Gatherers', Conservation and Land Management Booklet, 1998



PHOTO CREDIT: RAC – TOURS TO A NOONGAR HEARTLAND



ARTWORK : NOONGAR ARTIST LAURA FARMER

Commercial fishing



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- 10 commercial fisheries authorised to operate in the area (7 with recorded catch over last 10 years)
- Majority operate all year, few seasonal
- Supply local/domestic markets
- Key industry to region's economy and community – local fish supply, employment, businesses



Value of fishing interests

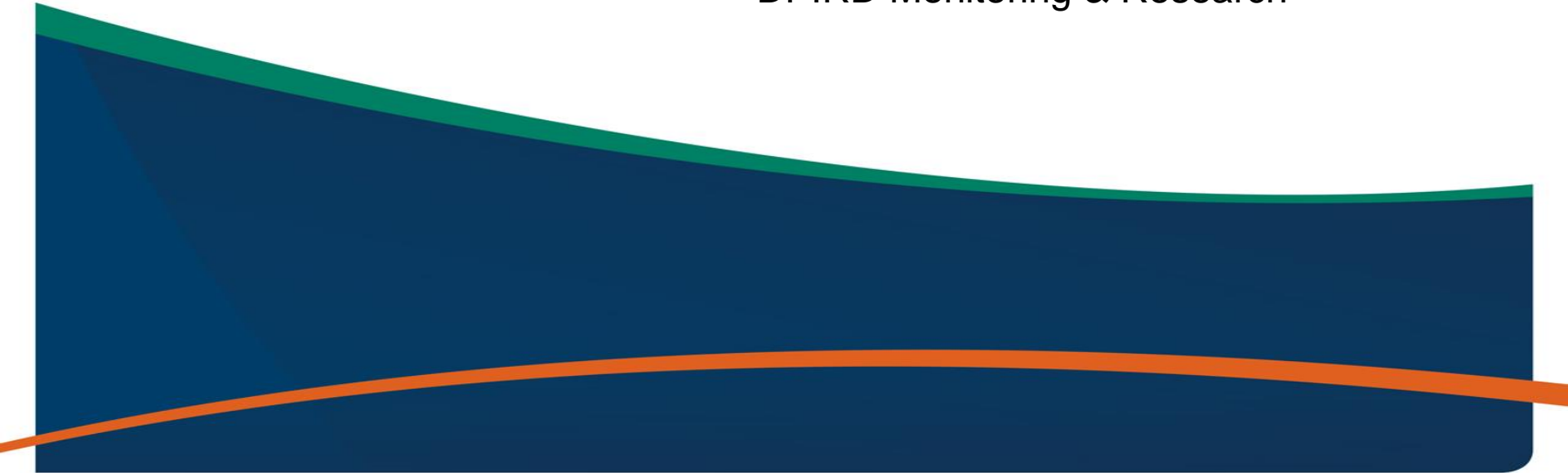
- Recreational, charter, customary and commercial fishing are important and valuable to region's economy and community
- Marmion Marine Park designed in consultation with key fisheries stakeholders and community to minimise impacts to fishing activities
- Peak fishing bodies (WAFIC and Recfishwest) play a key role in the marine park planning process
- Get involved and have your say



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Marmion Marine Park proposed expansion area

DPIRD Monitoring & Research





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DPIRD – Aquatic Sciences & Assessment

