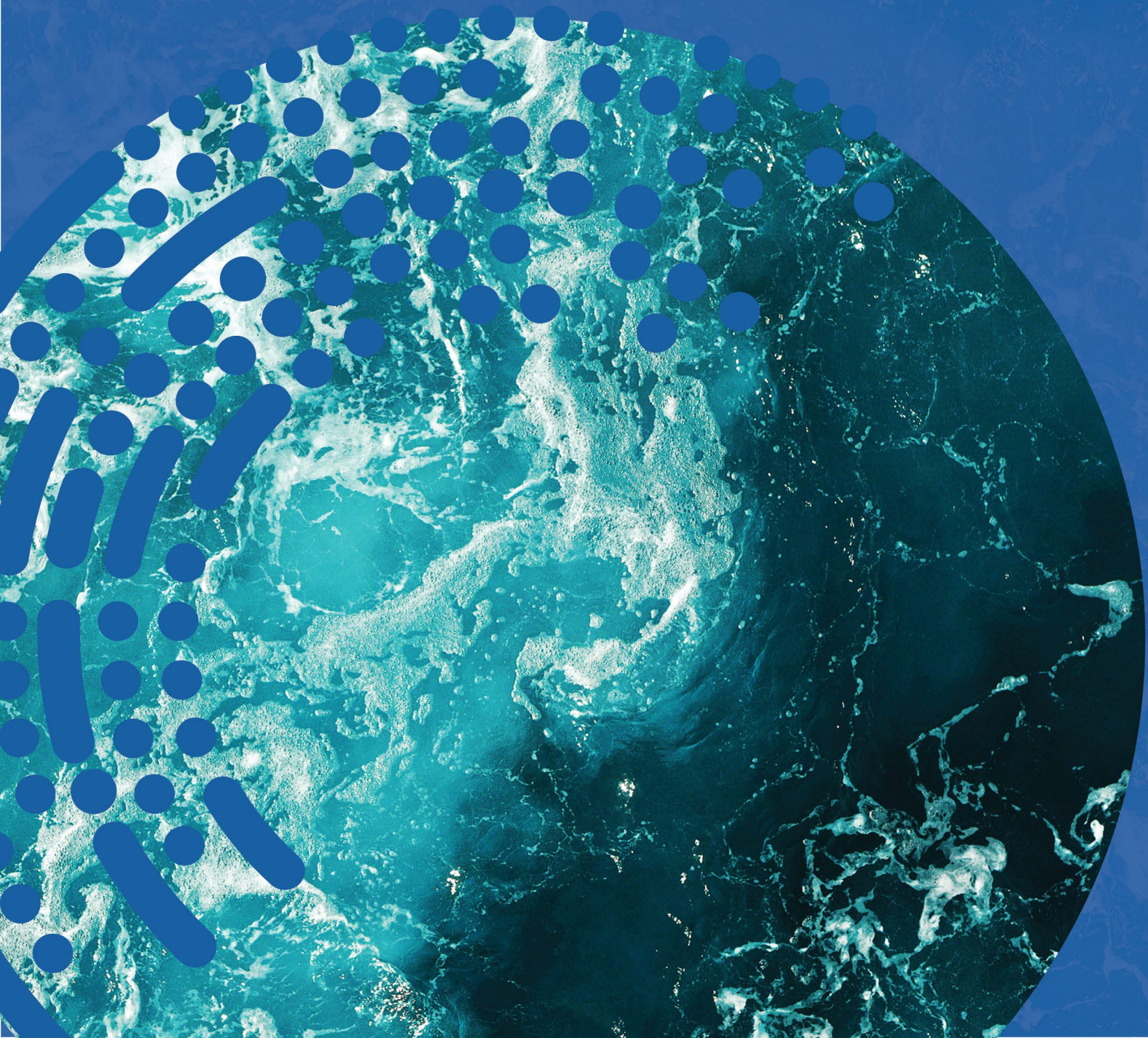




Australian Government

AUSTRALIA'S DRAFT SUSTAINABLE OCEAN PLAN

NAVIGATING A COURSE TO 2040



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Acknowledgement of Country

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.

Contents

Our ocean story.....	1
About the plan.....	7
National priorities.....	12
Climate action.....	12
First Nations.....	16
Protect and restore.....	19
Industry.....	25
Collaboration.....	29
Equity and inclusion.....	34
Knowledge.....	38
Finance.....	43
Appendix A: International commitments.....	46
References.....	50

Figures

Figure 1 Australia’s ocean economy.....	2
Figure 2 One ocean, many uses.....	3
Figure 3 National priorities to achieve the vision.....	9



Our ocean story

A vital ocean

The ocean is at the heart of our national identity. Australia has the third largest maritime jurisdiction in the world, stretching from the cold waters of the Southern Ocean around Australia's Antarctic Territory to the tropics in our north, and the vast Pacific and Indian ocean basins to our east and west. Our ocean estate is nearly 1.3 times larger than our land mass, and even larger when including waters adjacent to the Australian Antarctic Territory (Geoscience Australia 2022).

First Nations people have deep and enduring connections to Country – the land, sea and sky – dating back more than 65,000 years. They have used and managed coastal land and sea, including areas that were dry land before the current sea level was established around 5,000 years ago. Sites of cultural and archaeological significance extend beyond the coast. Ancient hunting and gathering sites offshore are still used today and reflect continuing connection between Traditional Owners and sea Country.

Australia's ocean ecosystems are some of the most biodiverse in the world. They are home to more than 33,000 recorded marine plant and animal species (Trebilco et al. 2021). Scores of species migrate vast distances from Antarctic waters and other regions to Australia and our external territories, or visit our waters during their annual migrations, including whales moving through the Australian Whale Sanctuary.

Ocean currents, such as the Flinders, Leeuwin and East Australian currents and the Great Southern Australian Coastal Upwelling, provide our ocean's circulatory system. They move oxygen and nutrients across latitudes or through depths, enabling food webs and species' lifecycles.

The ocean regulates our climate and weather and generates half of the oxygen we breathe. The ocean is the planet's largest carbon sink, absorbing 25% of carbon dioxide emissions from human activity and capturing 90% of the excess heat generated by these emissions, but this has affected the health of the ocean (United Nations n.d.).

Many of our 67 wetlands of international importance (Ramsar wetlands) are coastal and protect our shores from wave action, reduce the impacts of floods, sequester carbon, improve water quality and provide important habitat for animals and plants. Our ocean features some of the world's largest reef systems including the Great Barrier Reef – the world's largest coral reef system comprising more than 2,900 individual reefs and 900 islands over a space of around 344,400 km² in tropical waters – and the Great Southern Reef – an interconnected system of temperate reefs covering 71,000 km² of the southern coast of continental Australia and Tasmania from Kalbarri in Western Australia to the New South Wales-Queensland state border.

Australia's ocean is also home to 12% of the world's blue carbon ecosystems, the third largest area of mangroves globally and 40% of the world's seagrass species (DCCEE 2024a; DEE 2017; Clark, Fischer & Hunter 2021).

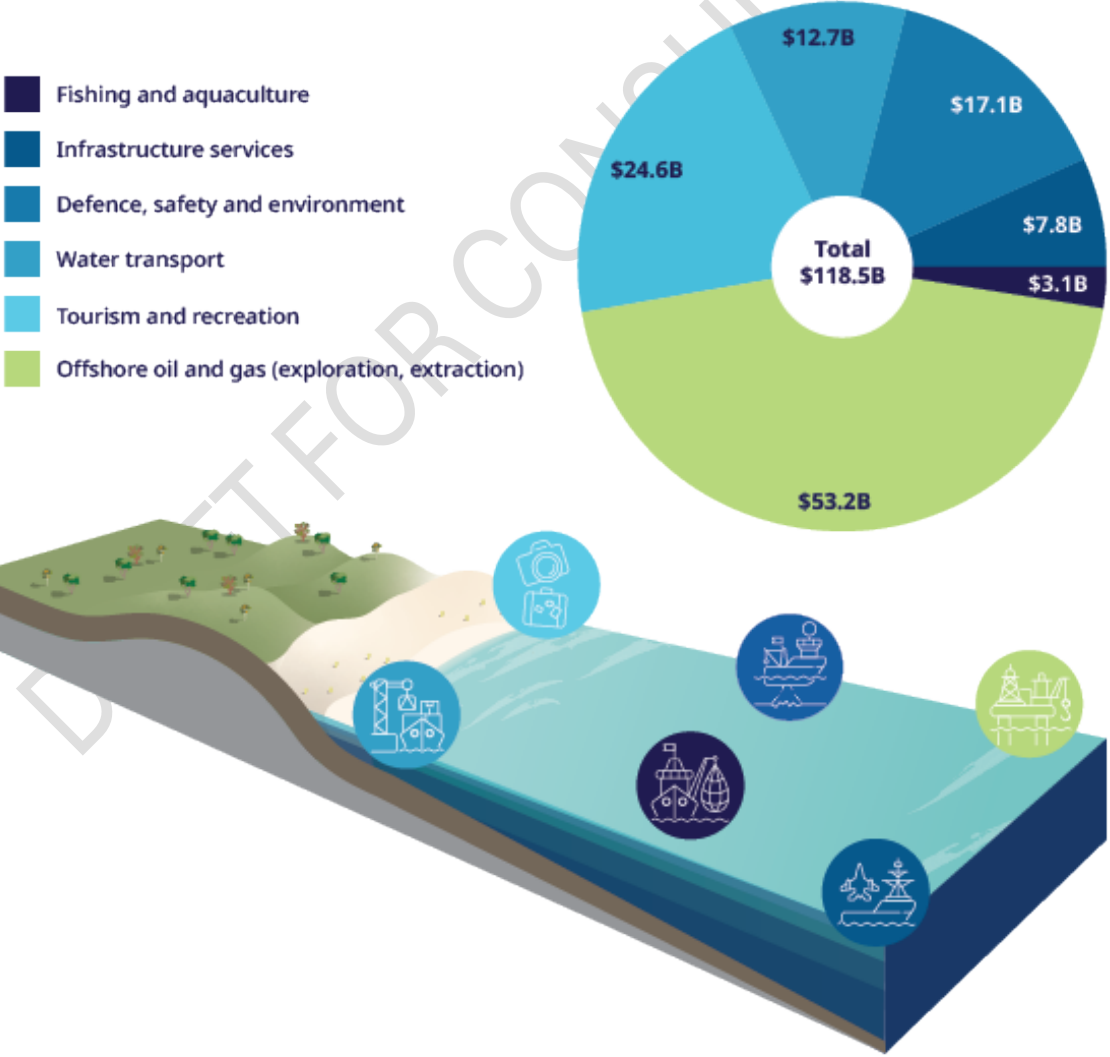
A quarter of our World Heritage-listed sites, including Macquarie Island (Tasmania), the Great Barrier Reef (Queensland), the Ningaloo Coast (Western Australia), Lord Howe Island (New South Wales), and the sub-Antarctic Heard Island and McDonald Islands (Commonwealth) are ocean locations and are inscribed because they are some of the most remarkable places on Earth. Saltwater is also the final resting place of historic shipwrecks, sunken aircraft and other underwater maritime and wartime cultural heritage.

People travel across Australia’s states and territories and from overseas to experience these and other ocean treasures, including our almost 12,000 beaches – the largest number of beaches in one country anywhere in the world (Tourism Australia 2022).

Our ocean economy – an economic powerhouse

Ocean industries contributed more than \$118.5 billion and 462,000 jobs to Australia’s economy in 2021 (AIMS 2023), providing benefits for every state and territory, and this continues to grow rapidly each year.

Figure 1 Australia’s ocean economy



Data source: AIMS 2023.

Our ocean economy – sometimes referred to as the blue economy – generates income from industries such as fishing and aquaculture, coastal and marine tourism, energy exploration and production, carbon sequestration, defence, shipping and transport, and ports.

The ocean connects us to our regional neighbours and is critical to our national security and defence. More than 80% of our trade by value – or 99% by volume – is transported by sea (Shipping Australia 2020), and 99% of Australia’s digital connectivity to the rest of the world comes through underwater subsea cables (Telstra 2023). Australia has the world’s largest maritime search and rescue zone and includes some of Australia’s most important military training areas and facilities.

Consistent with the growth in ocean industries has been increased recognition of First Nations people’s past and continued contributions within the ocean economy. From operating successful Indigenous fishing operations and tourism ventures to fee-for-service arrangements, First Nations people are successfully incorporating their knowledges, practices, sciences and connections to sea Country as key contributors to, and beneficiaries of, Australia’s ocean economy.

