WESTERN AUSTRALIAN
MARINE SCIENCE
INSTITUTION

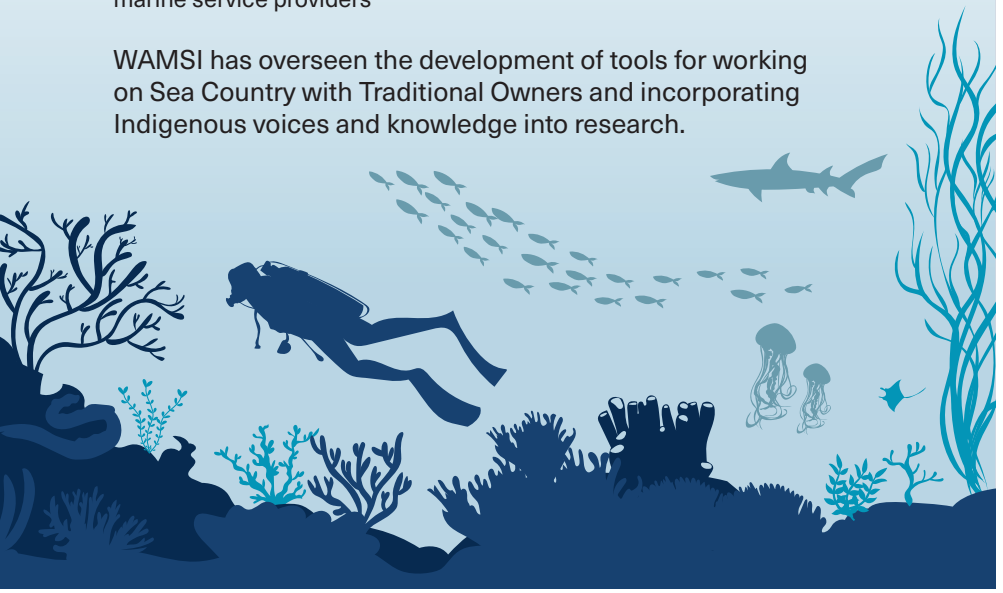
Better science, Better decisions

The Western Australian Marine Science Institution (WAMSI) is a collaboration of state and federal government and academic science organisations, working together to provide independent marine research that benefits the environment, the community and the blue economy.

WAMSI activities

- Establishing highly-qualified scientific teams
- Providing knowledge and communicating research outputs
- Project management
- Project communication
- Data and information management
- Scoping and initiating new research programs
- Developing science plans, business cases and project plans
- Providing important strategic advice to government
- Delivering marine science projects
- Building marine science capacity
- Collaborating across marine service providers
- Coordination of marine science activities
- Prioritising areas of potential environmental concern
- Transferring research outputs into outcomes
- Improving understanding of WA's marine and estuarine ecosystems

WAMSI has overseen the development of tools for working on Sea Country with Traditional Owners and incorporating Indigenous voices and knowledge into research.



The blue economy

The 'blue economy' refers to the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystems.

Australia's blue economy generates over $118 billion annually and supports over 460,000 jobs. Western Australia contributes significantly to this national figure through energy production, tourism, shipping and shipbuilding, and fishing (including commercial, recreational and aquaculture).

WAMSI focuses on all aspects of the blue economy to uncover knowledge required for government and industry to make strategic decisions.

Blueprint for Marine Science

Western Australia's coastal waters and estuaries are home to incredible ecosystems and wildlife, including many unique marine species. The 12,000-kilometre coastline is immensely valuable to marine industries and coastal populations. Any decisions that support a sustainable future for Western Australia's marine environment must be based on the best available scientific knowledge. WAMSI has provided this knowledge for more than 18 years.

The Blueprint for Marine Science 2050 is the strategic plan for applied marine science in Western Australia. Commissioned by WAMSI and released in 2015, the document set the scene and scope for state-wide marine research, with priorities shaped by the needs of industry, government and the community. However, the landscape for the blue economy has evolved significantly since 2015, influenced by major global developments such as climate change and decarbonisation, the COVID-19 pandemic and international supply chains.

The Blueprint Refresh 2022–27, developed in collaboration with Western Australian stakeholders, presents updated research priorities that support opportunities for marine science to improve the sustainable use and management of our coastal and estuarine marine environments. Priority areas include marine data management (and data accessibility), baseline data and synthesis, shared observing effort and Indigenous knowledge.

The updated plan provides contemporary, clear direction for marine stakeholders while continuing to promote sustainable growth for the state.

Partnerships and programs

WAMSI brings together diverse expertise and resources from its member organisations, including marine science providers and the Western Australian Government, to deliver collaborative, trans-disciplinary world-class research.

