Sustainable Oceans and Coasts

Western Australia Perspectives

Sustainable oceans and coasts

In 2020, the United Nation declared this coming decade as the 'United Nations Decade for Ocean Science for Sustainability.' Their vision for the coming decade is underpinned by participative and transformative values:

> *"The Decade is embracing a participative and transformative process so that scientists, policy makers, managers, and service users can work together to ensure that ocean science delivers greater benefits for both the ocean ecosystem and for society.*
>
> *This Decade will be designed to facilitate global communication and mutual learning across research and stakeholder communities. It will work to meet the needs of scientists, policy makers, industry, civil society and the wider public, but it will also support new, collaborative partnerships that can deliver more effective science-based management of our ocean space and resources."*[1]

Critically, the UN vision and activities that underpin it recognise the interconnectedness of land and sea. For Australia, explicit recognition and appreciation of this connectedness of our oceans and coasts is essential for our future prosperity. The oceans surrounding Australia are vast and comprise a multitude of economic, social, environmental, and cultural interests, and a majority of our population lives in coastal zones. Indeed, what we do on inland Australia has consequences for our coasts and oceans; our waterways flow into our coastal and ocean space and are important connectors of land and sea.

In light of this, in May 2018 the Future Earth Australia Steering Committee elected that the 2020 focus for the Future Earth Australia secretariat and Future Earth network be a ten-year national strategy for Australia's sustainable oceans and coasts.

The strategy will outline the steps we need to transform how we think about, govern, and protect oceans and coasts across Australia. Importantly, we take a systems approach to transforming oceans and coasts, as many sectors will need to work together to achieve our goal: social services, tourism, industry, land use experts, ocean and coastal researchers, and decision makers from all levels of government. This Outcomes Paper reports on the deliberations of a broad cross section of sectors in Western Australia.

The importance of a national strategy

Australian oceans and coasts are threatened by the fragmented way we manage and govern the ecological and social processes that connect them; we do not have a clear path forward to ensure that these areas are healthy and resilient. The national strategy will outline clear, actionable pathways for achieving healthy and resilient oceans and coasts for all of Australia, incorporating common themes from the series of consultative workshops held by Future Earth Australia throughout 2020.

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Context setting

Prior to the online workshop, an introductory video was circulated to all participants. This video set the scene for the workshop, providing local perspectives on Western Australia's oceans and coasts from experts in the field. Speakers were asked to reflect upon their vision for sustainable oceans and coasts in Western Australia, the unique features of Western Australia's oceans and coasts, and how their expertise guides their visions and goals for the future of oceans and coasts in Australia. The speakers were Dr. Abbie Rogers of the University of Western Australia, Wayne Walters of Perth NRM, and Andrew Outhwaite of For Blue, and we thank them for their thoughtful contributions.

Western Australia workshop

On 23 September 2020, Future Earth Australia hosted the sixth in a series of online consultation workshops in each state and territory across the Nation for its Oceans and Coastal Sustainability initiative.

35 attendees in Western Australia contributed to the discussion, representing:

- the research sector, including Curtin University, the University of Western Australia, Edith Cowan University, and the Western Australian Marine Science Institution,
- Traditional Owners and managers across Country,
- all levels of government working across fisheries, government peak bodies, and planning,
- industry and business, particularly in energy, aquaculture, and consulting,
- civil society and community, namely natural resource management groups, philanthropy, and advocacy groups.

This document summarises discussions held around the fundamental elements, both from a Western Australian perspective and pertaining to Western Australia and Australia more broadly, which will define the National Strategy: vision, knowledge, institutional design and governance, community engagement, and implementation.

Vision

Participants were asked to consider their vision for a sustainable future for oceans and coasts in Western Australia and the nation. They entered applicable words into an online poll to generate a word cloud, then discussed the thought processes behind those visions.

Vision for Western Australia

West Australians were ambitious in their vision for oceans and coasts, seeking expansiveness and inclusivity. One participant suggested the term 'leading', as they were enthusiastic for Western Australia to take leadership in the blue economy in the Indian Ocean. 'Abundance' was offered as an aim for blue economy and an improvement to sustainability.

Discussion also coalesced around the need to have a comprehensive understanding and engagement with the many uses and aspirations associated with oceans and coasts by different people and the interplay between these, so that we have a good view of the consequences of our decisions and actions (particularly where tradeoffs are made). Participation by the broader community was seen as critical to achieving sustainability, and communication to encourage that participation was similarly seen as having a central role.