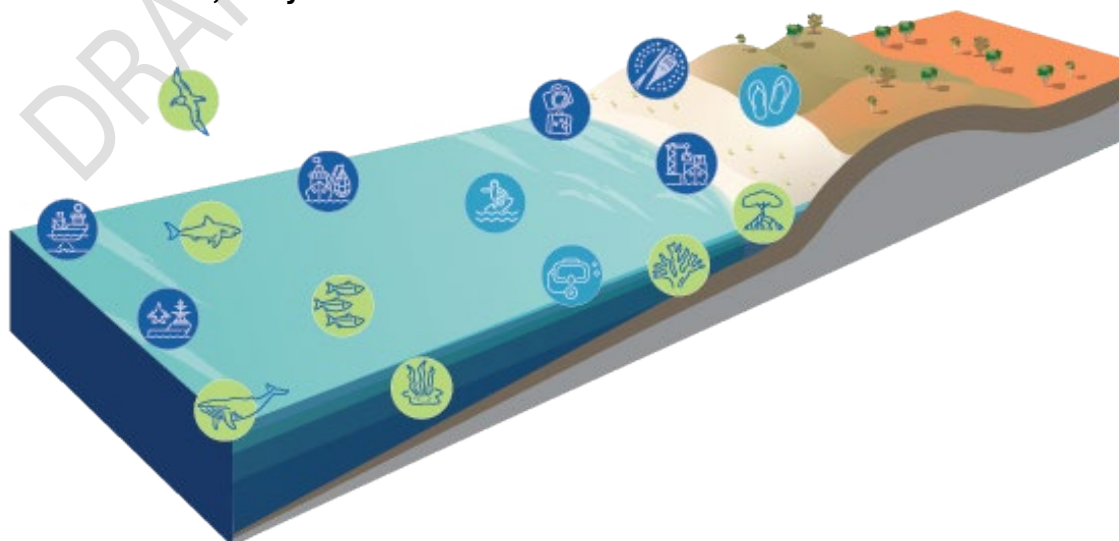
More than 85% of Australians live within 50 km of the coast (ABS 2024) and enjoy a vast array of recreational activities such as fishing, boating, diving and surfing, which also provide significant social, cultural and economic benefits for communities.

Australia’s coasts and ocean provide \$25 billion worth of ecosystem services, such as carbon dioxide absorption, nutrient cycling and coastal protection (Eadie & Hosington 2011), in addition to providing health and wellbeing benefits, cultural and spiritual connection, and inspiration for music and art.

What is a sustainable ocean economy?

A sustainable ocean economy is one where the ocean is effectively conserved and restored to ensure its long-term health and resilience are safeguarded, there is sustainable production and growth of ocean industries, and ocean benefits are shared equitably among all Australians. It acknowledges the interconnected nature of the ocean and its role as the life source of our planet. It also recognises the ocean’s importance to human wellbeing – particularly for Traditional Custodians of sea Country – and to ensuring the adaptive capacity of communities and the global economy.

Figure 2 One ocean, many uses



Collaborating to secure a healthy ocean economy

Many aspects of our ocean economy rely on a healthy ocean. Management of our ocean is guided by our global, regional and national commitments and responsibilities. Australia engages in multiple international forums to promote a healthy and resilient ocean.

We share our experience and learn from others, and shape global initiatives such as those under the United Nations Convention on the Law of the Sea (UNCLOS), the UN International Maritime Organization and the Convention on Biological Diversity. Australia was a founding member of the High Level Panel for a Sustainable Ocean Economy (Ocean Panel), is a founding signatory of the UN High Seas Biodiversity Treaty and is playing a leadership role in the Intergovernmental Negotiating Committee on Plastic Pollution.

Australia is committed to the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals. Goal 14 Life Below Water is the primary goal relating to the ocean and aims to conserve and sustainably use the ocean and marine resources for sustainable development. The ocean and ocean industries also have an important role to play in achieving many other goals.

Australia works alongside other countries and partners to address shared transboundary threats to ocean health and the ocean economy. Examples of this engagement include the High Ambition Coalition to End Plastic Pollution, the High Ambition Coalition for Nature and People, the High Ambition Coalition on Biodiversity Beyond National Jurisdiction, the International Partnership for Blue Carbon, the International Coral Reef Initiative, the Commonwealth Blue Charter, the Global Offshore Wind Alliance and the Green Shipping Challenge. Australia advocates for sustainable ocean management and mobilising finance for nature in multilateral forums including the Group of 20 (G20), the Asia-Pacific Economic Cooperation, the Association of Southeast Asian Nations, the Taskforce on Nature-related Financial Disclosures, the Ocean Risk and Resilience Action Alliance and the Global Ocean Accounts Partnership.

Australia's marine jurisdiction is established under the UNCLOS and extends into 3 of the world's 5 ocean basins – Indian, Pacific and Southern – and into the Timor, Tasman, Arafura and Coral seas, and the Torres Strait. Within our region, Australia engages in multiple forums, including the:

- Arafura and Timor Seas Ecosystem Action Program
- Indian Ocean Rim Association
- Pacific Island Forum
- Secretariat of the Pacific Regional Environment Programme
- Office of the Pacific Ocean Commissioner
- Commission for the Conservation of Antarctic Marine Living Resources.

Australia is a founding Party to the Antarctic Treaty, which maintains principles for the governance of the Antarctic region, including protection of the Antarctic and Southern Ocean environment, freedom of scientific investigation and the exchange of scientific findings, non-militarisation of Antarctica and the Southern Ocean, and accommodating the positions of all parties on issues of sovereignty.

For more examples of commitments and forums Australia participates in, see [Appendix A](#).

The Australian and state and territory governments have long demonstrated commitment to collaborating on ocean matters. In 1980, Australia established jurisdictional arrangements regarding coastal waters and certain other matters, including the regulation of shipping and navigation, offshore petroleum exploration, crimes at sea and fisheries.

State and territory governments generally have responsibility for waters from the coastline to 3 nautical miles (about 5.5 km) and for important coastal areas that support substantial economic activity. Through the coastal and ocean management arrangements and policies and initiatives of each state and territory, great strides have been made in the effective management of our ocean, and to address the impacts from land on the ocean.

Local governments play an important role in community engagement, planning and management in the coastal zone – the critical interface between land and sea, and between communities and the ocean economy.

The Australian Government is responsible for the remainder of Australia's ocean, from 3 nautical miles to the outer boundary of Australia's exclusive economic zone (200 nautical miles), and for Australia's extended continental shelf and external territories. In some instances, the Australian Government and relevant state or territory government collaboratively manage an area (for example, the Great Barrier Reef). Increasingly, access rights are being granted to First Nations people over areas of sea Country or coastline.

Collectively, the Australian, state and territory governments have established 4.3 million km² of marine parks around the country, covering 48% of our ocean, making it one of the largest networks of marine parks in the world. As at 10 July 2024, 31 Indigenous Protected Area projects include sea Country (consisting of 11 dedicated and 20 consultation projects).

Our ocean industries have a long history in Australia of improving management practices and responding to the changing environment. These industries frequent our coastal and deep-water ocean areas providing services and products to domestic and international markets. They also support many ocean actions and programs and provide an invaluable eyes-on-the-water service that can report on environmental conditions and unique and unusual activities.

Equally important, the research community, environmental non-government organisations (NGOs) and citizen scientists support management of our coasts and ocean by building our marine knowledge and delivering on-ground and on-water conservation activities.

Increasingly, initiatives to manage and conserve the ocean involve collaboration between a mix of government, First Nations people, industry, community, NGOs and research entities. Partnerships that draw together diverse experiences and build on shared values can provide multiple benefits to different ocean users.

Towards our future ocean

Our future sustainable ocean economy will likely look very different than it does today.

The ocean is facing increasingly complex pressures from threats such as climate change; pollution; illegal, unreported and unregulated fishing; development; and the cumulative effect of these threats.

Unlocking a sustainable ocean future will require a shift in the way we plan, manage and use the ocean in the face of competing demands, a changing climate and decarbonising our economy. As the *State of the environment 2021* report (Trebilco et al. 2021) notes:

There is a need to reconcile tensions to meet a variety of human needs, traditional rights and agendas concerning the oceans. This will require addressing imbalances and hierarchies that policy-makers and ocean managers often know exist but may find difficult to correct.

Growth in emerging ocean sectors offers opportunities to support Australia's transition to renewable energy sources, ensure long-term food security, and contribute to the protection, restoration and adaption of our coastal and marine ecosystems. A collaborative approach to managing our ocean – one that encourages all levels of government to work together and acknowledges the interconnectedness of land, sea and sky – is critical.

About the plan

Australia's Sustainable Ocean Plan will help us determine the future we want for our ocean. It sets a vision to 2040, highlights the outcomes we want to achieve, and identifies opportunities for action to help us tackle key challenges while supporting people's livelihoods and our growing ocean economy.

The plan:

- applies to all Australian waters from the coastline to the outer edge of Australia's exclusive economic zone, including islands and external territories, and our extended continental shelf
- articulates our place in our region and identifies opportunities for collaboration and advocacy to support sustainable ocean management, including in the Indian, Pacific and Southern ocean basins and Antarctic region
- considers the impacts of land-based activities on coastal and ocean environments where relevant
- provides guidance on opportunities for action and investment
- respects and incorporates First Nations knowledge.

Relationship to other policies and plans

Australia has made significant progress in ocean management over many decades. The plan seeks to complement and build on existing efforts – shining a spotlight on what is working well, and identifying opportunities where additional effort may be beneficial.

The plan also complements – and in many instances is an ocean expression of – key national agendas. For example:

- The plan can support identification of future capability needs and clean energy opportunities in the ocean economy, which can play a role in supporting the [Future Made in Australia](#) agenda and the transition to net zero.
- The plan can contribute to the [National Agreement on Closing the Gap](#) and implementing the [Uluru Statement from the Heart](#), by building a stronger understanding by all Australians of First Nations people's connection to sea Country and by identifying actions to ensure First Nations people are empowered to be involved in ocean decision-making and implementation in a meaningful and representative way.
- The plan can help elevate the role of ocean-based climate action as a major contributor to Australia's net zero by 2050 emissions target under the [UN Framework Convention on Climate Change](#) and the [Paris Agreement](#), such as by supporting the decarbonisation of ocean industries and the transition to renewable energy, and protecting and restoring blue carbon ecosystems (mangroves, seagrasses, saltmarsh) that sequester significant amounts of carbon.

- The plan can help drive action to deliver the [Nature Positive Plan](#) and national implementation of the Kunming-Montreal Global Biodiversity Framework targets – adopted by parties to the Convention on Biological Diversity – in the ocean context, such as protecting and conserving 30% of Australia’s marine areas by 2030.
- The plan complements Australia’s [Measuring what Matters Framework](#), which includes an indicator on protected areas (marine) to align our economic, social and environmental goals and track progress (Australian Government 2023).
- The plan complements the opportunities developed through the [Nature Repair Market](#) to boost private-sector investment to protect, manage and restore the environment, including marine and coastal environments (DCCEEW 2024b).
- The plan complements the [Australian Government civil maritime security strategy](#), which seeks to advance and protect Australia’s strategic maritime interests through a strong, integrated and adaptive approach to national civil maritime security (Australian Government 2021).
- The plan can complement delivery of Australia’s international commitments including conventions concerning the protection of world cultural and natural heritage, such as the Great Barrier Reef.
- The plan can help define and support Australia’s ocean priorities for enhanced regional and global engagement, and provide a framework for national discussions on implementing new and developing international agreements, such as the [UN High Seas Biodiversity Treaty](#) and the global plastics treaty.

How the plan has been developed

Australia’s Prime Minister committed to developing the plan as a member of the 18-nation Ocean Panel, to guide 100% sustainable management of the ocean under our national jurisdiction.

The plan has been developed in collaboration with:

- First Nations people
- Australian, state and territory and local governments
- ocean sectors and industries including fishing and aquaculture, coastal and marine tourism, energy exploration and production, carbon sequestration, defence, shipping and transport, ports and space
- NGOs
- scientists and researchers
- young people
- other people and organisations with an interest in the ocean.

Collaboration included a range of facilitated workshops, meetings, webinars and written feedback to seek views and understand priorities. A dedicated First Nations Sustainable Ocean Reference Group provided strategic advice during the development of the plan and has ensured First Nations views are incorporated throughout. The group has also offered a First Nations perspective on each national priority.