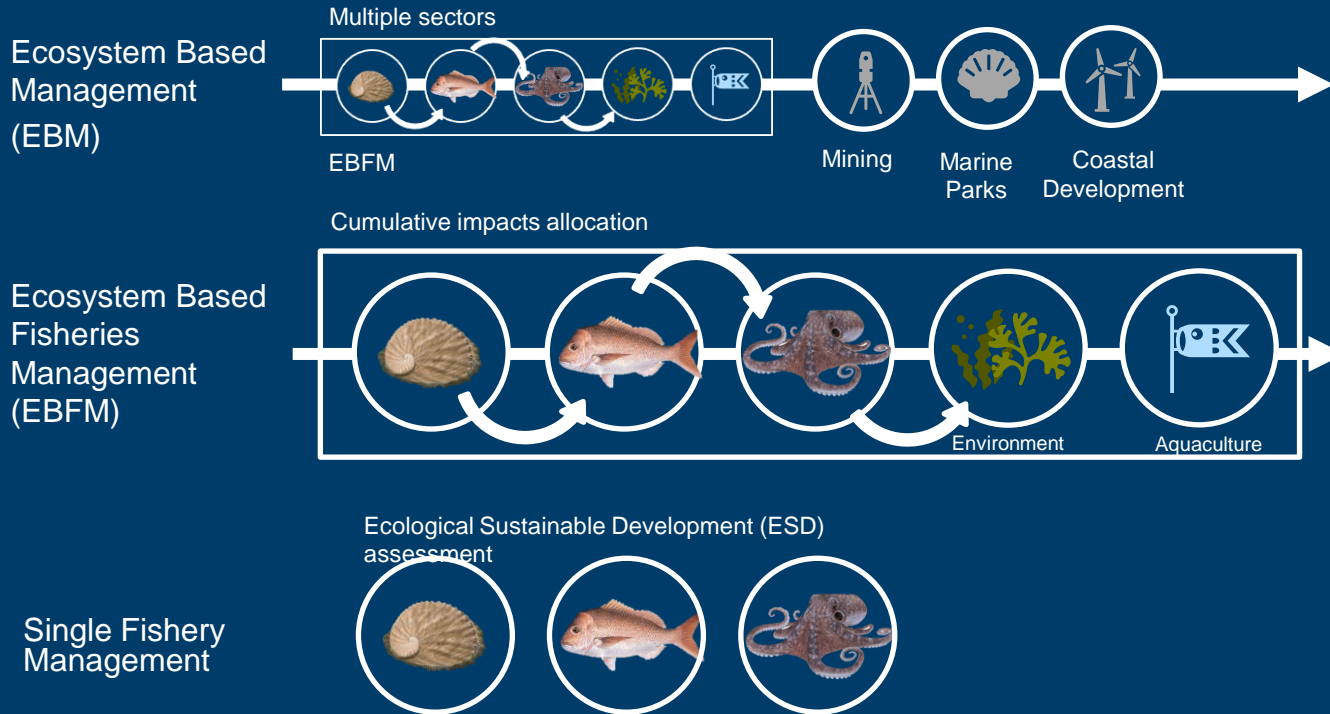
Scientific knowledge and advice to support the management, conservation, and sustainable use of Western Australia's aquatic resources:

- Monitor and assess fisheries and fish, habitats, fish health and aquatic pests
- Provide advice on development applications, marine parks, Commonwealth (EPBC) requirements
- Research strategic improvements to fisheries and aquatic management
- Maintain long-term datasets