Participants discussed the fundamental need to integrate the coastal zone and forge a holistic vision for shared goals for oceans and coasts. This will involve managing and working in nested scales and creating a way for different sectors and people to contribute to the vision at a level that makes sense to them. For oceans and coasts to be governed in an integrated manner, it was emphasised that we require a better working knowledge of the cumulative effects of different projects across time and space.

What is your vision for the future of oceans and coasts in Western Australia by 2030?

What is your vision for the future of oceans and coasts in Australia by 2030?

National vision

Participants focused their discussion on their desire for national leadership and integration between government levels, as well as a culture that cares for oceans and coasts as part of a shared identity.

One attendee expressed the view that we are reaching limits in our ability to govern ocean and coastal areas well, and that greater political buy-in is needed to attract resources and integration across governments. Another participant pointed to the ongoing need for a governance framework that fully integrates the three levels of government. Attendees expressed frustration that several reports have made these suggestions previously, but no changes have been made.

Participants suggested that national leadership should maximise the high-impact work already occurring in communities across the country and support local governments that carry a large proportion of the load. A national strategy, therefore, would be most effective if it could establish a clear, comprehensive picture of community expectations for ocean and coastal management, and also create a framework to chart political-viable pathways that stakeholders can work on together.

Some attendees spoke to the need for a national culture of caring for oceans and coasts as part of a shared identity. They suggested that this culture could be grown by encouraging behavioural changes individually and collectively, through activities such as festivals. Similarly, schools, conversation groups, and other community groups could be valuable partners for embedding stewardship values into their activities. For instance, some initiatives in WA like Adopt-a-Spot and Adopt-a-Beach involve schools adopting a beach or waterway and learning and caring for the area, including learning about Indigenous names, knowledge, and totems. Engaging with children across the nation to encourage their sense of stewardship for healthy oceans and landscapes is a priority.

'Biodiverse' was offered as a vision for protection that is based in a love for species and places, rather than a negative vision that focuses overwhelmingly on ecosystem and species decline. Ranger groups were put forward as an essential part of caring for the coast, particularly in Western Australia due to its vast tracts of sparsely populated coastline.

Knowledge

Key points:

- There is strong demand for the enabling of data sharing through a national information platform
- Indigenous knowledge and perspectives need to play a more central role in management and decision making
- Baseline data on environmental change and species is required, along with a better understanding of the social and cultural values relating to the coast and sea over time.

Western Australian participants pointed to issues of accessibility and consolidation of knowledge as some of the most pressing issues for oceans and coasts. This was couched in a view that while there are significant knowledge gaps, for example around baseline data for understanding how these systems are changing, we need to be careful to avoid mistaking implementation gaps for knowledge gaps. The only way to promote and maintain healthy, sustainable, and productive oceans and coasts will be through action, so this should be the priority when considering if we need a new piece of information.

A major priority for many attendees was making existing data and information accessible to a wide range of users. They suggested that a possible solution could be an information platform or knowledge database that is overseen by the Commonwealth government and accessible across sectors.

Another widely held view was that First Nations perspectives, approaches, and knowledge must play a more central role as a credible source of knowledge about oceans and coasts, as well as a prominent voice when decisions are being made. Indigenous people have been caring for Country for over 60,000 years, and this must be acknowledged and respected, and space must be made to allow their solutions to be put into action. To do this well, local Indigenous people should be partners in deciding local and regional governance, and Indigenous rangers should be consulted and involved in these processes as well. Furthermore, Indigenous voices should be institutionalised as a central pillar of knowledge; the importance of Indigenous knowledge is increasingly recognised, for example, in the 2020 Review of the Environment Protection and Biodiversity Conservation Act.

Attendees in Western Australia also pointed to the lack of scenario planning and forecasting around ocean and coastal futures. This is seen as a core activity undertaken by businesses and a central tenet of decision making, and should be similarly important both nationally and on a state-by-state basis.

Participants expressed a need for a more comprehensive understanding of the social and cultural values that communities, and the groups that compose them, have for oceans and coasts. This understanding would encompass both a sense of how people value coasts and oceans over time, and a knowledge of how people react to certain issues, such as coastal retreat. Since economic frameworks are generally not good at capturing intangible cultural values, more information is needed on the drivers and motivations for how different groups use the coast and oceans. The community holds important knowledge for powering activities that we have failed to capture, but should work to integrate moving forward.