National vision and priorities

Through this collaboration, Australians have articulated a draft national vision for our ocean:

NATIONAL VISION: We commit to working together for a better ocean future; one where our coasts and ocean are healthy and resilient; where we make sustainable use of ocean resources; and where all can share in the benefits that flow from it, now and in the future.

To achieve this future, people agree effort needs to be focused in the following areas:

Figure 3 National priorities to achieve the vision



The plan identifies the desired outcomes for each national priority and opportunities for national action to achieve those outcomes. It also identifies links between the priorities.

Four of the national priorities – *Climate action*, *First Nations*, *Protect and restore*, and *Industry* – have been identified as focus areas to achieve the vision. Their desired 2040 outcomes are:

- **Climate action:** We have a better understanding of the impacts of climate change on the ocean and we are equipped to respond; ocean ecosystems and species are resilient and can adapt to climate change; and ocean ecosystems and ocean industries make a major contribution to Australia’s net zero emissions target through ocean-based climate action.
- **First Nations:** First Nations people are a central part of the ocean economy and have a genuine and representative role in sea Country decision-making, and ocean policy development and implementation.
- **Protect and restore:** The ocean is healthy; species and ecosystems are increasingly protected, resilient and recovering; and key threats are being addressed effectively.
- **Industry:** Current and emerging ocean businesses are environmentally sustainable, socially responsible and economically prosperous for current and future generations.

The other 4 national priorities – *Collaboration*, *Equity and inclusion*, *Knowledge* and *Finance* – are key enablers that will provide the frameworks, data, governance arrangements, principles and systems that are essential to achieving the outcomes of the focus areas. For example, enhancing our knowledge of the current state and challenges to the ocean will inform decision-making to protect and manage ocean ecosystems, support ocean industries to evaluate risks to productivity and improve sustainability. The desired 2040 outcomes for these enablers are:

- **Collaboration:** We have a collaborative and coordinated approach to the management of our ocean and ocean economy across and within jurisdictions and sectors; Australia is a leader in the global protection and sustainable management of the ocean; and we are effectively addressing shared transboundary challenges with regional and global partners.
- **Equity and inclusion:** Benefits from ocean resources are shared and decision-making on how we use and manage the ocean is inclusive and fair for all Australians, now and for future generations.
- **Knowledge:** We have adequate baseline data on key ocean issues and systems to support conservation and sustainable use actions; a culture of sharing ocean knowledge more freely; and a greater understanding within the broader community of the value of our ocean and how to engage with it sustainably.
- **Finance:** Our financial systems support the mobilisation of financing from a range of sources for the protection and restoration of ocean ecosystems and sustainable ocean activities, based on clear and internationally aligned standards and frameworks.

The focus areas and key enablers are interrelated as action taken in one area may have an impact on others. For example, protecting and restoring blue carbon ecosystems supports biodiversity, fisheries productivity and climate resilience outcomes. Private-sector investment can play an important role in accelerating blue carbon programs.

Next steps

The opportunities for national action are complemented by Australia's strong foundational ocean management already in place. Implementing the plan, committing to drive action and publicly reporting against progress is a shared responsibility of all ocean guardians, managers, businesses and users in line with their respective priorities, responsibilities and capacity. Bringing people together – for example through an officials-level forum – will be essential to delivering the national vision and priority outcomes.

Draft Sustainable Ocean Plan



Climate action: We have a better understanding of the impacts of climate change on the ocean and we are equipped to respond; ocean ecosystems and species are resilient and can adapt to climate change; and ocean ecosystems and ocean industries make a major contribution to Australia's net zero emissions target through ocean-based climate action.



First Nations: First Nations people are a central part of the ocean economy and have a genuine and representative role in sea Country decision-making and ocean policy development and implementation.



Protect and restore: The ocean is healthy; species and ecosystems are increasingly protected, resilient and recovering; and key threats are being addressed effectively.



Industry: Current and emerging ocean businesses are environmentally sustainable, socially responsible and economically prosperous for current and future generations.



Collaboration: We have a collaborative and coordinated approach to the management of our ocean and ocean economy across and within jurisdictions and sectors; Australia is a leader in the global protection and sustainable management of the ocean; and we are effectively addressing shared transboundary challenges with regional and global partners.



Equity and inclusion: Benefits from ocean resources are shared and decision-making on how we use and manage the ocean is inclusive and fair for all Australians, now and for future generations.



Knowledge: We have adequate baseline data on key ocean issues and systems to support conservation and sustainable use actions; a culture of sharing ocean knowledge more freely; and a greater understanding within the broader community of the value of our ocean and how to engage with it.



Finance: Our financial systems support the mobilisation of financing from a range of sources for the protection and restoration of ocean ecosystems and sustainable ocean activities, based on clear and internationally aligned standards and frameworks.

National priorities



Climate action

FOCUS AREA

Proposed outcome: We have a better understanding of the impacts of climate change on the ocean and we are equipped to respond; ocean ecosystems and species are resilient and can adapt to the changing climate; and ocean ecosystems and ocean industries make a major contribution to Australia's net zero emissions target through ocean-based climate action.

First Nations perspective: The ocean is a living ancestor and a sacred entity, embodying our ancestral spirits and teachings. Respecting this ecosystem is a pledge taken with our ancestors. Engaging in discussions around climate action ensures a voice for the spirits that have safeguarded the ocean for time immemorial.

Overview

The ocean and climate are inextricably linked, each highly dependent on the other. We are at a tipping point, however, and climate change is one of the greatest threats to ocean health and the growth of our sustainable ocean economy. Rising ocean temperatures and sea levels, increasing acidification and more frequent extreme weather events are affecting our marine biodiversity and ocean currents, and in turn ocean industries and coastal communities that rely on a healthy and predictable ocean for their livelihoods. Climate change threatens First Nations people's ability to care for Country and cultural values.

At the same time, the ocean does, and can continue to significantly contribute to addressing climate change, including through nature-based solutions such as protecting and restoring blue carbon ecosystems; reducing emissions from shipping; investing in low-emissions seafood; supporting the transition to renewable energy; and offshore carbon capture, use and storage.

Opportunities for collective national action

Ocean-based climate action

The Australian Government has legislated Australia's greenhouse gas emissions reduction targets, to reach 43% below 2005 levels by 2030 and net zero by 2050, and all states and territories are contributing. Australia is progressing ocean-based climate action as part of meeting these commitments and to contribute to global efforts to meet the Paris Agreement global temperature goals.

Investing in ocean-based solutions to climate change has proven to be effective and economically beneficial. The Ocean Panel found that ocean-based actions can deliver up to a fifth of the annual greenhouse gas emission cuts needed to limit global temperature rise to 1.5°C by 2050 (Ocean Panel 2021).

Australia has made significant progress in areas such as protecting and restoring blue carbon ecosystems nationally and globally, enabling new offshore renewable energy and carbon capture and storage, and progressing efforts to decarbonise shipping and maritime transport including through the Maritime Emissions Reduction National Action Plan (DITRDCA n.d.). Hydrogen production, storage and transportation solutions; investments in alternative fuel sources and hubs; and advancing low-emissions aquaculture can also contribute to ocean-based climate action.

Building on this significant momentum, there are further opportunities around Australia to **scale-up nature-based solutions**, including continuing and expanding the protection and restoration of blue carbon ecosystems, in line with the national '30 by 30' protection and conservation target and roadmaps such as the [New South Wales blue carbon strategy 2022-27](#) (NSW DPE 2022), and the uptake of the blue carbon method of earning Australian carbon credit units (Clean Energy Regulator 2022).

Many scientific bodies, such as the Intergovernmental Panel on Climate Change, recognise that net-negative emissions methods are also important to offset emissions from hard-to-abate sectors to reach net zero by 2050. Around the world, approaches have included marine carbon dioxide removal; offshore carbon capture, use and storage; and scaling-up carbon sequestration. Investments and delivery of innovation and research by science and technology agencies, businesses and universities are critical to realising more opportunities and at larger scales.

Marine industries and organisations have raised the importance of addressing structural and regulatory barriers to support further uptake of new opportunities to mitigate, restore and decarbonise including by harmonising regulatory arrangements and improving national coordination (see [Industry](#) and [Collaboration](#)).

Understanding climate risk and accessing information

Ocean environments are changing fast and, at times, unpredictably. The *State of the environment 2021* report found the marine sector is lagging 10 to 20 years behind the agricultural sector in terms of climate preparedness and response (Trebilco et al. 2021). Ocean users are seeking better information at scale and in timeframes that are useful to make timely and well-informed decisions and take action.

Significant work is underway, which includes:

- CSIRO is improving the accuracy and lead time for forecasting marine heatwaves around Australia (CSIRO n.d.)
- the Bureau of Meteorology provides monthly, weekly and daily reporting of sea surface temperature
- the Integrated Marine Observing System (IMOS) provides up-to-date sea surface current and temperature information
- the Australian Institute of Marine Science (AIMS) uses historical data to understand long-term trends of important ecosystems, which informs likely future scenarios and potential success of interventions.

Australia also conducts extensive work in Antarctica and the Southern Ocean to deliver climate science research programs that study the role of the Southern Ocean in our climate and weather; quantify vulnerability and change in sea ice, ice sheet, ocean and atmosphere; and improve projections of sea-level rise from ice sheet loss.

The development of the National Climate Risk Assessment, coordinated by the Australian Climate Service, will examine key impacts from the changing climate on ocean functions and the resulting impacts on communities and businesses in coastal areas that rely on the marine environment and resources (Australian Climate Service 2023). This work will inform how best to build knowledge and understanding of the impacts of the changing climate on the ocean, and decisions about how to adapt. Other work that captures the state of the ocean includes:

- IMOS's [State and trends of Australia's oceans report 2020](#) (Richardson et al. 2020)
- the marine and coasts chapters of the [State of the environment 2021 report](#) (Trebilco et al. 2021; Clark, Fischer & Hunter 2021)
- the Intergovernmental Oceanographic Commission's [State of the ocean report](#) (IOC-UNESCO 2024).

Although these assessments are helping to strengthen our understanding of the impacts of climate change on the ocean, stakeholders have highlighted that their high-level nature means more **detailed national coastal and ocean-specific assessments at scales and timeframes that are relevant to their decisions** may be needed to provide the detail and scope necessary to fully support national ocean action. For example, Australian state of the environment reports will now be published every 2 years instead of 5 years, to ensure information remains current.

Scaling-up applied research to address key gaps, improving the translation of ocean science and engineering research, and modelling and monitoring climate change impacts on ocean ecosystems, such as heatwaves, sea-level rise, acidification and storm surges, have been identified as potential focus areas.

To properly inform decisions, people are also advocating for the **delivery of near-real-time ocean climate information** on how the ocean and businesses may be affected.

Adaptation and management

Despite the significant efforts to mitigate climate change, it is not a future problem, with the impacts being felt now. As the effects of climate change become locked in, we cannot rely on protecting and restoring our ecosystems or on mitigation measures alone. For example, the Reef Restoration and Adaptation Program invests in research and innovation for deployment at scale to protect, restore and build resilience of the Great Barrier Reef to climate change (DCCEEW 2023). The program creates a range of reef interventions at scale that work together and reinforce protection and restoration as well as adaptation to a changing climate.

To complement existing efforts, further work to **build resilience and adapt ocean ecosystems and ecosystem services to climate change** is needed. Governments, industry and communities are seeking improved information and more tools to prepare for and adapt to the risks climate change poses to ocean health, coastal communities and our ocean economy. Ocean users and stakeholders have called for additional effort to manage the effects of climate-related events, such as marine heatwaves, and a proactive approach recognising that restoration and protection must be supplemented by further adaptation.

Given the scale and diversity of the ocean and ocean economy, Australia has the opportunity to prepare a coordinated approach to ocean-based climate challenges through climate preparedness and adaptation at the national scale. The National Climate Risk Assessment and National Adaptation Plan will capture elements of ocean actions, however the development of more **specific and detailed coast and ocean adaptation planning** may be needed in the future to guide work.

Summary of opportunities for collective national action

- Elevate the role of ocean-based climate action in advancing Australia's net zero by 2050 target, as well as domestic and international climate adaptation effort.
- Scale-up nature-based solutions to climate change.
- Develop detailed assessments of climate risks to coasts and the ocean.
- Establish mechanisms to deliver near-real-time ocean climate information at relevant scales for governments, industries and decision-makers.
- Build resilience and work to adapt ocean ecosystems and ecosystem services to climate change impacts.
- Develop specific adaptation plans for the ocean and coasts.