We adopt a strategic approach to conducting research that balances state and regional development goals with environmental objectives. This enables regulators and decision-makers to achieve the optimum balance of economic, environmental and social benefits.

WAMSI provides strategic advice to the Western Australian Government for state and regional development, policy and management. Our projects and publications enable the government, industry and the community to make informed decisions about managing WA's marine estate.

An essential element of our approach is capturing the voices of Traditional Owners in marine science plans, programs and partnerships, and moving forward together.

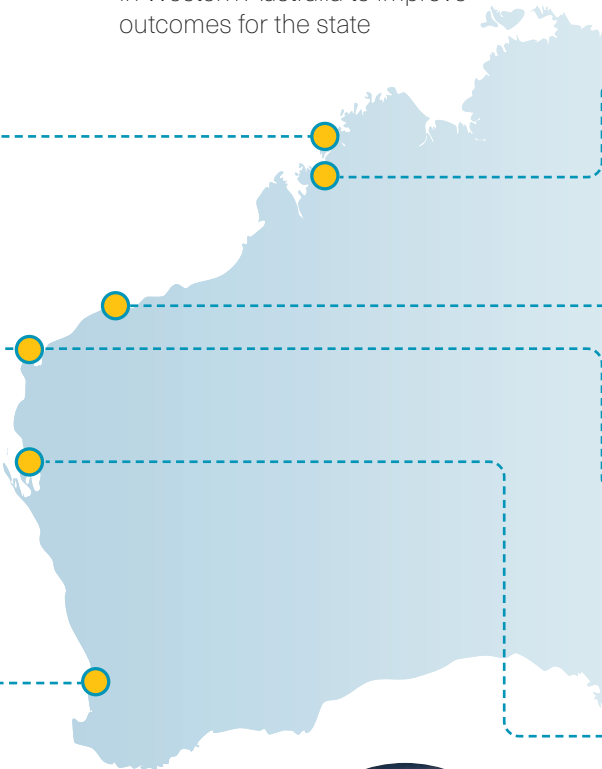
WAMSI has been involved in major regional collaborative projects, including:

- **WAMSI Westport Marine Science Program:** providing information to support an environmental impact assessment of a future container port in Western Australia and improving understanding of the Cockburn Sound marine environment
- **Exmouth Gulf:** strategic advice on the potential cumulative pressures of human activities and development on the marine environment as well as contemporary information on knowledge gaps for the proposed marine park.
- **Kimberley Research:** monitoring and understanding changes in the marine environment
- **Mardie Salt Marine Research Program:** marine and intertidal research for the Pilbara coast
- **Shark Bay Science Plan:** comprehensive plan to respond to marine environmental pressures facing this iconic area
- **South Coast:** responding to environmental pressures
- **Dredging Science:** enhancing the capacity of government and the private sector to predict and manage the environmental impacts of dredging
- **Information Management:** harnessing the vast amounts of environmental data produced in Western Australia to improve outcomes for the state

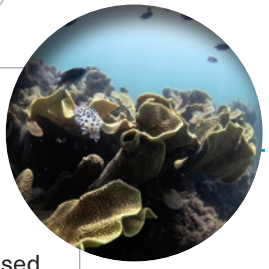
Kimberley Marine Research Program 2011–18

$30 million project
250+ scientists
55 journal publications
25 organisations
23 projects

$7.2 million Commonwealth
$1.4 million industry
$7.5 million university
$13.9 million state



Cumulative pressures on the distinctive values of Exmouth Gulf | 2018–22



Cost benefit ratio 3:3:1
600+ pieces literature review
9 decades of research synthesised

New knowledge priority gaps for Exmouth Gulf marine park | 2024

WAMSI Westport Marine Science Program | 2018–24

$25 million project/cost benefit ratio 2:7:1
150+ scientists | 30 projects

$300K Commonwealth
$9 million university
$15 million state
Industry contribution

PARTNERS

Australian Government | Australian Institute of Marine Science | Curtin University | Australia ECU Edith Cowan University | Murdoch University | Chem Centre Expert Solutions

Data

WAMSI works with industry, regulators, researchers and the community to encourage data and information sharing to support marine science. This enables us to better understand the environmental impacts of activities over time.

All data developed through our programs since 2006 is discoverable and available for reuse. We also capture and make discoverable other marine science and management data.

WAMSI data is stored on the Pawsey Data Portal and the Australian Institute of Marine Science (AIMS) Data Centre. All data from WAMSI projects is available in the public domain and can be accessed on WAMSI's website.