A key knowledge gap identified by participants was the lack of baseline data about species and environments in oceans and coasts, along with the processes of change affecting these areas such as pollution and climate change. Without baseline data, it is difficult to have a realistic grasp of the rate of change and its causes, as well as to determine proper interventions. To build this baseline data, it was suggested that research should integrate more information from deep time, move towards an interdisciplinary model that includes, for instance, organic and inorganic geochemistry, palynology, biology, and paleogenomics, and involve collaboration across the private and public sector entities that hold sediment cores for analysis.

There was a view that we have been working to propagate a sustainable relationship between our human societies and ocean and coastal systems for considerable time, and that it would be highly

effective to compile past approaches, successes, and failures so as to avoid reinventing the wheel and wasting time in devising solutions for future.

In terms of specific emerging areas of interest that warrant future attention, participants spoke of the need to understand:

- The development of oxygen minimum zones around the Western Australian coastline
- The phenomena that define marine connectivity, such as how water moves
- Coastal, marine, and ocean values
- Climate change effects on marine and coastal systems.

Institutional design and governance

Key points:

- **All levels of government play integral roles and must be better coordinated to govern oceans and coasts as an integrated system; while there are some measures and structures to coordinate work between and across governments, there is not enough political will to make coordination a priority**
- **At the state level, we would benefit from a body dedicated to ocean and coastal governance to coordinate activity across departments, invite collaboration with stakeholders and community, and gather the latest information**
- **Any governance improvements must systematically make space for Indigenous voices, as Indigenous approaches to integrating Land and Sea Country have important lessons for governance.**

Participants discussed governance of oceans and coasts in terms of its complexity, as it involves a wide range of stakeholders and portfolios across government and between jurisdictions. Activities across government should therefore be coordinated with stakeholders and communities. To make this a priority, we must build greater political will.

To begin, Western Australians pointed to the need for governance to be guided by a clear set of priorities that spell out a clear vision for success. Terms such as 'sustainability' and 'productivity' can have multiple meanings, and therefore must be defined to provide clear direction. Participants felt that a nationally consistent approach is sorely needed to support negotiation of contested issues at a more local or regional level. Without a proactive approach to seizing opportunities together, conflict is likely to frustrate progress in ocean and coastal governance.