First Nations

Proposed outcome: First Nations people are a central part of the ocean economy and have a genuine and representative role in sea Country decision-making and ocean policy development and implementation.

First Nations perspective: By integrating the ancient, holistic perspectives of First Nations people, we recognise the ocean is more than a resource to be managed but also a living entity with which we are deeply interconnected. This shift fosters a profound sense of shared guardianship, where Indigenous wisdom and contemporary science converge, guiding us towards a future where the ocean's health and humanity's wellbeing are harmoniously aligned.

Overview

First Nations people have a profound and enduring connection with sea Country, which is central to cultural and spiritual identity, social and economic life, and wellbeing. There is a deep interconnection between the health of Country and the health of First Nations people. As rights holders and inherent caretakers of sea Country, access to the ocean and marine resources for social, cultural and economic purposes is a key priority for First Nations people, now and in the future.

Caring for their own sea Country is a cultural responsibility for Traditional Owners. Preserving traditions and sustaining cultural heritage – including protecting and restoring cultural values of sea Country – will safeguard these values for future generations.

Under international agreements, including the UN Declaration for the Rights of Indigenous People and the Convention on Biological Diversity, Australia has obligations to recognise, respect and uphold the rights of First Nations people, including their ability to exercise self-determination, be involved in decision-making and participate in the ocean economy.

Opportunities for collective national action

National representation on sea Country matters

As the Traditional Owners of land and sea Country, First Nations people have a special interest in ocean decision-making. First Nations people are seeking genuine representation and participation in national ocean policy development and implementation. This includes support and capacity-building wherever necessary to ensure First Nations people can have a genuine seat at the table.

First Nations people seek to be key contributors and an integral part of conversations around sea Country matters. This can be facilitated by **supporting the establishment of a First Nations-led national sea Country representative body** to represent and advocate on behalf of communities regarding sea Country matters – including engaging with proponents from various industries, and continuing to support the ongoing capacity of existing bodies, such as the National Native Title Council Sea Country Alliance, the South Australian First Nations Sea Country Alliance and the North Australian Indigenous Land and Sea Management Alliance.

Such groups provide advice, and drive policy development and engagement with government, industry and others on behalf of community regarding sea Country matters.

Although the interests and capacity of First Nations communities vary across Australia, First Nations people have expressed interest in leading ambitious initiatives and working collaboratively with ocean stakeholders on a broad range of sea Country matters, including research, on-ground management, business and climate action. Drawing on examples of best practice from across Australia, it will be essential to have the right tools and frameworks in place to uplift capability, bridge communication gaps and strive for best-practice First Nations-led and co-designed engagement principles. These include requiring proponents to engage early with those with authority to speak on behalf of sea Country in support of the principles of free, prior and informed consent to the extent possible under current laws, and upholding the principles of Indigenous Cultural and Intellectual Property.

Strong participation in the ocean economy

First Nations people are seeking **investment and greater support to establish and operate First Nations-led and co-owned sustainable businesses on sea Country** that generate economic wealth and ongoing employment opportunities for community (see [Industry](#)). Sea Country, especially fishing, has received growing attention in Australia as an avenue for First Nations people to participate in the ocean economy and as an enabler of economic self-determination.

Informed by consultation with First Nations communities around Australia, the Indigenous Land and Sea Corporation's [National Indigenous land and sea strategy 2023-2028](#), for example, has identified fisheries and aquaculture as one of 5 target sectors to amplify Indigenous voices, develop strong partnerships, and drive positive change (Indigenous Land and Sea Corporation 2023). Other relevant sectors include renewables and clean energy, carbon and environmental markets. To enable capacity-building, participation and empowerment in ocean sectors, First Nations people are seeking to **foster partnerships with industry and address barriers to accessing finance**, for example, through business networks, start-up grants and access to resources to support development of competitive business cases.

First Nations people are calling for improved distribution of benefits derived from other users of Traditional Country, as well as improved mechanisms to ensure First Nations rights are considered equitably (see [Industry](#) and [Equity and inclusion](#)).

Self-determination and on-Country outcomes

First Nations people have cared for and sustainably protected sea Country for millennia. Today, First Nations people deliver on-Country management activities and initiatives through a range of successful mechanisms, such as Indigenous Protected Areas, Indigenous Land Use Agreements, Traditional Use of Marine Resource Agreements, ranger programs, Healthy (sea) Country plans and joint management partnerships. For example, the [Queensland Indigenous Womens Ranger Network](#) has been co-designed by Indigenous women, government and non-government agencies, land councils and other stakeholders to provide an area for women rangers to collaborate, support and uplift Indigenous women rangers across Queensland (Queensland Indigenous Womens Ranger Network n.d.).

By caring for Country, First Nations people draw on the knowledges, practices and sciences passed down through generations and connect with their culture. Being on Country helps keep culture and knowledge strong, and realise aspirations and community priorities for sea Country. Facilitating career pathways into sea management roles from early education opportunities to formal training and certification, as well as partnerships with universities, industries and science organisations would further support community outcomes, including supporting young people pursuing roles working on Country.

To **empower First Nations people to develop, drive and implement actions that will help meet their aspirations and fulfil cultural obligations to care for sea Country**, sufficient resourcing and capacity for on-Country managers are needed. This could be achieved by expanding existing successful programs, increasing coordination, and supporting the development and implementation of Country-based management models, such as formal partnerships and fee-for-service arrangements.

Summary of opportunities for collective national action

- Support the establishment of a First Nations-led national representative body, and provide support to existing bodies, to ensure meaningful First Nations input into sea Country matters.
- Support the establishment and operation of First Nations-led and co-owned sustainable businesses on sea Country and strong First Nations participation in the ocean economy.
- Foster partnerships with industry and address barriers to accessing finance.
- Empower First Nations people to be the drivers of actions that allow them to care, benefit from and manage their sea Country.



Protect and restore

Proposed outcome: The ocean is healthy; species and ecosystems are increasingly protected, resilient and recovering; and key threats are being addressed effectively.

First Nations perspective: Protecting and restoring the ocean is a sacred duty to a living ancestor deserving of respect and care. The ocean provides not just food but a connection to our stories, dances and ceremonies. Our commitment is to ensure this connection remains unbroken for all generations to come.

Overview

Australia is recognised globally for our unique and diverse marine ecosystems. The Great Barrier Reef World Heritage Area is the world's most extensive coral reef system; the Ningaloo Coast World Heritage Area is globally significant as a seasonal aggregation site for whale sharks; and about 12% of the world's blue carbon ecosystems (mangroves, salt marshes and seagrasses) are found around our coasts (DCCEEW 2024a).

Australia has committed to protect our ocean ecosystems and species through several international agreements and forums (see [Collaboration](#)). These commitments are upheld through international engagement and advocacy, and implementation of legislation, and supported through a range of actions and programs.

Parties to the Convention on Biological Diversity adopted the Kunming-Montreal Global Biodiversity Framework, which includes global agreement to protect and conserve at least 30% of the world's land (including inland waters) and 30% of the world's marine and coastal areas by 2030. The global '30 by 30' target (Target 3) is critical for our ocean to protect and conserve biodiversity and build resilience to challenges from climate change, plastic pollution and other pressures. A key component of the target is to ensure those areas are effectively managed.

The Australian Government has also set a national target to protect 30% of our land and 30% of our marine areas by 2030. Environment ministers from all jurisdictions have agreed to work collectively to achieve the national '30 by 30' target and other priority targets including the effective restoration of degraded terrestrial, inland water, marine and coastal ecosystems (Target 2). Restoring our environment and halting decline so we leave it in a better state is a fundamental principle of the Nature Positive Plan. Updates to Australia's *Strategy for nature 2019-2030* are underway to reflect Australia's contribution to the Global Biodiversity Framework (DCCEEW 2024c).

Despite these efforts, our ocean and coasts remain under pressure from a range of threats, including climate change, pollution from land and sea sources, coastal and offshore developments, and the cumulative impact of these threats. For Australia to take advantage of future growth opportunities, we must maintain the long-term health and resilience of the ocean, including through protection, restoration and adaptation actions.

Opportunities for national action

Protecting our coastal and marine ecosystems

Marine protected areas

Australia's marine protected area (MPA) estate is one of the largest in the world. The National Representative System of Marine Protected Areas (NRSMPA) managed by the Australian and state and territory governments covers 48% of our ocean estate, with approximately 22% within highly protected no-take areas. The primary goal of the NRSMPA is to establish and effectively manage a comprehensive, adequate and representative system of marine reserves to contribute to the long-term conservation of marine ecosystems and to protect marine biodiversity.

MPAs also provide other benefits such as supporting education and research, promoting enjoyment, improving human health and wellbeing, and managing resource use where compatible with the objective of the protected area. They also play a critical role in building the resilience of the marine environment to pressures such as climate change, marine pests and pollution. State and territory governments have management responsibilities for MPAs in their own waters. For example, South Australia has a network of 19 multiple-use marine parks, covering about 45% of the state's waters including the Great Australian Bight Marine Park, and including representative areas of 8 marine bioregions.

In light of increased national and global momentum towards ocean protection, it may be timely to [review the NRSMPA and its foundational policies](#) to strengthen effective management of these areas and align with our commitments under the Global Biodiversity Framework. A review of the NRSMPA would also inform the scheduled review of the management arrangements for 44 of the 61 Australian marine parks by 2028 (DEE 2018).

Our efforts to protect and conserve marine biodiversity through protected areas also extends into transboundary waters and beyond our national jurisdiction. For example, within our region Australia participates in the Arafura and Timor Seas Ecosystem Action program to ensure the sustainable management of the ocean and livelihoods of the communities that depend on it for survival.

Australia will also work with other countries to establish MPAs on the high seas once the High Seas Biodiversity Treaty enters into force. Separately, through our engagement in the Commission for the Conservation of Antarctic Marine Living Resource, we continue advocating for the establishment of a new MPA in the East Antarctic under the Antarctic Treaty System.

First Nations-led marine and coastal protection

Traditional Owners of sea Country have cultural obligations and responsibilities to protect and, where necessary, restore sea Country. This includes caring for and protecting cultural and natural values.

Our marine parks are managed in collaboration with First Nations people who have been sustainably managing their sea Country for thousands of years. Many of our marine parks provide protection to culturally unique values, such as seascapes associated with the land bridge that joined Tasmania to the mainland about 12,000 years ago. Recognising and respecting the rights of Indigenous people and local communities over their Traditional territories is a central consideration for the implementation of the Global Biodiversity Framework.

Across Australian jurisdictions, there is a range of frameworks in place that support First Nations-led management and Traditional use of sea Country, including Indigenous Protected Areas, Indigenous Land Use Agreements, Traditional Use of Marine Resource Agreements, and, in Western Australia, sea Country joint management partnerships that cover vast areas of the state.

These frameworks vary in their legal status and therefore their formal contribution to conservation targets also varies. To respect First Nations-led marine and coastal protection, options could be explored to **formally recognise the contributions of these areas towards domestic and global conservation targets**.

Continuing current protection efforts

Significant work is underway around Australia to protect and manage threatened, migratory and other marine species; mitigate threats; and support recovery, including under national and state and territory environmental laws. Action is also implemented through programs and partnerships between government, research, industry and the community. It is critical that this work continues, such as encouraging uptake of innovative solutions to reduce bycatch, and continuing to prevent new marine pests arriving, taking action if they do, and minimising the spread and impacts of existing pests.

Australia also collaborates on the management and protection of threatened and migratory species under regional and global agreements and bodies, and through regional fisheries management organisations. Continuing this work and strengthening our transboundary ocean conservation efforts will be needed (see [Collaboration](#)).

Restoration and adaptation of coastal and marine ecosystems

Restoration of ecosystems such as coral reefs, mangroves, seagrass, shellfish and kelp is underway to varying scales around the country. Restoration can deliver important environmental, social and economic benefits including carbon sequestration, improved habitat for marine species, coastal protection and climate resilience, and increased productivity leading to social and economic benefits for coastal communities. Pressures on coastal and marine ecosystems must be addressed, and likely impacts of climate change taken into consideration before implementing restoration.

Restoration of coastal and marine ecosystems is advancing, with further effort on national policy development and harmonisation, improved science and technology application and finance access required to deliver on the potential need for intervention at ecosystem-scale and for species in the future. Large-scale and coordinated restoration of coastal and marine ecosystems will benefit our natural assets and improve our capability to mitigate and adapt to climate change, while also generating jobs and providing communities with economic and social benefits. There is also growing momentum for using nature-based solutions to restore natural and modified ecosystems, enhance biodiversity, and sequester and store carbon to improve resilience to disasters and reduce disaster risk.

