BLUE ECONOMY
COOPERATIVE RESEARCH CENTRE

MARINE SPATIAL PLANNING FOR A SUSTAINABLE BLUE ECONOMY

DRAFT GUIDING PRINCIPLES FOR AN AUSTRALIAN MSP FRAMEWORK

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The Blue Economy CRC

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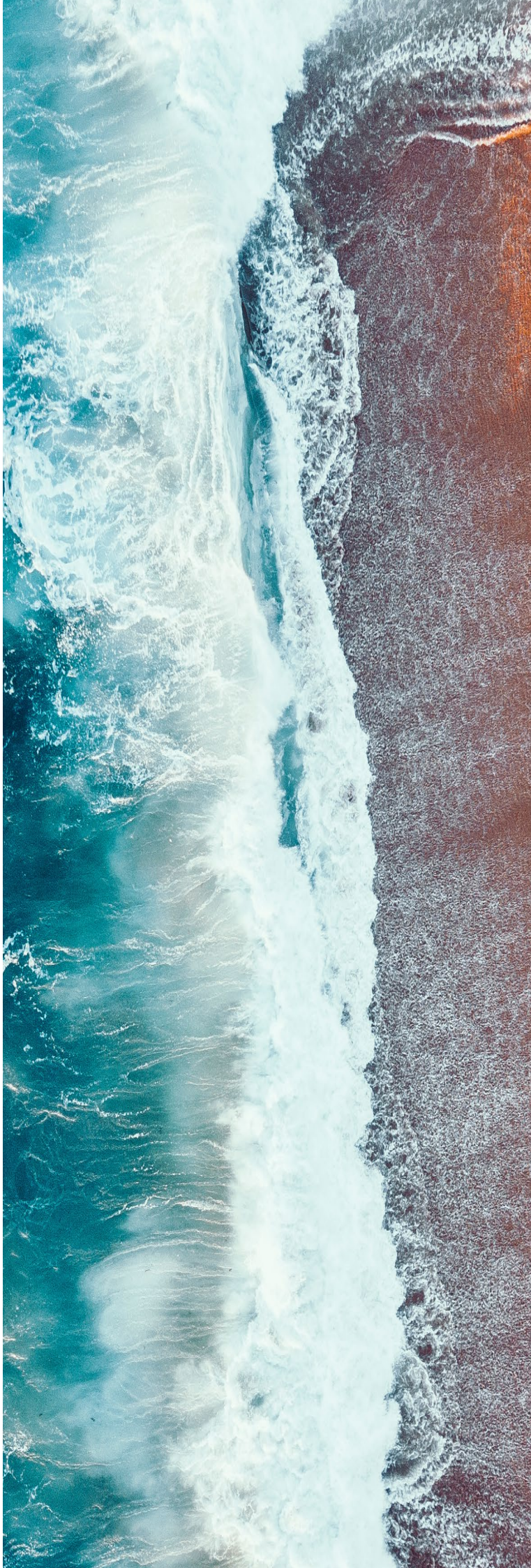
Ethics

The aims, scope and proposed methods and members of the research team were reviewed for approval by the Griffith University Human Research Ethics Committee (GUHREC). Key aspects of the participant consent process were outlined to the HREC, including that participation in the project was entirely voluntary, and all information would be documented without attrition to protect participant identity. All participants were provided with clear explanations of the research project, what we were seeking from them, and how we will use and store their information. A full ethics application was approved by the GUHREC in September 2022 (GU: 2022/473).



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This work is funded by the Blue Economy Cooperative Research Centre which is established and supported under the Australian Government's CRC Program, grant number CRC-20180101.

The project team acknowledge the traditional custodians of the various lands on which this work took place and recognise their knowledge and management of land and S ea Country across the continent now known as Australia. We acknowledge Elders, past, present and emerging and pay our respects to all First Nations people. We recognise that no treaty has been signed and sovereignty was never ceded.

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Executive Summary

This document represents the first step in developing a unified, whole of marine estate, approach specifically for Australia.

This approach has been developed leveraging off international exemplars of marine spatial planning (MSP frameworks), principles and best practise as advocated by the Intergovernmental Oceanographic Commission of United Nations Environment (IOC-UNESCO) and the European Commission, and existing integrated approaches used in Australia. It has been developed through a collaborative process with Australia's First Nations people, established and emerging ocean industries, commonwealth, state, territory and local government agencies, non-government organisations, and researchers.