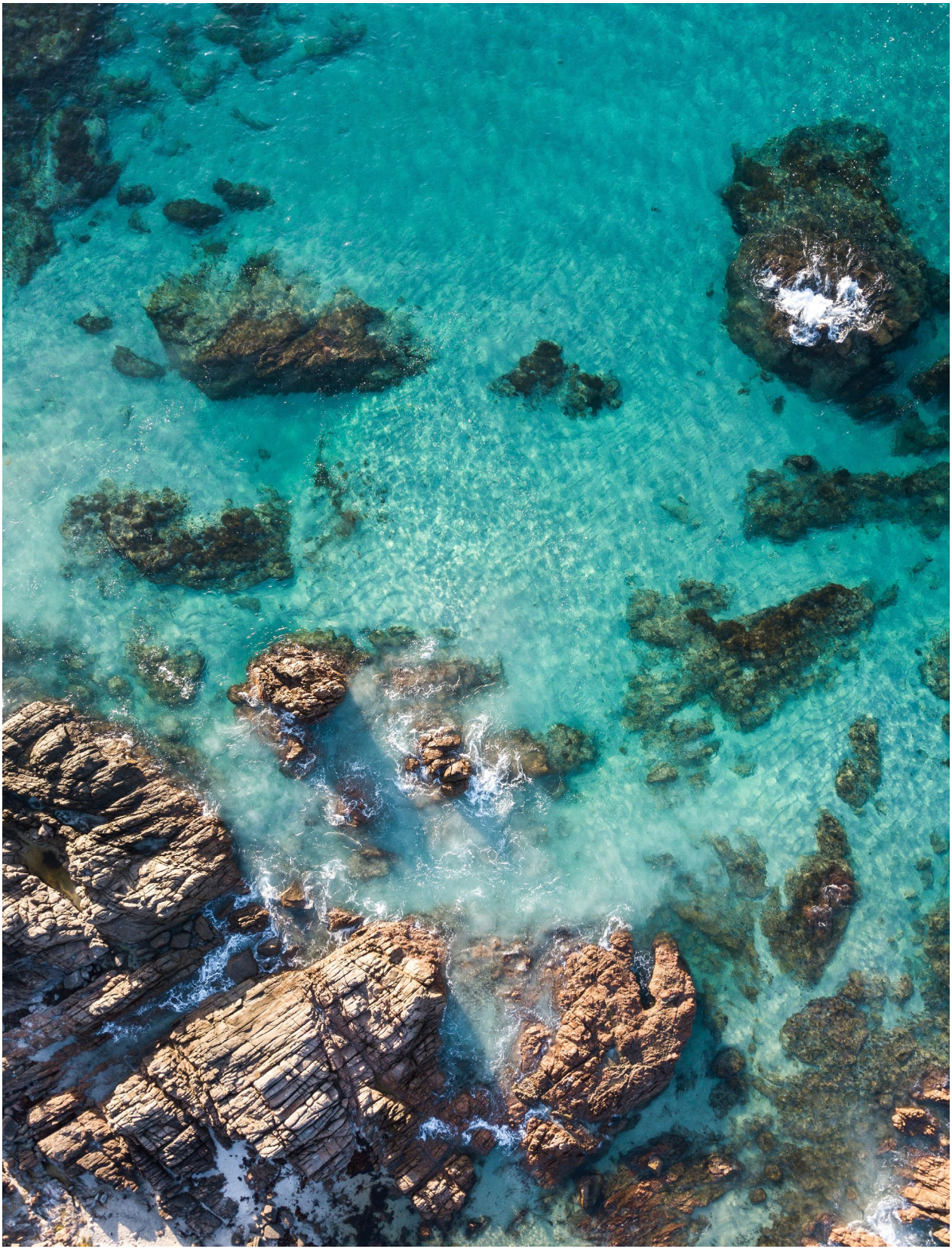
A major priority for Western Australian attendees was for governance reforms and institutional arrangements to include more systematic incorporation of Indigenous approaches and perspectives. This would include socialising and supporting the Uluru Statement from the Heart across sectors and the nation. In Western Australia, a number of Indigenous leaders have been focused on improving representation across important state bodies and advisory groups to improve connectivity of different regions across the state.

Top-down leadership from federal government was seen as an imperative by West Australians, as it supports a range of critical functions. Implementation of any measures to govern the marine requires approval by the Commonwealth, so an integrated coastal and ocean strategy must have Commonwealth buy-in. Integration of activities across tiers of government – an imperative for 'borderless' decision making and data sharing – is seen as effective only when led by the Commonwealth government. Participants suggested that such leadership could take the form of resourcing and support, on a national scale, for a decentralised system of governance that includes a range of stakeholders and devolves management to the local or regional level. While some bodies at the federal level are charged with national coordination in particular issues, such as the Intergovernmental Coastal Hazards Working Group and Infrastructure Australia, these do not seen to have a broad enough mandate or political support to perform all the functions required nationally for this vision. Rather, it was suggested that an independent government body charged with advising on ocean and coastal governance could fulfill this role.

Similarly, in Western Australia, there is no body fulfilling the role of coordinator to integrate an ocean and coastal agenda across government. It was pointed out that attempts have been made; the WA Government Working Together Review from 2017 was mentioned as a useful contribution for improving community input into departmental work and for breaking down boundaries between departments. Conversely, the Coastal Coordination Council was formed in the early 2000s but has not met since 2012. Attendees suggested that state

planning systems need to be simplified and made to harmonise better, and risk-based approaches were touted as a useful tool in this regard. These would benefit greatly from building professional capacity for coastal planners within state government, particularly those charged with governance of public lands.

Local governments, stakeholders, and communities shoulder the work in putting stewardship into practice. Many participants expressed that these groups need a more influential means of contributing to decision making at state and federal levels.



Community engagement

Key points:

- Community consultation has become more of a norm, but it is not clear if and how the input affects decision making; we need to shift from consultation to participation and clearly demonstrate how community input has shaped decisions
- Ocean and coastal literacy and cultural connection is a fundamental building block for informing the governance agenda, building political will, and encouraging individual responsibility
- The relationship between communities and science must be tended carefully to be productive and mutually supportive.

Western Australian attendees spoke to the great energy and passion of communities that are leading on-the-ground stewardship of their coastal and ocean environments. These efforts are often innovative and effective, and there is fertile ground for collaboration.