To support this, there is an opportunity to work collectively and develop a **national approach to accelerate restoration of coastal and marine ecosystems** to enhance coordination across jurisdictions, harmonise policies and regulation, facilitate collaboration and shared learning, and catalyse funding opportunities (see [Collaboration](#)). Such an approach could build on existing knowledge developed through research and on-ground activities, for instance the National Environmental Science Program, and could support existing restoration plans and initiatives such as the Reef Restoration and Adaptation Program on the Great Barrier Reef, which uses the Australian Institute of Marine Science's National Sea Simulator (SeaSim) – a National Collaborative Research Infrastructure Strategy facility.

In the face of climate change, protection and restoration of ecosystems alone will not be enough to prevent species and ecosystem loss. Impacts from climate change are already being felt and science tells us that warming ocean temperatures are locked into the system. The increasing frequency of marine heatwaves around Australia in recent years has permanently affected marine ecosystem health, marine habitats and species. Supporting restoration and adaptation actions can support protection and recovery plans for ecosystems and species. There is also growing interest around **'ecological engineering' to encourage the establishment of novel habitats for native species**, which could be explored further in Australia.

The National Climate Risk Assessment and the National Adaptation Plan, currently under development, will provide the scaffolding for dedicated ocean risk assessments and adaptation plans to guide how and where actions can be taken to protect and conserve our ocean ecosystems (see [Climate action](#)).

Ocean pollution

Along with climate change, plastic pollution (including microplastics) is one of the greatest threats to the health of our ocean ecosystems, wildlife and potentially human health. Plastic enters the ocean from land and sea sources within and outside Australia. International engagement is essential to tackle plastic pollution at its source (see [Collaboration](#)). Australia is playing a leadership role in negotiations towards a new global instrument on plastic pollution. **Finalising and implementing the global plastics treaty** and continuing to implement successful programs to **find, remove and address the source of ghost nets** are key to addressing plastic pollution within the region.

Domestically, Australian, state and territory governments and industry are working together to manage our waste and protect the environment. Australia has committed to transitioning to a circular economy, including implementing initiatives to reduce plastic pollution through waste export regulations, investments in recycling infrastructure and packaging targets.

Australia's *State of the environment 2021* report indicates that land-based work pressures have a significant impact on coastal and marine environments with population and industry stressors particularly strong because of our coastal population (Clark, Fischer & Hunter 2021; Trebilco et al. 2021). Land-based pressures include runoff from industrial, agricultural and urban sources; plastic pollution and marine debris; climate and weather events; light pollution; mining and energy operations; and development. First Nations people and ocean stakeholders have highlighted the importance of the land-sea intersect and the value of enhanced collaboration to address land-based impacts on ocean health. Protecting the marine environment from pollution, whether onshore or offshore, is a shared responsibility in Australia.

There is an opportunity to improve collaboration between jurisdictions on ocean pollution and consider this in the context of addressing transboundary and cumulative pressures, in particular:

- working towards reducing marine pollution by **better managing waste, including responses to pollution incidents**, and advancing the transition to a circular economy
- ensuring the impacts of **other sources of pollution, including from light, anthropogenic noise and land-based sources** such as run-off, are assessed and managed through targeted actions
- exploring policies to **support the clean-up and remediation of physical environmental damage caused by maritime incidents** such as ship groundings, and discharge oil and other pollutants.

High seas biodiversity

Given the transboundary nature of the ocean, supporting the protection and effective management of the waters adjacent to Australia's exclusive economic zone and within our region is important. **Ratifying and implementing the High Seas Biodiversity Treaty** paves the way for the establishment of marine protected areas on the high seas, an environmental impact assessment process and a regime to regulate the use of marine genetic resources from the high seas. Marine protected areas on the high seas will complement the protection of the ocean within our national jurisdiction.

Summary of opportunities for collective national action

- Review the National Representative System of Marine Protected Areas and its foundational policies to strengthen effective management of these areas and align with our commitments under the Global Biodiversity Framework.
- Explore options to improve formal recognition of, and support for, First Nations-led ocean and coastal protection and management.
- Drive a national approach to the restoration of coastal and marine ecosystems, identifying national restoration priorities and capacity-building.
- Investigate 'ecological engineering' to encourage the establishment of novel habitats for native species.
- Reduce ocean pollution by:
 - finalising and implementing the global plastics treaty
 - expanding efforts to find, remove and address the source of ghost nets and other marine debris
 - better managing responses to pollution incidents
 - advancing the transition to a circular economy
 - ensuring the impacts of other sources of pollution, including from light, anthropogenic noise and land-based source, such as run-off, are assessed and managed through targeted actions
 - exploring policies to support the clean-up and remediation of physical environmental damage caused by maritime incidents such as ship groundings, and discharge of oil and other pollutants.

- Ratify and implement the High Seas Biodiversity Treaty, including leading the establishment of marine protected areas on the high seas that complement the protection of ocean within our national jurisdiction.

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Proposed outcome: Current and emerging ocean businesses are environmentally sustainable, socially responsible and economically prosperous for current and future generations.

First Nations perspective: Ocean industries need to operate in harmony with the natural world, guided by the principles of sustainability and respect for all living beings. With today's challenges, we must remain vigilant to ensure that every stakeholder treads softly on this shared journey, respecting the sacredness of resources and our traditions.

Overview

Australia's ocean economy comprises a range of industries and activities including fisheries, aquaculture, shipping, tourism, recreation, defence, and energy exploration and production. Ocean industries are an essential pillar of Australia's food and energy security, create and maintain hundreds of thousands of jobs – including in rural and remote communities – and are a valuable export for Australia. As the ocean and our use of the ocean changes, marine industries and their operations will also change as they grapple with competing demands, complexities of operating cross-jurisdictionally, maintaining social and cultural licence to operate and increasing sustainable practices such as decarbonisation.

Ocean industries thrive if the ocean is healthy and resilient, regulation and governance are strong, planning is strategic, and the industries understand future challenges and opportunities.

Opportunities for collective national action

Supporting a thriving ocean economy

Australia's ocean industries provide vital services to all Australians and are an important element of our national economy. Some industries, however, are feeling uncertain about their future in the context of growing ocean demands and an evolving regulatory and physical environment. Industries want to be more involved in ocean decision-making processes that affect them.

The **development of roadmaps co-designed by industry with governments** may provide the direction and certainty industries are seeking to support their sustainable growth. Public-facing roadmaps may also provide an opportunity for industry to demonstrate sustainability efforts and contributions to communities and Australia to strengthen their social licence to operate (see [Social and cultural licences](#)).

Industry and investment certainty can be further supported through a collaborative approach on the use of the ocean that allows industries to engage with decision-makers and other ocean users on challenges and opportunities, including competing interests, and to establish transparency in decision-making (see [Collaboration](#)).

Increasing national action to address climate change and cumulative impacts; protect and restore ocean ecosystems; strengthen knowledge bases to inform planning; and align financial flows with a nature-positive ocean will provide significant benefits to ocean industries and are critical to underpinning their sustainable growth (see [Climate action](#), [Protect and restore](#), [Knowledge](#) and [Finance](#)).

Harmonising regulatory arrangement and processes

Governments and industry have raised the need for **harmonising regulatory arrangements around the country** to assist growth and support the sustainable use of natural resources. Exploring how to improve alignment between processes and regulations within and between jurisdictions would support businesses, particularly those operating nationally or across jurisdictional lines.

Harmonisation of these processes could also improve industry certainty and allow for investment and the development of sectors and technologies that support a sustainable ocean economy. Examples of areas where coordination and harmonisation of approaches could be beneficial include the adequacy of arrangements for future and emerging industry activities, such as aligning types of alternative fuel hubs to support the movement of zero emissions vessels reliant on specific fuels.

Changes in the ocean environment and the rapid growth of emerging ocean industries or novel technologies can advance quickly, leading to a need for regulatory processes to keep pace. Some industries have advocated for **greater investment in and industry certainty for emerging ocean industries and technologies** and the supporting regulatory and policy settings that will underpin the developing ocean economy.

Social and cultural licences

A social licence to operate (i.e. buy-in and support from communities, governments and investors) is influential in an industry's ability to operate. Social licence is especially important for ocean-based industries because the ocean is a shared resource.

Some ocean industries are concerned that perceptions of their industry are affecting their broader social licence to operate. **Showcasing the importance of ocean industries to Australia's** way of life and promoting their environmental and sustainability journeys through public communication and ocean literacy programs and tools could also support industry to navigate these challenges.

Promoting the development and use of a cultural-licence-to-operate framework may promote improved and inclusive practices regarding First Nations people. This kind of framework supports community acceptance and cultural legitimacy from First Nations people. This can shift relationships between marine sectors and First Nations people and can support building genuine relationships. Approaches such as this may also facilitate respectful interactions between groups and help recognise cultural obligations and aspirations by Traditional Custodians to manage their sea Country.

First Nations-led research from the Blue Economy Cooperative Research Centre has developed a preliminary cultural-licence-to-operate framework for industries to work with First Nations people respectfully and fairly (Hunter et al. 2024).

There is interest in building First Nations-led and -operated sustainable businesses on, and related to, sea Country. This could include supporting the continual development of a sustainable First Nations tourism sector, such as through aligning with the [Larrakia Declaration on the Development of Indigenous Tourism](#) and supporting fisheries and aquaculture in the Indigenous Land and Sea Corporation. First Nations people have expressed desire to understand how they can equitably benefit from income generated from users on their Traditional Country.

Supporting marine industry sustainable practices

Meeting Australia's net zero by 2050 target is vital for the ongoing health of the ocean and ocean economy, with industry decarbonisation an important part of achieving this. Australia's marine industries are making significant headway to reduce emissions and the Australian Government is working with marine industries to develop a [Maritime Emissions Reduction National Action Plan \(MERNAP\)](#).

Emerging ocean industries and technologies can provide solutions to achieve Australia's net zero target and improve the state of the ocean through renewable energy, sustainable fisheries and aquaculture, and carbon capture, use and storage.

A key step will be to **support businesses to transition to low-emission or sustainable operations** to ensure no industries or businesses are left behind in the sustainable ocean future. In particular, small- and medium-sized enterprises may need more resources, knowledge and support to effectively transition. For the transition to a low-emission future, these may be delivered through the MERNAP or via toolkits and strategies.

Work is underway to understand infrastructure needs to support the transition to low-emission or more sustainable operations, such as green fuel bunkering at port facilities, waste discharge facilities for ships at shore and infrastructure to accommodate offshore wind development. These are also key to supporting industries to achieve targets, adapt to the changing ocean environment and continue to provide for Australia at scale.

Encouraging further uptake of sustainability practices more broadly through the development of national industry reporting and traceability schemes will also drive market and industry shifts. Sustainability standards or certifications can showcase best practice and help consumers make sustainable choices.

Clearly represented information on nature-based risks can help businesses and investors identify and manage risks, act on opportunities, improve investor and industry confidence, and benefit the overall future security of ocean sectors. Encouraging the **uptake of information and reporting on nature-based risks and opportunities** supports a shift in financial flows towards nature-positive outcomes in industry.

Summary of opportunities for collective national action

- Co-design industry roadmaps to support sustainable growth of ocean industries.
- Harmonise arrangements that present a barrier to operations at the national scale.
- Create greater investment and industry certainty for emerging ocean industries and technologies.
- Support initiatives that showcase the importance of ocean industries to Australia.

- Promote the development and use of a cultural-licence-to-operate framework.
- Support businesses to transition to low-emission or sustainable operations.
- Encourage the uptake of information and reporting on nature-based risks and opportunities.

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Collaboration

ENABLER

Proposed outcome: We have a more collaborative and coordinated approach to the management of our ocean and ocean economy within and across jurisdictions and sectors; Australia is a leader in the global protection and sustainable management of the ocean; and we are effectively addressing shared transboundary challenges with regional and global partners.

First Nations perspective: Collaboration is a sacred gathering, where voices come together to weave the future of the ocean. It involves every stakeholder embracing the ocean's cultural heartbeat, nurturing a deep reverence for its heritage.

Overview

The ocean is a shared resource. As Australia's ocean economy grows and the environment changes, it is becoming increasingly important to have mechanisms in place to support collaboration and coordination within and across jurisdictions and sectors. Australia's *State of the environment 2021* report highlighted lack of national coordination as a key gap in Australia's ability to manage our ocean (Trebilco et al. 2021).