The document presents the outcomes of our engagement with collaborators to seek opinions on the need for, and possible form of, an Australian MSP Framework. We identify five principles for an integrated marine planning scheme that support the aspirations, and needs recognised by our collaborators. These five principles will guide the development of the Australian Marine Spatial Planning Framework. They include transparent planning, integrated planning to guide decision-making, sustainable planning that uses an evidence-based approach, participative planning that is equitable and inclusive, and continuous planning that adapts. In this report, we discuss why these principles are important to our collaborators and consider potential mechanisms to deliver on these principles.

MSP is a process that brings people together, it synthesizes knowledge and evidence and considers how the vision for the marine environment can be realised. The MSP process will not always require that a full scale "plan" be produced, but the process will provide benefits and at a scale that reflects the need.

This document seeks to stimulate action towards integrated sustainable marine management, through the adoption of an MSP process. This synthesis aims to support the Australian government to deliver the vision set out in the draft Sustainable Ocean Plan. It specifically identifies pathways to achieve collaboration in the management of Australia's marine estate and how the process might also contribute to delivery of other priorities identified in the plan. It will also support Australia's commitments towards sustainability, particularly in relation to the Sustainable Development Goal 14 of the UN 2030 Agenda, **"Conserve and Sustainably use the oceans, seas and marine resources".**

Definition of key terms

Australian MSP Framework

The uniquely Australian marine spatial planning process that has been developed collaboratively by the project team and is described in this report.

Australia's marine estate

Includes all Australian waters from the coastline to the outer edge of Australia's exclusive economic zone, including islands and external territories, and the extended continental shelf.

Blue Economy

The economic activities associated with the coasts and oceans. However, it has evolved into a concept that considers "*the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystems*" (World Bank and United Nations Department of Economic and Social Affairs, 2017).

Collaborators

Includes all the people we have engaged with to develop the MSP Framework, including First Nations (their affiliations are in Appendix 2), and stakeholders (Appendix 3).

Cumulative Impacts

The combined impact (positive or negative, direct and indirect, long-term and short-term) of all the human activities occurring from the past and present, together throughout a region or area.

Data products

A set of data that has been developed into a product that facilitates an end goal, such as defining an area of high activity or use.

Data Standardisation

Converting data from different sources and in different formats into a consistent and uniform format.

Economic sustainability

Refers to practices that support long-term economic growth without negatively impacting social, environmental, and cultural aspects of the community.

Environmental sustainability

Refers to the responsible management of natural resources to fulfill current needs without compromising the ability of future generations to meet theirs.

First Nations

Refers to Australia's First Nations peoples, the First Australians, Australian Indigenous peoples and/or Australian Aboriginal and Torres Strait Islander peoples.

FPIC

A principle-based acronym (Free, Prior and Informed Consent) from UNDRIP, that supports establishing a good faith relationship when engaging with First Nations peoples.

Holistic approach

A process that takes account of all activities that either operate in, or interact with, the marine environment.

Integrated process

Brings together departments responsible for marine management planning and regulation (including those whose activities put pressure on marine ecosystems) and organisations and individuals who have a vested interest in the marine estate, to create a common framework for understanding of management challenges (adapted from Rodrigues, 2017). It includes the development of agreed broad-based principles and objectives with appropriate and responsive management to implement the agreed principles across different marine sectors and jurisdictions.

Marine Spatial Plan

A plan-based product from an MSP process.

Marine Spatial Planning (MSP)

A public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process (Ehler 2007 *cited in* Ehler 2021).

Participatory Mapping

Is a map-making process that attempts to make visible the association between land or ocean and local communities by using the commonly understood and recognised language of cartography (International Fund for Agricultural Development). Maps present spatial information at various scales, using a paper or a digital map, serve as a medium of empowerment by allowing local communities to represent themselves spatially.

Rightsholders

Refers specifically in this report to First Nations people with the authority and responsibility to care for and manage their land and seas. They are also referred to as Elders and Traditional Owners. They have authority to speak on behalf of their community.

Sea County

Includes the coastal and ocean environment and encompasses all living things, beliefs, values, creation spirits and cultural obligations and practises connected to an area. For Aboriginal peoples, Sea Country is not only a place of belonging but also a way of believing (adapted from Storymaps).