Tokenistic engagement was seen by many as a threat to maintaining good relationships and garnering public input into decision making. While community consultation is now broadly considered to be an imperative for public and private entities, it is not often clear how community inputs affect decisions. If the public's views are disregarded or the impact of their contributions are not adequately communicated, people can become fatigued and disillusioned. It was suggested that a more participatory, rather than consultative, approach should be adopted. Furthermore, a variety of avenues and mechanisms for input should be offered to allow diverse groups to be comfortable engaging with the process, and feedback should be provided on how community inputs have (or have not) affected decisions. Good quality engagement requires, time, expertise, and proper resourcing to make this happen.

Attendees spoke to the need for engagement to have a clear and substantive purpose. They said that communities must play a more central role in defining the core values and objectives for ocean and coastal use. The long-term vision underpinning governance should be community-founded, iterative, and evolving.

A national vision is contextualised in local realities, and vice-versa. Communities are passionate and knowledgeable about their place, and some attendees have asserted that it is difficult to extend the enthusiasm that people hold for their local patch to broader policy agendas and initiatives. In policy making exercises, consultation fatigue is a major barrier, along with a distrust in many formal organisations. Royal Commissions producing little substantive change were said to contribute to distrust nationwide.

The keys to an engaged community were thought to be literacy, awareness, and proactive culture around oceans and coasts. These concepts underpin both an engaged citizenry in governance priorities and accountability, and a self-organised culture of responsibility. While some suggested that ocean and coastal education should be incorporated into the school curriculum, others pointed to existing programs in STEM as being capable of putting greater emphasis on ocean and coastal themes. Western Australian attendees placed heavy emphasis on the opportunities associated with children engaging early in ocean and coastal education, along with activities that enhance a sense of stewardship and comfort in these marine-scapes. The work directed by the Undalup Association on *Wadandi Boodja* (Saltwater Country of the South-West) was touted as an excellent example for cultivating a culture of care. Children are able to go out on Country to learn about the connections between land and sea, to grow their knowledge and enthusiasm about flora, fauna, and the landscape, to learn about both Western and Wadandi ways of seeing changes in the environment, and to complete collaborative restoration projects.

Participants saw a significant disconnect between the public consciousness about the state and health of coasts and oceans, and that which is known by the research community. This disconnect is especially evident in perceptions of the ways that oceans and coasts are predicted to change over the

coming decades. If the public is to change their behaviour and demand action from businesses and government, knowledge holders and institutions must share their findings about these environments. Indeed, attendees emphasised that the relationship between institutional knowledge holders and the broader community must be carefully maintained.

Some pointed out that disagreements can arise between community desires and scientific priorities, and that experts must carefully negotiate these tensions. Data and information must be obtained, shared, and stored responsibly to maintain trust.

Implementation

Key points:

- Implementation across sectors and communities must be led by a national vision and framework that clearly defines our common goals for oceans and coasts
- We should create a shared national narrative about our relationship with oceans and coasts, as well as how our wellbeing is tied to these areas
- Financing and planning systems need to innovate to keep pace with the rapid, difficult to predict changes that are facing our communities, oceans, and coasts.

Attendees from Western Australia emphasised that the vision and priorities for oceans and coasts cannot be implemented by government alone, but should also include partnerships across stakeholder groups. National leadership and a common national framework can maximise the impact of the community expertise, industry innovation, and research excellence that already exist. Working toward a national vision and within a common framework means that disparate partners can keep each other accountable for shared progress.

To ensure that the values of different groups across the state and the nation form the foundation of the vision for the future, participants stressed that communities must be engaged early and on an iterative basis. They suggested that collaborative visioning and planning is the most productive when those involved take a 'can-do' attitude, focus on future problems, and avoid becoming paralysed by complexity. While leadership is a requisite for national progress, no one party can do everything alone. Stakeholders must be empowered to undertake implementation of activities they are best suited to do, as appropriate.

Storytelling plays a fundamental role in increasing awareness of our relationship with oceans and coasts on an everyday basis. Western Australians underscored the importance of building a common narrative and dialogue about our relationships with the ocean and coasts, into which the diversity of people's lives could be celebrated. They suggested that diverse stories, relationships, and values could be used to explore how oceans and coasts affect our wellbeing. Growing awareness and buy-in to these narratives could be supported by high-profile ambassadors.