Opportunities for collective national action

Forums to support national collaboration and coordination

People around the country want improved coordinated leadership and priority-setting – across government and non-government sectors – to help reduce duplication and address gaps in our combined ocean efforts. In particular, people are seeking better collaboration and coordination on topics such as:

- strengthening the representation and empowerment of First Nations people to be part of action, planning and decision-making
- integrated climate action
- harmonising regulatory and policy approaches
- addressing transboundary and cumulative pressures
- marine planning
- national science priorities and data collection and sharing standards
- financing.

Although some sector-specific policies provide guidance for broader national management, such as the [National Fisheries Plan 2022-2030](#), many ocean activities are currently managed under separate legislation and policy frameworks specific to each jurisdiction.

Some stakeholders have raised challenges with understanding and navigating different approaches between jurisdictions, and the demand this places on resources, particularly community-led projects. For example, policy and regulatory approaches relating to restoration actions can at times be inconsistent within and between jurisdictions, and there are instances where multiple regulators assess the same impacts with different outcomes.

Differing national approaches could also cause future challenges and it is important for conversations to happen early to identify and resolve potential issues. For example, as we work to decarbonise our ocean sector, the potential for different alternative fuel sources to be adopted around the country could affect the movement of vessels nationally (i.e. vessels only being able to travel to ports where their fuel is available) and could lead to nationally coordinated approaches to fuel spills needing updating.

There are many existing examples of successful ocean collaboration and coordination within Australia, such as:

- regular meetings of environment, fisheries, energy and climate ministers
- networks such as the Australian Fisheries Management Forum, which supports sharing of information between state and federal agencies involved in managing fisheries and aquaculture
- Heads of Parks agencies to support the management of terrestrial and marine parks
- industry-focused groups such as the Blue Economy Cooperative Research Centre, which leads research and training to support the growth of Australia's ocean economy, with a focus on offshore aquaculture and renewable energy production
- bodies such as the National Marine Science Committee that assist coordination and information-sharing between Australia's research institutions, universities, Australian and state and territory government departments, and the broader Australian marine science community
- collaborative partnerships between First Nations people, governments and universities to sustainably manage and monitor sea Country
- meetings of officials on specific cross-boundary topics, such as the Marine Turtle Roundtable, which supports the coordinated implementation of the national *Recovery Plan for Marine Turtles in Australia* between the Australian and relevant state and territory governments.

As the ocean environment and ocean use continue to change at a rapid pace, there is an opportunity to **build on these existing mechanisms, and potentially establish new forums**, to strengthen national ocean coordination and collaboration. Examples suggested range from establishing officials-level forums within and across jurisdictions to enhance knowledge-sharing, align approaches on key topics and facilitate public reporting on progress implementing the Sustainable Ocean Plan, through to more formal governance arrangements such as revisiting the [Offshore Constitutional Settlement](#) and establishing ocean agencies and ministers at the Australian Government and state and territory levels.

Although governments have an important role to play in providing national leadership on ocean issues, others should be **encouraged and empowered to progress conversations and form partnerships to support their targeted needs**, at a pace that suits them. There are examples of this happening already, such as Ocean Decade Australia – a not-for-profit organisation with a mission to connect Australia's ocean stakeholders through knowledge, networking and learning.

National marine planning

Interest in marine planning is growing in Australia together with the opportunity it may present for integrated decision-making and strategic planning on how the ocean is used. Processes such as marine spatial planning can provide greater certainty to inform business planning and investment, and improved transparency in decision-making. Integrated marine planning provides decision-makers and users a more comprehensive view of the ocean by connecting planning, decision-making and management into one framework. This may allow for better consideration of cumulative impacts of different uses, and a holistic view of efforts to improve sustainability.

Although jurisdiction-specific marine planning frameworks are being progressed in Australia, there is considerable interest in continuing the work underway at both a national and state level – such as by the Blue Economy Cooperative Research Centre, and the [Victorian Government's marine spatial planning framework](#). This would support the development of a **national-level marine planning policy** with agreed principles to guide national implementation and support harmonisation of jurisdictional frameworks.

International leadership

Many of the threats to the ocean are transboundary (e.g. climate change, marine pollution, and illegal, unreported and unregulated fishing). Collaborative action at all scales – domestic, regional and global – is needed to achieve a sustainable future for our shared ocean for current and future generations.

Global leadership

Australia is a recognised global leader in sustainable ocean management. We engage internationally to address ocean challenges, protect Australia's maritime sovereignty and security, and protect and promote the multilateral system. We share our experience and expertise and support countries on their sustainable ocean management journeys. Importantly, this also gives Australia the opportunity to learn from others.

To help address the big challenges to the ocean, Australia engages in a range of forums, summarised in [Appendix A](#).

As the global momentum for sustainable ocean management continues to grow, there is an opportunity for Australia to **boost our international engagement**, enhance our influence and ensure effort is being directed where it will be most impactful. Ideas for achieving this range from appointing an ocean ambassador to represent Australia in global forums, to strengthening partnerships in the Indo-Pacific region and maximising opportunities to amplify outcomes that intersect with Australia's foreign policy, climate, First Nations and environment agendas.

Wherever possible, we should work cooperatively towards implementing global and regional commitments in a way that is appropriate for our regional contexts.

Regional collaboration

Our region is diverse, and the health of coasts and the ocean is fundamental to all countries. For example, Indonesia is the world's largest archipelagic state with more than 280 million people across 17,000 islands, while Niue is one of the world's largest coral islands and supports a population of around 1,600.

The health of the ocean is integral to Pacific livelihoods, food and identity. With such vast ocean estates, transboundary cooperation is essential to ensure the region's goal that 'all Pacific peoples live in a sustainably managed Blue Pacific Continent, while steadfastly maintaining resilience to threats to its environment' (Pacific Islands Forum 2024).

Timor-Leste, Indonesia, Malaysia and the Philippines also support transboundary cooperation on shared values such as migratory marine species and threats including plastic pollution and illegal fishing. Australia has much to contribute to regional collaboration.

We participate in global and regional ocean observation efforts to inform decision-makers on climate change impacts, support the protection and restoration of coastal blue carbon ecosystems, and inform the management of coral reefs. Our collaboration in Antarctica and the Southern Ocean, including on science for ocean systems, is critical for understanding the impacts of climate change around the world, particularly for sea-level rise due to ice-sheet instability and threats to ocean ecosystem biodiversity.

In addition to continuing this important work, Australia has the opportunity to step-up its regional engagement, including by:

- approaching our partnerships and engagement based on a holistic approach, recognising the interconnections between climate change, biodiversity loss and pollution, and the impact on the ocean
- scaling-up support for sustainable ocean management to deliver improved resilience and adaptive capacity to climate change
- strengthening data-sharing and research and monitoring capacity to inform action to address transboundary issues
- strengthening two-way communication and sharing of knowledge and expertise, in particular on environmental impact assessments and marine protected areas to facilitate the ratification and implementation of the High Seas Biodiversity Treaty
- strengthening relationships between Australia's First Nations people and communities in our region
- encouraging and supporting countries, particularly those with emerging economies, to advance their transition to sustainable ocean economies, including through developing sustainable ocean plans or equivalent strategies, in line with their priorities and needs
- supporting inclusive and equitable engagement in international policies and meetings to ensure that everyone affected has a seat at the table and full participation in processes.

Summary of opportunities for collective national action

- Build on existing mechanisms and potentially establish new forums to drive agreement, cooperation and harmonisation between jurisdictions and sectors.
- Encourage and empower people outside of government to progress conversations and form partnerships to support their targeted needs.
- Collaborate on the development of a marine planning approach with agreed national high-level principles to guide implementation of jurisdictional frameworks.

- Boost international engagement on ocean priorities to support Australia’s global commitments, transboundary cooperation and shared regional priorities.

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Equity and inclusion

Proposed outcome: Benefits from ocean resources are shared and decision-making on how we use and manage the ocean is inclusive and fair for all Australians, now and for future generations.

First Nations perspective: Equity and inclusion in ocean management reflect the deeply held values of communal stewardship, ensuring that benefits from ocean resources are shared and decision-making processes are inclusive and reflective of the belief that we are all custodians of the earth, bound by a responsibility to care for each other.

Overview

The Ocean Panel identifies ocean equity as one of 5 critical areas of transformation required to achieve a sustainable ocean economy. According to the Ocean Panel, ‘a sustainable ocean economy should protect human rights, improve human wellbeing, stimulate inclusion and gender equity, and prioritise recognition, diversity and equal access to resources to provide fair opportunities consistent with sustainable development (Österblom, Wabnitz & Tladi 2020).

All Australians are influenced by or rely on the ocean in some way, from the role the ocean plays in the air we breathe and regulating our weather and climate, to the food we eat, essential goods that arrive by ship, and supporting productive and prosperous ocean industries.

In Australia, ocean equity considers how Australians are meaningfully included in decision-making that affects our ocean and the ocean economy; how their knowledge, views and rights are respected and acknowledged; and how we share the benefits that our ocean provides. This is particularly true for First Nations people, whose health and wellbeing and connection to culture are inextricably linked to ocean access and use. The ocean also connects us to our regional neighbours, and we must consider how our decisions affect those beyond our national jurisdiction.

Opportunities for collective national action

Ocean governance

Australia’s ocean economy is made up of multiple sectors, at various scales, distributed across our large ocean estate. Our ocean governance is complex. Coordination and inclusion are important considerations in decision-making on ocean policy and management.

There is growing interest to **enhance our ocean governance to embed equity principles in decision-making processes** and include the diverse perspectives and knowledge of First Nations people, women, youth and people in disadvantaged situations (see [Collaboration](#)). Increasing opportunities for all to equitably participate in decision-making for Australia’s ocean future and strengthening ocean literacy among the general public supports participation in ocean matters. Australia has a number of successful ocean citizen science programs and places where people can learn about First Nations connection to the ocean, our unique biodiversity and maritime history such as the Australian National Maritime Museum and the Western Australian Maritime Museum.

Best-practice decision-making processes should also **consider the connection between human health and wellbeing**. This can help address barriers to accessing the ocean for recreation, health and wellbeing benefits and cultural rights, identifying innovative solutions to enable access, and acknowledging that decisions on ocean use can affect the health and wellbeing of people and communities. As highlighted by the Ocean Panel, the ocean can deliver positive human health and wellbeing outcomes, including:

- providing medicines derived from biodiversity, new materials and energy sources, and inspiring technologies
- contributing to ending hunger and malnutrition
- providing recreation and promoting mental health
- supporting economic stability and equitable outcomes (Fleming et al. 2024).

As Australia's ocean-climate policies mature, ensuring they are inclusive and **consider the impacts of climate change on people and communities most vulnerable to climate change within our region** – including women and girls, First Nations people and Pacific Island countries – is crucial.

Empowering young people

Young people are the future beneficiaries of the ocean and proponents of Australia's Sustainable Ocean Plan to 2040 and beyond. Supporting them to engage in ocean sustainability discussions and decision-making is important. All Australians have an obligation to intergenerational equity by ensuring that the ocean we leave for future generations is clean, healthy and prosperous.

Young people have identified barriers to engaging with their ocean future such as financial and resource challenges, skills and confidence to speak up and be listened to by decision-makers, and ocean literacy in formal and informal education settings. Young people want to see decision-making processes better designed to support their engagement.

The Australian Government has developed [Engage! A strategy to include young people in the decisions we make](#). This sets out how the Australian Government will recognise and listen to young people, empower young people to advocate and engage with government, and support government to work with young people. The strategy will support the ongoing engagement of young people with ocean policy and decision-making. **Establishing ocean youth forums or advisory groups** can further empower young people to be advocates for the ocean and engage in the development of ocean policy.

Equity in the ocean economy workforce

In an expanding ocean economy, addressing gender equity is important to recruit more marine professionals, diversify the contributions to our ocean economy and achieve our global ocean sustainability goals.

Globally, women are under-represented in the ocean economy. For instance, women represent just 1.2% of the seafarer workforce worldwide (BIMCO & International Chamber of Shipping 2021). The International Maritime Organization is aiming to improve this through gender equity and opportunities for women and girls to participate in the maritime sector. The Australian Maritime Safety Authority is taking action domestically to support the International Maritime Organization by investing in a range of measures to remove barriers to workplace participation and build an inclusive culture for all women through domestic and international initiatives.

It is difficult to quantify the number of women employed in ocean sectors in Australia because data is not currently collected, analysed or reported in a way that enables a national story to be told. To address this, it will be important to **ascertain the quantity and extent of women employed in ocean sectors** through improving the access and availability of quantitative and qualitative data.