SMARTIE objectives

A mnemonic device to establish criteria for effective goal-setting and objective development. The acronym stands for Specific, Measurable, Attainable, Relevant, Time-bound, Inclusive and Equity minded.

Social sustainability

Acknowledging and managing both positive and negative impacts of systems, processes, organisations, and activities on people and social life. Social sustainability helps in the construction of a healthy community that can meet the needs of the present as well as future generations.

Stakeholder

An individual, group or organisation that have a vested interest in, and are (or will be) impacted (positively or negatively), by the outcome of a decision.

Sustainability

The objective of "sustainability" in the modern context of sustainable development implies an adequate performance of ecological, economic, social-cultural, and institutional objectives (also referred to as full-spectrum, four pillar or "triple" bottom line sustainability; Stephenson et al., 2021).

Sustainable Blue Economy

A sustainable Blue Economy is synonymous with a Sustainable Ocean Economy and a Sustainable Marine Economy. As defined in the draft Sustainable Ocean Plan (Commonwealth of Australia 2024), the 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.

Sustainable Management

Takes into account the long-term impact of decisions and actions on the environment, society, culture and the economy. It involves managing resources and processes in a way that balances economic, social, cultural and environmental values and considerations to ensure that resources are available for future generations.

Trade-off

A situation that seeks to compromise between two desirable but incompatible features. It involves giving up something in return for something else.

Transparency

In this report, transparency is defined as having clear insight into the factors contributing to the outcomes of a decision-making process.

UNDRIP

A legally non-binding resolution passed by the United Nations in 2007 and endorsed by Australia in 2009 to protect the rights of indigenous peoples. The acronym stands for the United Nations Declaration of the Rights of Indigenous Peoples (Resolution adopted by the General Assembly on 13 September 2007).

1. Preface

The Blue Economy Cooperative Research Centre (BE CRC) was established in 2019 under the Australian Government's CRC Program.

The BE CRC consists of 43 partner organisations from across Australia, New Zealand, Singapore, Chile, and Europe. The majority of the partners are commercial companies engaged in activities in the "Blue Economy" (also often referred to as the ocean or marine economy). The BE CRC's mission is to deliver high quality research to facilitate sustainable development of Blue Economy activities.

In 2020, a survey was conducted with partners of the BE CRC to identify the challenges they faced when developing their businesses. While many identified very specific research and development needs, they shared a common concern about the lack of a clear, integrated, marine planning and management framework in Australia and elsewhere. This concern was seen as a major risk to their businesses and provided uncertainty for investment.

To support industry in addressing this concern, the BE CRC funded the *Marine Spatial Planning (MSP) for a Sustainable Blue Economy Project* (hence forth the Project) in early 2022. The Project aims to "*deliver forums, tools and approaches to assist regulators and industries to implement ecologically, economically, and socially sound planning in Australia's marine environment when developing Australia's Blue Economy*". The project team and its partners are comprised of 14 specialist entities across academia, industry and state government.

The project has four workstreams;

1. **Development of a Marine Spatial Planning Framework for Australia (Australian MSP Framework).**
2. **Review of the data needs for MSP and integrated marine planning and the development of the data products drawing on extant data sets to support discussion and decision making.**
3. **Development of suitable tools and approaches to identify and mitigate the cumulative impact of multiple users in the marine estate.**
4. **The use of the Australian MSP framework and associated tools in one or more case study locations to allow refinement of the process and the toolbox.**

Outputs of the research include an MSP Framework and decision-support tools that support a whole of government approach to sustainable ocean governance in Australia.

This report forms the first major output on the road to produce an Australian MSP Framework.