WAMSI has co-developed a Shared Environmental Analytics Facility (SEAF) which will create access to shared data and analytics for industry, government and the community. It will enable timely access to trusted environmental reporting and forecasting.

SEAF is already being applied in Western Australia. In Cockburn Sound, SEAF will deliver regional marine assessments from shared data and analytics, as well as science and analytic products that are regionally specific.

Education

WAMSI and partners train graduates and marine scientists to translate high-quality research into relevant outcomes for society.

WAMSI works with scientists and educators to provide learning resources about the Western Australian marine environment, suitable for decision-makers, students, educators, and the community.

Thinking Blue connects secondary school students with marine researchers to inspire students to consider a career in marine science. Online presentations cover a range of topics including seagrass restoration, artificial reefs, maritime archaeology and surf economics. They have been provided to schools across the state and well received.

Our lesson plans help primary and secondary schools develop data science skills. Topics include humpback whales, turtles, saltwater crocodiles, dugongs and climate change.

Dredging Science Node | 2011–18

$20 million project/cost benefit ratio 7:3:1
120+ scientists
50+ journal publications
26 organisations

$5.5 million Commonwealth
$4 million university
$9.5 million industry

The Mardie Project 2022–25

5 projects
5 organisations
20+ scientists

$3.5 million industry
$2.5 million university

Ningaloo Research Program | 2006–11

$36 million program
100+ scientists
47 major projects

$5 million state
$31 million cash/in kind

Shark Bay (Gathaagudu) Science Planning | 2018–23

70 years' research • 2 publications • 90+ research gaps
20 research priorities • 350 stakeholders

$20 million required to fund science plan knowledge gaps

WAMSI is funded by

Government of Western Australia
Department of Jobs, Tourism, Science and Innovation

Department of Water and Environmental Regulation
Department of Primary Industries and Regional Development
Department of Biodiversity, Conservation and Attractions

THE UNIVERSITY OF WESTERN AUSTRALIA
WESTERN AUSTRALIAN MUSEUM

For nearly two decades, WAMSI has made a significant contribution to the state, advancing science knowledge to support the sustainable management and use of WA's unique marine estate.

WAMSI is far more than the sum of its parts. We are a small organisation, yet our impact is extensive. The strength of WAMSI lies in the intellectual strength of our research community. Through the reach of our WAMSI partners, we are uniquely positioned to draw on a huge range of trans-disciplinary expertise to deliver regional-scale marine research outcomes beyond the capacity of any single organisation.

Adopting an unbiased, comprehensive science-focused approach has allowed us to deliver large-scale, long-term marine research programs across the coastline, and provide strategic advice to government on the blue economy.

What began as a small team with a big vision has evolved into a leading marine research organisation, recognised for delivering independent, collaborative, multi-disciplinary marine research and far-reaching impact, creating a legacy that extends far beyond our research programs.

Dr Luke Twomey
CEO, WAMSI

WAMSI

WAMSI provides high-quality, impartial, collaborative and independent science advice to government and industry by connecting them with the best marine researchers for applied science solutions.

Vision

To be the trusted independent facilitator and broker for marine science research that builds environmental, social and economic value for all Western Australians.

Purpose

To build our scientific knowledge of Western Australia's marine estate to enable better decision-making to protect the environment and social values, while supporting the blue economy.

Better science, better decisions

WAMSI at a glance

ESTABLISHED
2006

$200 million+
RESEARCH DELIVERED

5-times
economic return on research investment

10
PARTNERS

5 large strategic marine science programs across Western Australia

800+
SCIENTISTS

SCIENCE PLANNING

Our world-class research has greatly enhanced knowledge of Western Australia's marine environment and its extensive resources.

As a trusted independent facilitator and broker for marine science research, WAMSI has:

- Improved coordination of marine science activities in Western Australia
- Improved knowledge of the marine and estuarine ecosystems of Western Australia
- Enhanced predictive capacity to model both natural and human-induced effects
- Improved confidence in management decisions
- Partnerships and programs with Traditional Owners
- Uncovered and provided solutions to knowledge gaps

We have made numerous discoveries, added to previous knowledge and developed new tools. Applying national and global models has improved our understanding of natural climate variability and led to projections of the likely impacts of climate change on the Western Australian marine environment.

Manta ray with Scientist Mark Meekan (AIMS) ©Peter Verhoog Dutch Shark Society

MORE INFORMATION

Western Australian Marine Science Institution (WAMSI)
Level 5, Indian Ocean Marine Research Centre
The University of Western Australia
64 Fairway (between Entrance 3 & 4)
Crawley, WA 6009
(61 8) 6488 4570
info@wamsi.org.au
www.wamsi.org.au