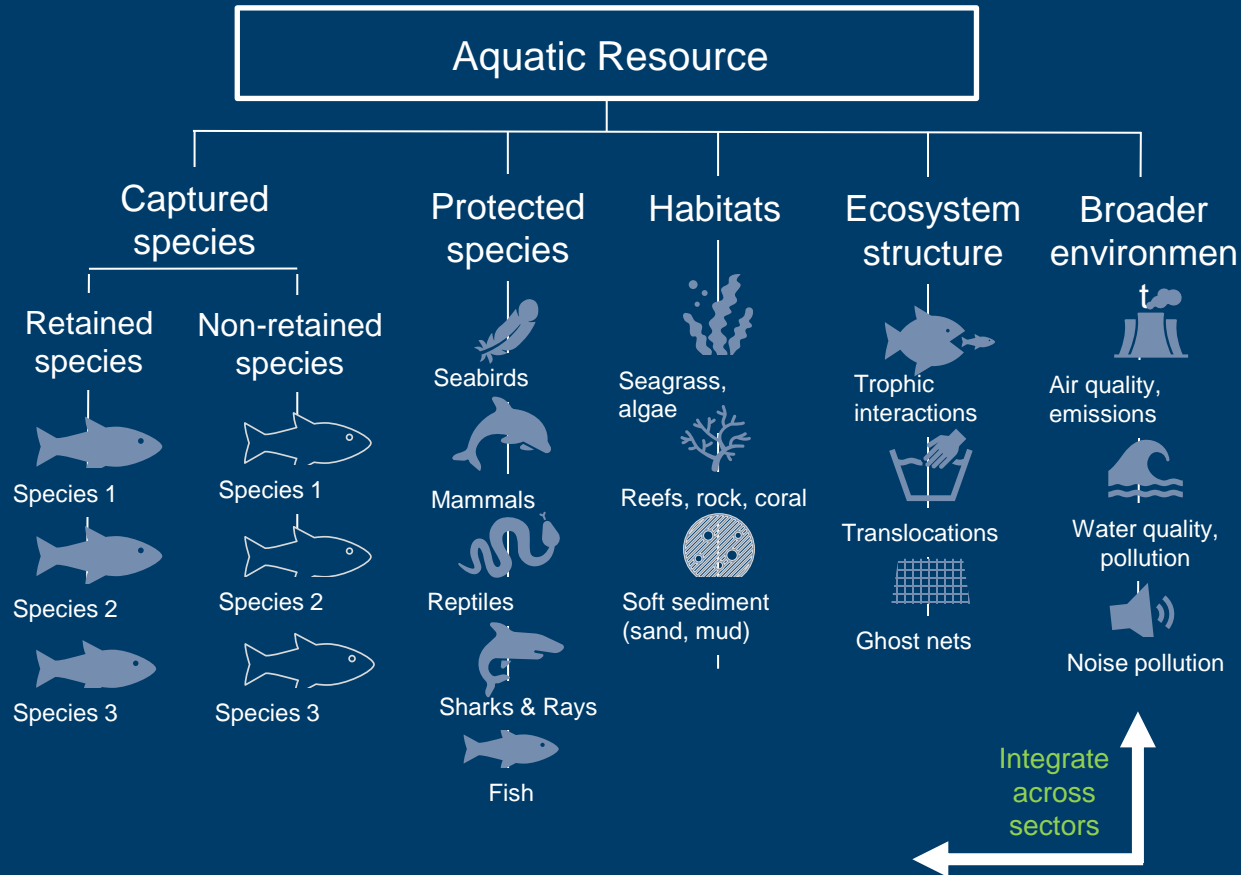


WA Fisheries and Marine Research Laboratories, Hillarys

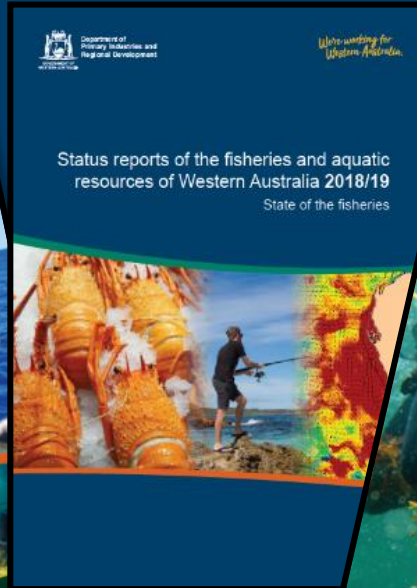
Supporting science-based decisions



A risk-based approach



Annual reporting



Commercial fisheries

10 State-managed fisheries are authorised to operate in the proposed expansion area to the MMP:

- Abalone Managed Fishery
- West Coast Rock Lobster Managed Fishery
- West Coast Purse Seine Managed Fishery
- South West Trawl Managed Fishery
- Marine Aquarium Fish Managed Fishery
- Octopus Interim Managed Fishery
- Specimen Shell Managed Fishery