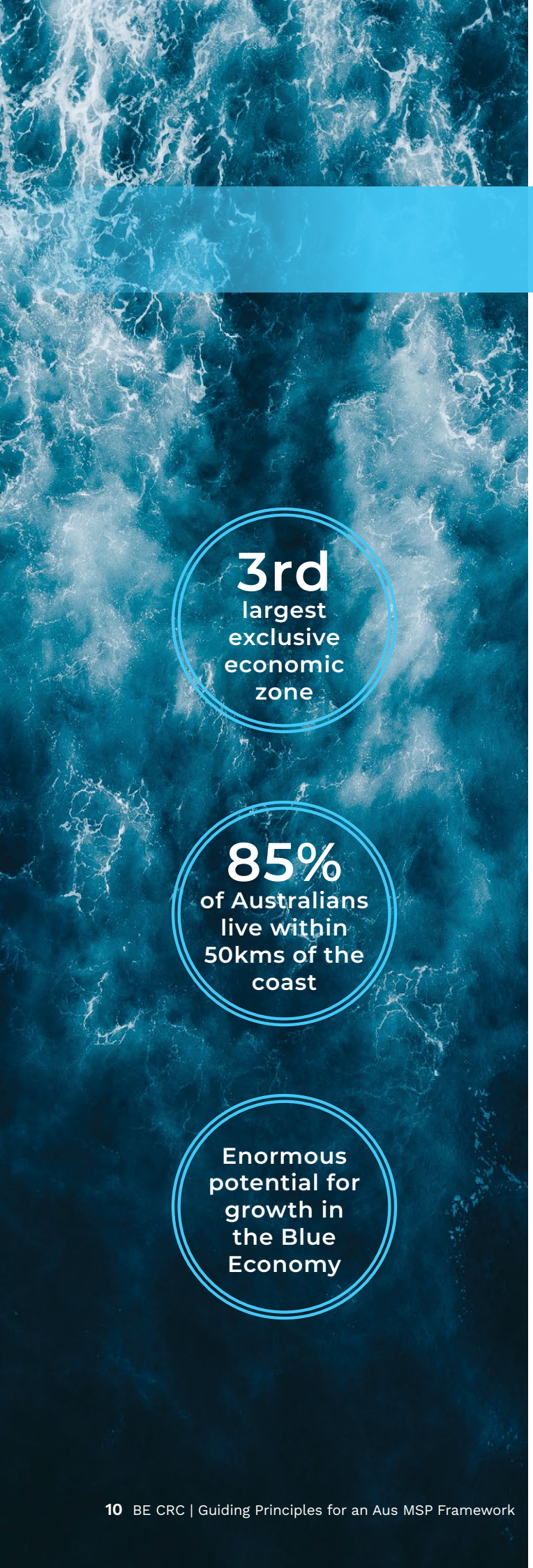
It was developed through our engagement with representatives of Australia's marine estate and First Nations people. It has also drawn from learnings and approaches used internationally to support integrated and participative approaches through MSP, and principes and best practise as advocated by the IOC-UNESCO and the European Commission (UNESCO-IOC/European Commission (2021). These learnings have been reviewed and used to support an understanding of opportunities for spatial planning in Australia (Griffiths et al., 2024).

In this report, we detail the results of the projects engagement with marine users, including First Nations people, peak bodies of industry, environmental non-government organisations, and commonwealth, state, territory and local government agencies. We identify five common principles for planning that support the aspirations and needs for improved management of Australia's marine estate.

The report targets audiences who manage, use, are interested in, and who care for, Australia's marine estate. There are three main audiences for this report:

1. **Established and emerging Blue Economy industries who currently operate in, or want to develop their business opportunities in, Australia's marine estate.**
2. **Decision-makers and policy-makers responsible for managing the marine estate, ensuring environmental sustainability and reforming policy around holistic governance.**
3. **First Nations people, organisations, communities and individuals with a deep connection to, and care for, Sea Country and a future sustainable ocean.**

Further details of the project and the outputs produced to data can be found at; https://blueeconomycrc.com.au/marine-spatial-planning.