To support a growing ocean economy into the future, attracting young people to careers in the ocean economy requires visible pathways to be in place supported by ocean literacy and training programs (see [Knowledge](#)). This includes providing more opportunities for women and girls, and First Nations people.

As the ocean economy changes and expands, employment opportunities will shift. This will uncover new opportunities for up-skilling and career shifts but will also create redundancies in some sectors. **Supporting employment transition pathways and re-skilling affected industries** are necessary to ensure a just transition and skill availability in the ocean economy. The Australian Government's decommissioning roadmap will consider how Australia can create jobs and reskill existing workers as offshore oil and gas projects are decommissioned (King 2023).

Transnational crime, such as illegal, unreported and unregulated fishing in neighbouring waters and acts of modern slavery (including fair worker pay and conditions), are a concern to developing a sustainable and equitable ocean economy. To support a sustainable ocean economy, we must continue to **address transnational crime** in ocean-related industries and along ocean-related supply chains.

First Nations equity

First Nations people have cared for sea Country for thousands of generations, yet have faced ongoing challenges to equitable access and use of the ocean since colonisation. **Removing barriers for First Nations people, including youth, to care for Country, access resources and engage with the ocean** through research and knowledge-sharing is essential. New uses of the ocean must consider the sharing of real and tangible benefits from the use of ocean resources with First Nations people.

First Nations youth are seeking measures that would support them to be leaders in their community and in national decision-making, in addition to greater support to establish and maintain substantial employment and economic opportunities on Country. **Empowering First Nations youth to become leaders and future decision-makers in their community and in national decision-making** will support First Nations advocacy and participation in Australia's ocean future.

Summary of opportunities for collective national action

- Work to improve ocean governance so equity principles are embedded in decision-making.
- Strive for decision-making to consider the connection between human health and wellbeing and ocean health, where relevant.
- Ensure future ocean-climate policies are inclusive and consider people and communities most vulnerable to climate change within the region.
- Establish ocean youth forums or advisory groups to empower young people to be advocates for the ocean and engage with government on the development of ocean policy.
- Collect data across ocean-related sectors to understand and improve women's employment in ocean-related sectors.
- Support a just transition of the workforce as the ocean economy is decarbonised.
- Continue to address transnational crime including illegal, unreported and unregulated fishing, and modern slavery.
- Ensure access to marine resources for First Nations people for traditional use and ocean businesses.
- Empower First Nations youth to become leaders and future-decision-makers in their community and in national decision-making.



Proposed outcome: We have adequate baseline and current-state data on key ocean issues and systems to support conservation and sustainable use actions; a culture of sharing ocean knowledge more freely; and a strong understanding within the broader community of the value of our ocean and how to engage with it sustainably.

First Nations perspective: Knowledge of the ocean is both a cherished trust and a communal responsibility, deeply embedded in our cultural and spiritual existence. By embracing a culture of freely sharing ocean knowledge, strategies are guided by the whispers of our ancestors and the lessons of the land.

Overview

To address the challenges facing our ocean and to capitalise on the opportunities of a sustainable ocean economy, we first need to understand the ocean environment and threatening processes such as climate change, pollution and cumulative impacts. Given the scale of Australia's ocean estate and the rate of change in our ocean economy, there are many gaps in ocean knowledge, limiting the ability for decision-makers to react quickly and plan for the future.

The UN General Assembly declared 2021 to 2030 as the [UN Decade of Ocean Science for Sustainable Development](#). The vision of the Ocean Decade is 'the science we need for the ocean we want' (UNESCO n.d.), a value that should be upheld in Australia's own planning for a sustainable ocean future.

Opportunities for collective national action

Baseline data, mapping, monitoring and research

Australia's monitoring, mapping and ocean accounting programs – such as the National Ocean Ecosystem Accounts, AusSeabed initiative, Reef Integrated Monitoring and Reporting Program, Integrated Marine Observing System (IMOS) and our research vessels – support an understanding of our marine environment.

Only 25% of Australia's vast seafloor estate, however, is currently mapped in sufficient detail to inform the sustainable management and use of marine resources (Picard 2024). Further work is needed to improve our understanding of ocean ecosystems, the seabed and underwater cultural heritage, including submerged seascapes and wrecks.

IMOS's *State and trends of Australia's ocean report 2019* addresses a gap in research and reporting for time-series ocean data (Richardson et al. 2020). The report highlights the importance of initiating such monitoring and reporting efforts because previously many of these indicators were not available.

Further data collection and synthesis, mapping and monitoring will help develop a comprehensive understanding of the ocean and its challenges and support Australia in upholding knowledge-sharing commitments and international obligations. Access to additional information on how the ocean and businesses may be affected by threats such as climate change will support growing Australia's ocean economy and support businesses to consider how they may need to adapt.

Scaling-up applied research on ocean ecosystems and ecosystem services is needed to fill key gaps in knowledge, advance innovation and technology, and realise more opportunities and at larger scales for the ocean economy.

Establishing national marine baseline, mapping and long-term research and monitoring programs, including in marine parks, would help Australia better manage our marine environment, and cultural and heritage values. It would also support **monitoring of the effectiveness of actions taken**, inform long-term planning, develop risk assessments and underpin faster and more integrated decision-making as ocean environments change and our ocean economy grows. Taking a coordinated approach allows for the scale of Australia's ocean estate, as well as the challenges of conducting research in remote areas and across multiple bespoke and regional programs, to be considered.

There is also an opportunity to expand the development of ocean accounts to support evidence-based decision-making, including to consider social, cultural and wellbeing benefits in addition to economic benefits.

Stakeholders have raised the need for **better national coordination of research priorities, including data needs and standards**, to support the sustainable management of Australia's ocean economy, reduce duplication of effort and ensure research is being focused where it is needed most.

The National Marine Science Committee's *National Marine Science Plan 2015-2025* outlines the science needed to provide the knowledge, technology and innovation to develop and grow our ocean economy (NMSC 2015). This strategy is being updated and provides an opportunity to enhance alignment of our ocean knowledge needs domestically and with line-of-sight to our region, to continue to support the sustainable growth and management of our national and shared ocean.

Considering the capacity of Australia's marine infrastructure facilities and research vessels is essential to ensure they continue to be able to support Australia's future research and data needs.

National data-sharing and priority-setting

Given the scale of the ocean and limited resources, it is important for ocean users and managers to collaborate on data collection and sharing to improve our understanding and efficiencies. For example, IMOS has partnered with fishers and the Fisheries Research and Development Cooperation to develop [Fisheries Ships of Opportunity](#) (FishSOOP) to collect real-time ocean data from commercial trawl equipment opportunistically as they travel and undertake everyday fisheries operations.

Data-sharing across sectors, industries and jurisdictions reduces redundancies, inefficiencies and gaps in research and knowledge. Data-sharing improves information availability for rapid and informed decision-making and planning. A priority under the [National Fisheries Plan 2022-2030](#) is that data-sharing agreements are implemented across jurisdictions and with sectors as appropriate.

Sharing knowledge globally and regionally supports our understanding of transboundary threats to the ocean and fosters a collaborative approach to solutions. Appropriate data-sharing supports working towards the [National Agreement on Closing the Gap](#). Priority Reform Four focuses on sharing access to data and information at a regional level by committing governments to enabling sharing of location-specific data and information for Aboriginal and Torres Strait Islander communities and organisations (Closing the Gap 2020).

Ensuring information is easily accessible includes having fit-for-purpose data products with easy access to existing data, including where it is stored. Data users have encouraged the development of connected national datasets and data exchanges to help enable access to significant amounts of detailed local data that may otherwise be collected and held by individual organisations.

The [Australian Ocean Data Network](#), [AusSeabed](#) and [Seamap Australia](#) are key examples of existing marine data networks collecting and managing data at a large scale. There is also current work aiming to develop an exchange for Australian fisheries data.

The [Reef 2050 Long-Term Sustainability Plan](#), jointly delivered by the Australian and Queensland governments, includes the Reef Integrated Monitoring and Reporting Program to drive coordination and interoperability between existing monitoring programs, fill knowledge gaps and agree on reef monitoring needs. [Tasmania's Marine Atlas](#) aims to collate and make available information about the state's waters to support the sustainable management of the Tasmanian marine environment.

An **integrated national platform supporting ocean data-sharing** may improve the accessibility of data for decision-making and help reduce duplication of effort. Alignment of national standards for monitoring and data collection can also significantly improve the interoperability of data shared, and provides consistent and defensible methods for collection. Standards should consider the broad diversity of ocean values and not restrict the collection of unique datasets. A current example of this is the National Environmental Science Program's [suite of marine sampling field manuals](#) for monitoring Australia's marine waters. Interpretation of data – and presentation of data in a form that is easy for decision-makers to understand and use – is also essential.

First Nations Knowledge

First Nations-led marine research projects, priority-setting and co-designed research is expanding, and with further effort will broaden understanding of our marine environment and deliver broader benefits. For example, by partnering and collaborating with western scientists and research institutions as part of research undertaken on Country, First Nations communities will develop marine monitoring skills and sharing of knowledge.

Principles of free, prior and informed consent, and valuing, respecting and appropriately accessing First Nations Knowledge (also referred to as Indigenous Ecological Knowledge or Traditional Ecological Knowledge) are key underpinning settings for improving First Nations-led research agendas and understanding the issues and challenges affecting sea Country.

Increasing First Nations-led research and considering Indigenous Ecological Knowledge alongside western science would support Australia's comprehensive understanding of our marine environment. This could be achieved through better engagement and collaboration with First Nations people about Indigenous Ecological Knowledge and increased First Nations-led projects on Country, including valuing and acknowledging First Nations involvement and contributions to science.

Such projects should support First Nations people to decide on where, when and how they want to see their knowledge used and known within policy and practice, to maintain data sovereignty and respect Indigenous Cultural and Intellectual Property. Existing examples include:

- The Australian Institute of Marine Science (AIMS) builds partnerships to achieve genuine marine science relationships with First Nations people and establish two-way knowledge-sharing of the marine environment.
- Parks Australia has established a set of Indigenous engagement principles to engage in collaborative management in sea Country with First Nations people to better manage Australian Marine Parks.
- The [Reef 2050 Traditional Owner Implementation Plan](#) is led and owned by Reef Traditional Owners and integrates the priorities and aspirations of First Nations people in the *Reef 2050 Plan*.

In supporting this, there is a need to elevate the awareness and importance of First Nations Knowledge, perspectives and tribal science to support the future sustainability of sea Country through education and advocacy to non-First Nations scientists and experts. Further support may reduce barriers and develop pathways for First Nations people to engage in coastal and ocean science, such as through training pathways and upskilling, and investment in youth in science and careers on Country, including a focus on youth in intergenerational knowledge-sharing. Initiatives such as the Northern Territory's [Learning on Country](#) program delivers culturally appropriate education and training to remote students with a mix of western and Indigenous knowledge systems.

Some First Nations people are calling for tailored, flexible and culturally appropriate higher education and training programs for First Nations and local communities, such as exploring options for recognition for prior learning and microcredentials for First Nations people working in the marine environment.

Innovation and technology

Innovation and technology can help gather information quickly, support management and monitoring of coastal and marine ecosystems, and accelerate emerging low- and zero-emissions technologies, alternative fuels and other solutions to climate challenges. Complementary research will likely be essential to understand unknown and potential unintended impacts of these climate solutions.

An example of innovative technology is the ReefCloud platform, co-developed by AIMS. ReefCloud uses machine learning and advanced analysis to rapidly extract and share coral reef data in real time, enhancing coral reef monitoring and management in Australia and countries in our region such as Palau, Fiji, Solomon Islands, Vanuatu and the Maldives. Another example is Parks Australia's partnership with the Minderoo Foundation to track threatened species and monitor the health of Australian Marine Parks using environmental DNA, a rapid, cost-effective and safe technology to collect genetic material.

The **development of innovative solutions and technologies** can improve our ability to collect and share data rapidly, enhance our understanding of the ocean and help address unique and emerging challenges.

Ocean literacy

Ocean literacy is an essential foundation for investment in nature-positive actions by helping ‘understand the ocean's influence on us and our influence on the ocean’ (UNDESA n.d.). It supports the development of effective policy considering Australia’s diverse marine interests, secures a supply chain of knowledge and skills to meet the growing needs of the ocean economy, and empowers people to care for the ocean.