- South West Coast Salmon Managed Fishery (*no catch recorded*)
- Mackerel Managed Fishery (*no catch recorded*)
- WC Beach Bait and Bait Fish Net Managed Fishery (*no catch recorded*)

Recreational fisheries

Popular area for shore-based and boat-based fishing, spearfishing and recreational diving

High value area for charter and fishing tours



Ecological Assets – Captured species

Key finfish in MMP proposed expansion area

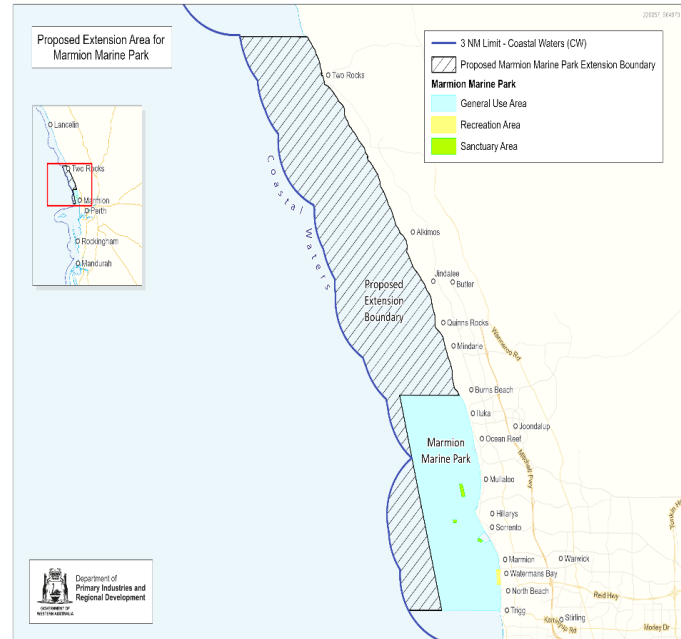
- Scaly mackerel (indicator species): **Adequate**
- Australian sardine (indicator species): **Adequate**
- WA Dhufish (indicator species): **Recovering**
- Snapper (indicator species): **Recovering, action needed**
- Baldchin groper (indicator species): **Recovering, action needed**

Key invertebrates in MMP proposed expansion area

- Roes' abalone: **Adequate**
- Western rock lobster: **Adequate**
- Octopus: **Adequate**
- Scallops: **Adequate**
- Western king prawns: **Adequate**

Protected species and habitats in the West Coast Bioregion

- Whales, dolphins, Australian sea lions,
- seahorses, sharks and rays
- Seagrass, algae, reef, sand



Research Spotlight:

Roe's abalone

- Dive and wade fishery operating in shallow coastal waters along WA's western and southern coasts
- Most productive Roe's abalone fishery in Australia
- Unique, but highly constrained recreational fishery – over 18,000 licenses
- Complete recovery of fishery from 2010/11 marine heat wave



Research Spotlight:

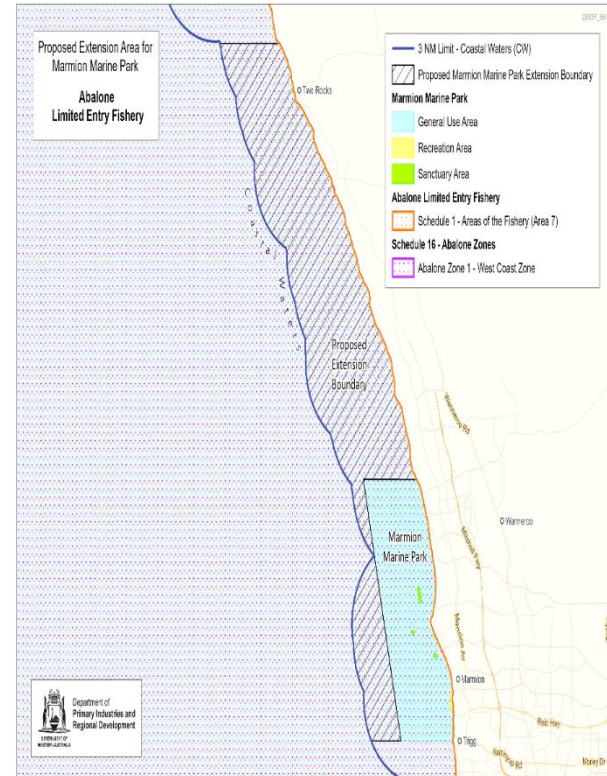


Roe's abalone

Research activities

- Extensive fishery-independent surveys are undertaken throughout the MMP proposed expansion area.
- Used to inform management and set total allowable catch (TAC)
- Used to monitor impacts of the ORM redevelopment on abalone stocks
- Recreational fishing access point and aerial surveys conducted to monitor fishing activities.
- Post heatwave (2010-11) stock recovery is considered complete.

Activity of fishery in expansion area



Research Spotlight:

West Coast Demersal Scalefish Resource

- Includes iconic species like WA dhufish and Snapper
- Targeted by commercial, charter and recreational sectors
 - No commercial fishing for resource permitted in the Metropolitan area since 2007
- Primarily caught by boat-based rod and line fishing
- Currently halfway through a 20-year recovery plan following a period of overfishing in the 1990s and 2000s

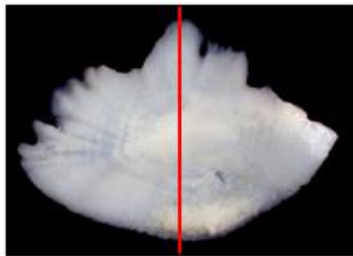


Research Spotlight:

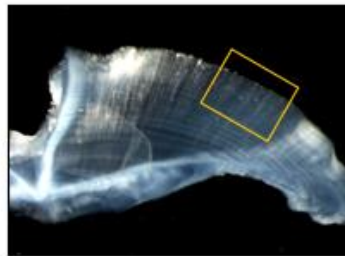
West Coast Demersal Scalefish Resource

Research activities

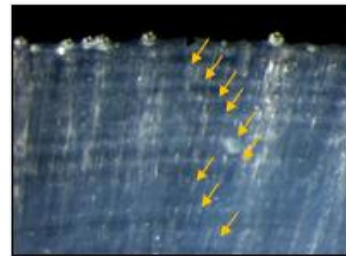
- Monitoring and assessment focused on indicator species
 - WA dhufish
 - Snapper
 - Baldchin groper (Mid-West only)
- Fishery-dependent sampling of catch: ‘Send us you skeletons’
 - Generates biological data on length, age and reproductive characteristics
 - The ages of fish are determined from otoliths (fish earbones), which inform assessment models that estimate fishing mortality



Whole otolith



Sectioned otolith



Annual growth zones

Research Spotlight:

Recreational Fishing

- A large part of the access to the State's fish resources is by recreational sector.
- In the Marmion Marine Park expansion area the take of the demersal species is 100% recreational and charter.
- To understand the scale and composition of the Recreational catches the Department runs the **Statewide Recreational Fishing Survey**.
- Includes many methods:
 - Roving and access point surveys
 - Boat ramp creel surveys,
 - Boat ramp cameras
 - Aerial survey
 - Angler logbooks
 - Send us your skeletons

SEND US YOUR SKELETONS

HELP ENSURE THERE'S FISH FOR THE FUTURE



Questions



Next steps

- EOI for Community Reference Committee
 - Closes **2 March 2022**
- Sectors will be invited to form a Sector Advisory Group
- Draft plan released for comment in 2023
- Marine park gazetted and management plan finalised in 2024



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