2. Introduction

2.1. Australia's Blue Economy

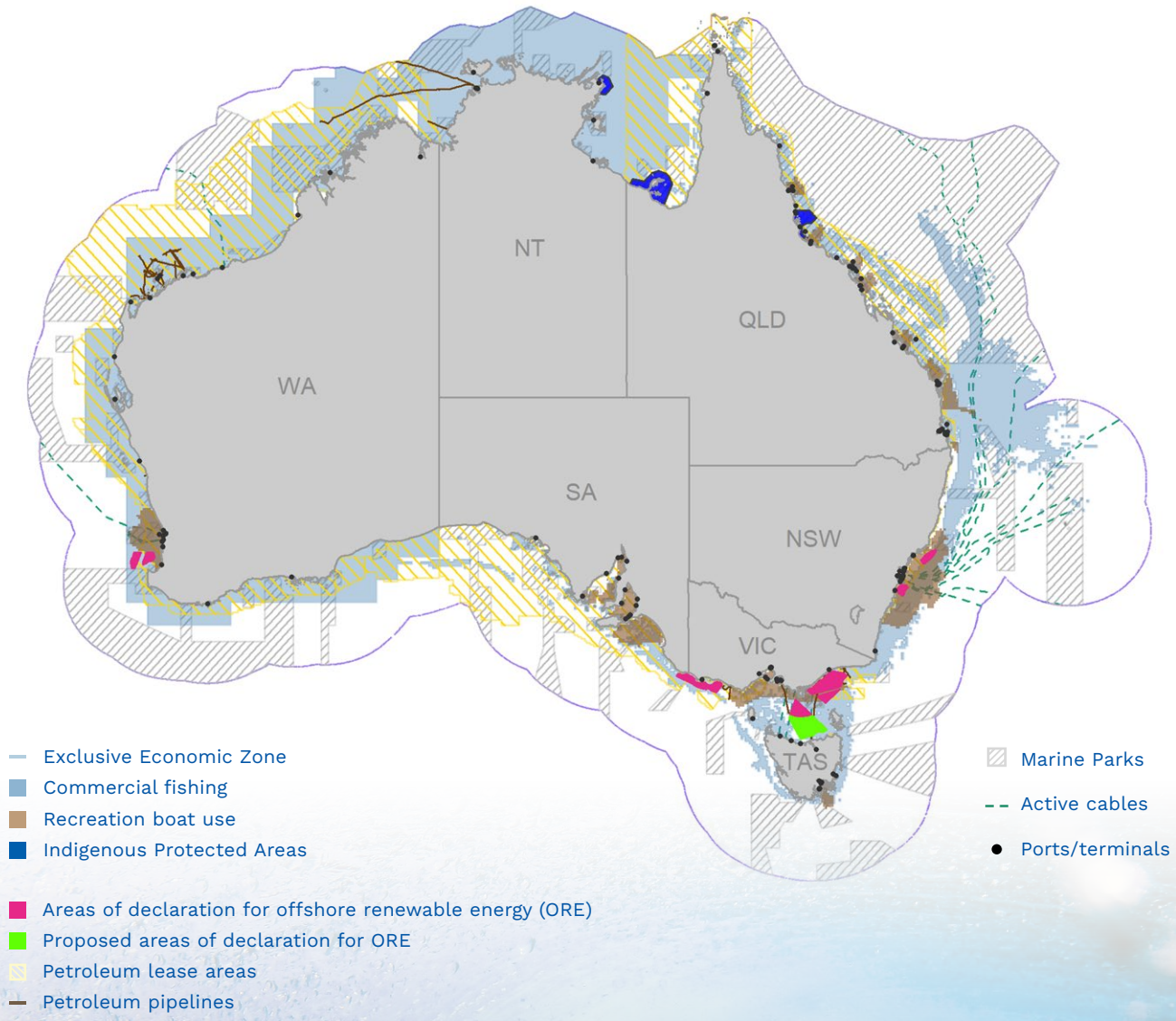
Australia is an ocean nation. Australia's exclusive economic zone is the third largest in the world (around 10 million sq km; Geoscience Australia 2022), covering an area 1.25 times the size of its mainland and Tasmania, and the majority of Australians live along the coast (85 % live within 50 km from the coast; ABS 2024).

This ocean estate supports a wealth of natural biological diversity, is fundamentally important to, and valued by, the Australian people and is an important part of Australia's economy. Australians are supported by an estimated $25 billion of 'blue' ecosystem services (Gaylard et al., 2020) including carbon dioxide absorption, nutrient cycling, and coastal protection (NMSC, 2015). Australians are also supported by Blue Economy industries, which currently account for around 5% of Australia's GDP (AIMS, 2023) ($118.5 billion in 2020-21; AIMS, 2023).

Given Australia's vast ocean estate and coastal population, Australia is considered to have enormous potential for growth in the Blue Economy (Penesis & Whittington, 2021).