Although there are several ocean literacy programs across Australia, including [SeaWeek Australia](#), [Future Seas 2030](#) and regional programs such as [Reef Guardian Schools](#), some educators have noted that ocean literacy can be under-represented in classroom learning, resources and programs within relevant priorities of the Australian Curriculum, and teachers seek additional training or resources to effectively deliver it. The development of **educational programs, resources and educator support** could help elevate ocean literacy across the Australian Curriculum.

There are also opportunities to identify future skills and research needs of our ocean economy, and to proactively support young people in pursuing these careers. This could be delivered through leadership and mentorship programs, developing pathways to ocean economy roles in schools, vocational training and tertiary education institutions; providing more opportunities for women and girls and First Nations people in ocean careers; and encouraging marine science tertiary education and training in students that is quantitative and cross disciplinary, and aligns with the needs of industry and governments (NMSC 2015).

Maintaining and expanding programs that connect communities with the ocean, including formal and informal education programs, will further increase stewardship of the ocean and improve ocean literacy for all Australians.

Summary of opportunities for collective national action

- Establish national marine baseline, mapping and long-term research and monitoring programs.
- Agree approaches to setting national ocean science and research priorities, including data needs and standards.
- Move towards a national marine park monitoring program to monitor the effectiveness of protected and conserved areas.
- Develop an integrated national platform to support ocean data-sharing.
- Increase First Nations-led research and consider and respect First Nations Knowledge alongside western science.
- Support the development of innovative solutions and technologies.
- Support the elevation of ocean literacy through educational programs, resources and educator support.
- Maintain and expand programs that connect communities with the ocean.

Proposed outcome: We have a financial system that actively and positively contributes to the protection and restoration of ocean ecosystems and sustainable ocean activities, and is based on clear and internationally aligned standards and frameworks.

First Nations perspective: We all recognise the ocean's economic significance, but it is also our moral duty to ensure that its value is not measured in currency alone. Our traditions, stories and ceremonies also influence its wealth.

Overview

Ocean finance plays an important role in supporting the transition to a sustainable ocean economy by directing investments to advance ocean health and address key threats. Sustainable ocean activities, however, are globally underfunded. Of the 17 Sustainable Development Goals, Goal 14 Life Below Water has received the least funding globally to date (UNDP 2022). Government funding plays a critical part in supporting the transition to a sustainable and nature-positive ocean economy, however the scale of funding required is too great for governments to meet alone, meaning private-sector investment is equally important. Further work is required to help build capability in the private sector and address barriers to investment and the uptake of nature-related reporting.

Ocean and coastal ecosystems provide essential ecosystem services and benefits, and contribute significantly to global and national economies. An Ocean Panel report found that the ocean is a positive investment that delivers good returns. For every US\$1 invested in healthy ocean actions such as mangrove conservation and shipping decarbonisation, US\$5 will be realised over the next 30 years (Konar & Ding 2020). Alternatively, continued declining ocean health could cost the global economy more than US\$400 billion annually by 2050, and up to US\$2 trillion by 2100 (Konar & Ding 2020).

Opportunities for collective national action

Investment in sustainable ocean activities

Private-sector investment in nature and biodiversity is gaining momentum globally and within Australia and has a significant role to play in the transition to nature positive. Under international agreements on the ocean, climate and biodiversity, Australia has existing obligations to finance actions that protect, preserve and restore the ocean. For example, the Global Biodiversity Framework's global targets include mobilising at least US\$200 billion per year by 2030 in public and private finance for nature.

Collaboration between government and the private sector is essential in shifting financial flows towards sustainable ocean management and re-focusing investments in ocean-based industries to sustainable pathways. Australia is committed to demonstrating leadership in this transition and supporting the private sector along the way. Examples include hosting the 2024 Global Nature Positive Summit, our engagement in the Taskforce on Nature-related Financial Disclosures (TNFD), and establishing the Nature Finance Council, the Nature Repair Market and the Blue Carbon Accelerator Fund.

Building on these important initiatives, opportunities to further support financing of sustainable ocean actions include:

- implementing new, or expanding existing, programs to support start-ups seeking to find innovative and novel solutions to ocean challenges as they commercialise and grow their companies
- considering how subsidies are used in incentivising sustainable ocean outcomes.

There is currently no strategic framework for investing in sustainable ocean activities in Australia. This makes it challenging for sustainable ocean activities to be funded in the context of competing priorities, and risks impeding private-sector investment.

It also makes long-term planning and management challenging, particularly for community- and First Nations-led initiatives where future funding certainty is essential to establish and grow sustainable business and stewardship activities. These challenges could be addressed by developing a **national investment prospectus for a nature-positive ocean** including identifying opportunities for, and barriers to, private-sector investment. This and broader policy approaches should consider innovative financial instruments, including blue bonds and blue loans.

Private-sector capability

Sustainable finance has grown significantly in the last decade. The capability developed by the financial sector to manage the financial risks of climate change provides a basis for the management of nature risks, including those associated with the ocean. Continuing to support the development of data, standards and on-ground actions will be critical to driving investment in a sustainable ocean at scale.

The International Sustainability Standards Board has produced a set of standards for disclosing sustainability and climate-related risks and opportunities. Australia has committed to adopting mandatory climate reporting in line with the board, as far as practicable, with reforms proposed to commence 1 January 2025. Companies reporting on carbon and sustainability alongside financial statements encourage a market shift towards sustainable action and investment.

In 2023, a [case study report package](#) was delivered to assist organisations undertaking nature-related risk and opportunity assessments aligned with the TNFD framework. More can be done, however, to **build private-sector capability to assess and disclose nature-related risks and opportunities**, including:

- education and awareness building programs
- exploring opportunities to set a common language for sustainable ocean investments through the Australian Sustainable Finance Taxonomy
- improving data accessibility, interoperability transparency
- developing other practical tools and resources for industry.

Australia was an early funder of the TNFD and engaged in the Stewardship Council throughout the development of its global risk management and disclosure framework to support organisations to incorporate nature into their strategic planning, risk management and decision-making and thereby support a shift in financial flows towards nature-positive outcomes.

It is important that Australia continues to **cooperate with like-minded countries** to garner support for the TNFD framework, nature-based solutions and private investment into protecting, managing and repairing the environment. Developing consistent global standards, aligning sustainable finance frameworks across different jurisdictions and a sound regulatory environment will be essential to attract greater domestic and international funding sources.

Summary of opportunities for collective national action

- Explore developing a national investment prospectus for a nature-positive ocean including identifying opportunities for, and barriers to, private-sector investment.
- Build private-sector capability to assess and disclose nature-related risks and opportunities.
- Continue cooperation with like-minded countries to garner support for the Taskforce on Nature-related Financial Disclosures framework, nature-based solutions and private investment into protecting, managing and repairing the environment.
- Continue cooperation with like-minded countries to develop consistent global standards and alignment of sustainable finance frameworks across different jurisdictions.

Appendix A: International commitments

Climate action

- [Blue Carbon Accelerator Fund](#)
- [Global Offshore Wind Alliance](#)
- [Green Shipping Challenge](#)
- [International Partnership for Blue Carbon](#)
- [Mangrove Alliance for Climate](#)
- [Paris Agreement](#) net zero target
- [Singapore-Australia Green Economy Agreement](#)
- [United Nations Framework Convention on Climate Change](#)
- [Zero-Emission Shipping Mission](#)

First Nations

- [United Nations Declaration on the Rights of Indigenous Peoples](#)

Protect and restore

Marine pollution, including plastics

- [Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal](#) (Basel Convention)
- [Commonwealth Clean Ocean Alliance](#)
- [Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter](#) (London Convention and London Protocol)
- [High Ambition Coalition to End Plastic Pollution](#)
- [International Convention for the Prevention of Pollution from Ships](#) (MARPOL)
- [New Plastics Economy Global Commitment](#) (Ellen MacArthur Foundation and United Nations Environment Programme)
- [Pacific Ocean Litter Project United Nations Environment Programme Clean Seas campaign](#)

Marine species and resources

- [Convention on Biological Diversity Kunming-Montreal Global Biodiversity Framework](#) (GBF)
- [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES)
- [Convention on the Conservation of Migratory Species of Wild Animals](#) (CMS, Bonn Convention)

- [Convention on Wetlands of International Importance Especially as Waterfowl Habitat](#) (Ramsar Convention)
- [East Asian Australasian Flyway Partnership](#)
- [Migratory bird agreements](#) (MBAs) (Japan-Australia MBA (JAMBA), China-Australia MBA (CAMBA), Republic of Korea-Australia MBA (ROKAMBA))
- [Agreement on the Conservation of Albatrosses and Petrels](#)
- [International Convention for the Regulation of Whaling](#) and [International Whaling Commission](#)
- [International Seabed Authority](#)

Cultural and natural heritage

- [Convention Concerning the Protection of the World Cultural and Natural Heritage](#) (World Heritage Convention)

Coral reefs

- [Commonwealth Blue Charter](#)
- [Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security](#)
- [International Coral Reef Initiative](#)
- [United Nations Decade of Ecosystem Restoration](#)

Antarctic

- [Antarctic Treaty](#)
- [Convention on the Conservation of Antarctic Marine Living Resources](#)
- [Convention for the Conservation of Antarctic Seals](#)
- [East Antarctic Marine Protected Area Proposal](#)
- [Protocol on Environmental Protection to the Antarctic Treaty](#) (Madrid Protocol)

Restoration

- [United Nations Decade on Ecosystem Restoration](#)

Industry

Fisheries

- [Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal Unreported and Unregulated Fishing](#)
- [Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas](#)
- [Asia-Pacific Economic Cooperation Oceans and Fisheries Working Group](#) (OFWG)
- [Asia-Pacific Fishery Commission](#)
- [Code of Conduct for Responsible Fisheries](#)

- [Commission for the Conservation of Southern Bluefin Tuna](#)
- [Indian Ocean Tuna Commission](#)
- [Pacific Islands Forum Fisheries Agency](#)
- [South Pacific Regional Fisheries Management Organisation](#)
- [Southern Indian Ocean Fisheries Agreement](#)
- [United Nations Fish Stocks Agreement](#)
- [Western and Central Pacific Fisheries Commission](#)

Ports and shipping

- [Australia-Singapore Low Emissions Technology \(ASLET\) maritime initiative for marine port operations](#)
- [Clydebank Declaration for Green Shipping Corridors](#)
- [International Maritime Organization](#)

Collaboration

Global ocean management and sustainable use of resources

- [Food and Agriculture Organization of the United Nations \(FAO\)](#)
- [Global Ocean Alliance](#)
- [High Ambition Coalition for Nature and People](#)
- [High Ambition Coalition on Biodiversity Beyond National Jurisdiction](#)
- [High Level Panel for a Sustainable Ocean Economy \(Ocean Panel\)](#)
- [High Seas Biodiversity Treaty \(Biodiversity Beyond National Jurisdiction\)](#)
- [International Seabed Authority](#)
- [Ocean Conservation Pledge](#)
- [United Nations Convention on Biological Diversity \(CBD\)](#)
- [United Nations Convention on the Law of the Sea](#)

Regional collaboration

- [Network of Aquaculture Centres in Asia and the Pacific](#)
- [Arafura and Timor Seas Ecosystem Action Program \(ATSEA\) Strategic Action Programme](#)
- [Asia-Pacific Economic Cooperation](#)
- [Association of Southeast Asian Nations \(ASEAN\)](#)
- [Declaration on the Continuity of Statehood and the Protection of Persons in the Face of Climate Change-Related Sea-Level Rise](#)
- [Declaration on Preserving Maritime Zones in the Face of Climate Change-Related Sea-Level Rise](#)

- [Indian Ocean Rim Association](#)
- [Noumea Convention for the Protection of Natural Resources and Environment of the South Pacific Region](#) (Noumea Convention)
- [Office of the Pacific Ocean Commissioner](#)
- [Pacific Community](#) (SPC)
- [Pacific Islands Forum](#)
- [Secretariat for the Pacific Regional Environment Programme](#)

Equity and inclusion

- [International Labour Organization](#) conventions
- [United Nations Declaration on the Rights of Indigenous Peoples](#)

Knowledge

- [Coral Research & Development Accelerator Platform](#) (through G20)
- [Global Coral Reef Monitoring Network](#)
- [Global Ocean Accounts Partnership](#)
- [Global Ocean Observing System](#)
- [International Convention for the Safety of Life at Sea](#)
- [United Nations Decade of Ocean Science for Sustainable Development](#)

Finance

- [Ocean Risk and Resilience Action Alliance](#)
- [Taskforce on Nature-related Financial Disclosures](#)
- [World Trade Organization Agreement on Fisheries Subsidies](#)

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