Attendees pointed to the numerous community groups and networks, such as Coastcare, natural resource management, and community advocates, that already play important roles and that need greater funding support. These networks, with capabilities situated in the local context, are fundamental for implementing a decentralised strategy for ocean and coastal stewardship, yet require funding to support their activities in relationship building, community engagement, and collaboration. Additionally, these groups are central in baton passing– creating opportunities for the sharing of perspectives and knowledge across generations. In this vein, Indigenous ranger groups must continue to be supported to care for Country.

In a broader sense, participants spoke to the significant gap that already exists between the financing available for existing ocean and coastal management, and the emerging needs associated with climate change. Diverse funding streams need to be developed to respond.

Western Australians contended that there are exciting opportunities to promote sustainable economic development of emerging industries in the marine context. Industries like offshore energy and aquaculture present many opportunities, especially if they incorporate principles of sustainable development, such as circularity principles, into their business models. Indeed, this idea reflects the broader conversation happening across sectors that we can no longer rely on 'doing things the way we always have', but instead must welcome new ideas to build back better from new challenges.

Discussions around implementation suggested that, especially for state governments, a strategy for sustainable oceans and coasts will require experimentation and significant change in the way that planning systems guide our choices. Climate change is already occurring and will accelerate rapidly, which contrasts with our current planning

systems that are based on predictable trajectories with decisions locked into a long legacy. Participants suggested that more flexible systems are needed that can address, for example, infrastructure development in the context of coastal erosion and compounding natural disasters. Risk management frameworks were suggested to be a highly valuable tool for developing more integrated frameworks focused on the future.

Lastly, attendees stressed that sharing is paramount and must be improved between sectors, scales, and knowledge holders. However, 'cut and paste' solutions may result in unwanted outcomes, so we must build capacity in policy transfer and learning to support ocean and coastal sustainability into the long term.

Western Australia

Western Australia (WA) is the largest Australian state, covering 2,527,013 km^2, which is over a third of the continent's area. Inclusive to WA are 3747 islands, the most islands of any state or territory.[2] WA is home to a great many First Nations groups – in broad terms, Noongar language is spoken in the south-west (including Perth), Wadjari is spoken in the Gascoyne area inland from the central-west coast, Yindjibarndi and a number of others in the Pilbara region, and several each in the Kimberley and Western Desert regions.[3]

Western Australia has a mostly sub-arid climate, with large deserts to the east including the Great Sandy Desert from the north, to the Gibson and the Great Victoria Desert in the south[4], and broad plateaus to the west and several mountain ranges including the King Leopold Ranges.[5] Given its size, WA has a pristine, rugged coastline of 12,889 km on the mainland and 7,892 km for its islands.[6]

WA has 20 marine parks and reserves designed to protect biodiversity and precious species in coastal and marine areas[7]. Fishing, aquaculture, pearling, and petroleum drilling are prohibited in these zones. 22 Australian Marine Parks wrap around the WA coastline, connecting important marine habitats from the Great Australian Bight to the Indian Ocean and up to the Timor Sea. The north-west network of Australian Marine Parks covers 335,341 km^2 and

Coast near the town of Denmark

T Ohlin, 2020. *Denmark*. Available at: https://unsplash.com/photos/WfO2IGYbCs8

protects coral reefs, canyons, and limestone pavements, and species such as dugongs and whale sharks.[8] The south-west network (excepting parks off South Australia) covers 404,605 km2 and includes underwater mountain chains, canyons and plateaus, and species like southern right whales.[9]

With 2,656,200 people[10], WA is the fourth largest state by population and has some of the lowest population density in the world.[11] In 2019, Perth and Fremantle counted a little over 2 million residents,[12] and other important regional centres include Albany on the south coast, Geraldton on the central-western coast, and Port Headland and Broome to the north. Kalgoorlie is a small yet important inland town with almost 30,000 residents[13].

Around 90 percent of WA's population lives within 10 km of the coast[14], meaning that the coastal and marine environment are salient in the community's social and economic wellbeing. Ports and harbours are found along the WA coastline, including a superyacht harbour in Fremantle[15]. Shipbuilding and ship lifting, tourism and marine recreation, commercial and recreational fishing, aquaculture, energy, and mining on the coast and offshore are among the wide range of WA marine and coastal industries[16].

Explore Aboriginal language groups in Australia

See more information and maps for Western Australian Marine Parks and Reserves

See more information and maps on Australian Marine Parks

Coast of Francois Peron National Park

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Endnotes

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