Existing Blue Economy industries (tourism, ports, energy, transport, fisheries and aquaculture) together with marine parks, already occupy a substantial proportion of Australia's marine estate (Figure 1). Emerging industries (renewable energy, offshore aquaculture, green hydrogen, carbon capture and storage, and biotechnology) will become more important as Australia mobilises efforts to decarbonise the economy and safeguard food security. Ensuring that growth in the Blue Economy is sustainable is a priority for Australia (Commonwealth of Australia, 2024).

Figure 1. Map of the spatial extent of marine sectors in Australia's mainland commonwealth waters (3 nm - 200 nm) as at 15th September, 2024. Port and terminal locations are used to indicate shipping intensity. Shipping lanes are excluded for ease of visual display because they are found broadly across commonwealth waters. Only the top 10% of recreational boating activity is shown to avoid over-representation. Commercial fishing for WA and NT is reported at the 1° grid scale and thus actual fishing locations occupy a smaller area than depicted in the map. Commercial fishing for other states reported at the 0.1° grid scale Petroleum lease areas may not include the actual footprint of activity which could be smaller. Sectors that are common in coastal waters such as tourism and aquaculture are excluded due to scale. Data sources: commercial and recreational fishing (CSIRO), petroleum lease areas (Australian Ocean Data Network), protected areas and parks (DCCEEW), ORE areas, cables, ports/terminals and jurisdictional boundaries (Geoscience Australia).



2.2. Key challenges – the need for an integrated approach

The future sustainability of Australia's marine estate and a growing Blue Economy is of interest, and concern, to all Australians, as well as to existing and emerging industries (Future Earth Australia, 2021).

This is because ocean biodiversity and its resources, face ongoing pressures from climate induced changes and cumulative impacts from development at sea and on land (NMSC, 2015; SoE, 2021). The current process for managing activities in the majority of Australia's marine estate[1] is through a fragmented, single-sector management approach which is not considered the most effective way of dealing with the challenges of multiple-users (Smith et al., 2017; Stephenson et al., 2021). Single-sector management has often failed to resolve conflicts among users of marine space, rarely deals explicitly with resolving conflicts through identifying trade-offs among uses, and seldomly deals with conflicts between the cumulative impacts of multiple uses and the marine environment (Ehler, 2015).

The need for an integrated, collaborative and holistic approach to guide sustainable management of the Blue Economy, has been recognised in Australia (Commonwealth of Australia, 2024; Samuel, 2020; Smith et al., 2021; Stephenson et al., 2023; Vince, 2018) and internationally (Schultz-Zehden, et al., 2019; Winther et al., 2020).

[1] Exceptions include integrated management approaches in state waters including Victoria and NSW, and state marine parks, and in the cross-jurisdictional Great Barrier Reef Marine Park.

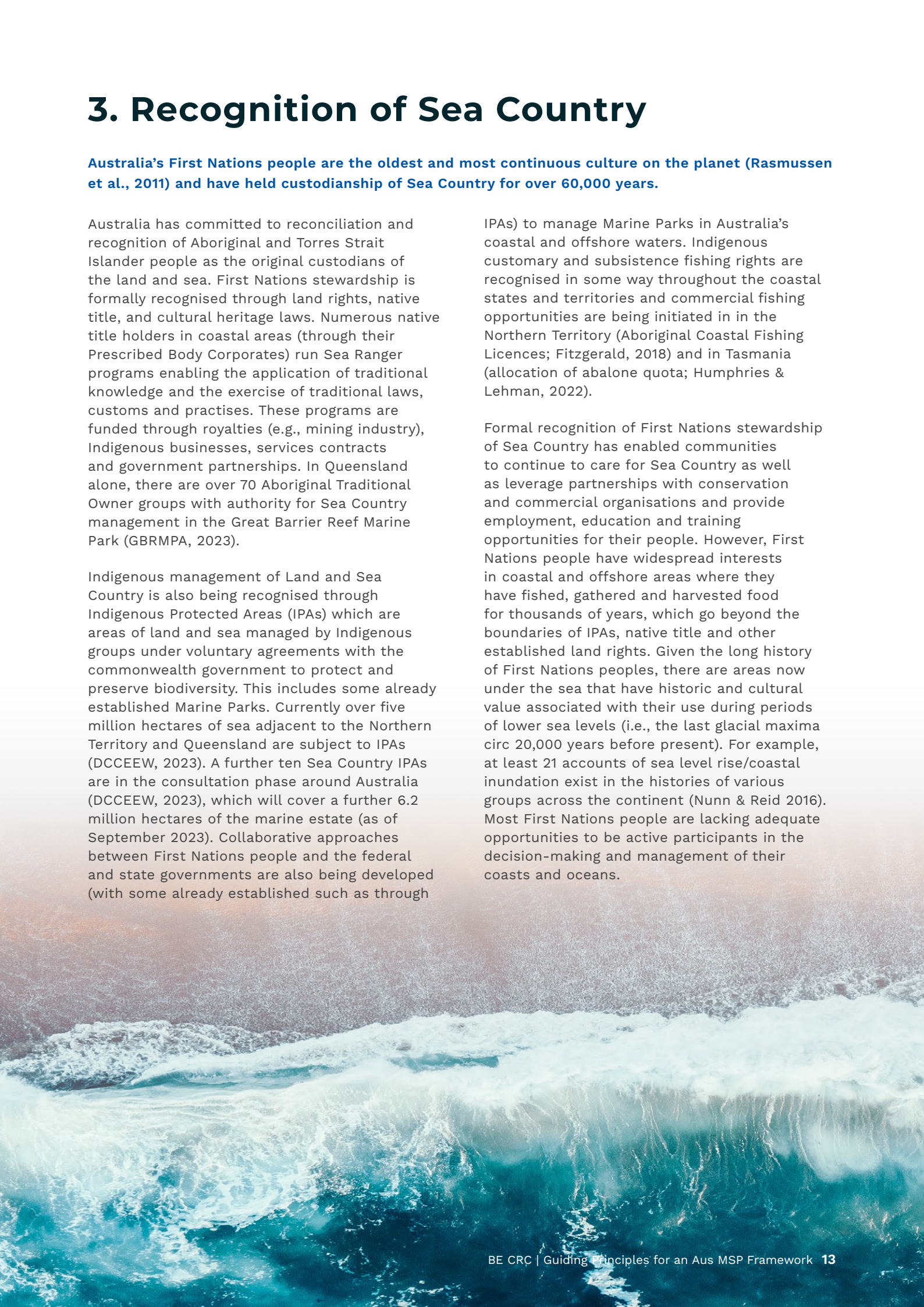
3. Recognition of Sea Country

Australia's First Nations people are the oldest and most continuous culture on the planet (Rasmussen et al., 2011) and have held custodianship of Sea Country for over 60,000 years.

Australia has committed to reconciliation and recognition of Aboriginal and Torres Strait Islander people as the original custodians of the land and sea. First Nations stewardship is formally recognised through land rights, native title, and cultural heritage laws. Numerous native title holders in coastal areas (through their Prescribed Body Corporates) run Sea Ranger programs enabling the application of traditional knowledge and the exercise of traditional laws, customs and practises. These programs are funded through royalties (e.g., mining industry), Indigenous businesses, services contracts and government partnerships. In Queensland alone, there are over 70 Aboriginal Traditional Owner groups with authority for Sea Country management in the Great Barrier Reef Marine Park (GBRMPA, 2023).

Indigenous management of Land and Sea Country is also being recognised through Indigenous Protected Areas (IPAs) which are areas of land and sea managed by Indigenous groups under voluntary agreements with the commonwealth government to protect and preserve biodiversity. This includes some already established Marine Parks. Currently over five million hectares of sea adjacent to the Northern Territory and Queensland are subject to IPAs (DCCEEW, 2023). A further ten Sea Country IPAs are in the consultation phase around Australia (DCCEEW, 2023), which will cover a further 6.2 million hectares of the marine estate (as of September 2023). Collaborative approaches between First Nations people and the federal and state governments are also being developed (with some already established such as through IPAs) to manage Marine Parks in Australia's coastal and offshore waters. Indigenous customary and subsistence fishing rights are recognised in some way throughout the coastal states and territories and commercial fishing opportunities are being initiated in in the Northern Territory (Aboriginal Coastal Fishing Licences; Fitzgerald, 2018) and in Tasmania (allocation of abalone quota; Humphries & Lehman, 2022).

Formal recognition of First Nations stewardship of Sea Country has enabled communities to continue to care for Sea Country as well as leverage partnerships with conservation and commercial organisations and provide employment, education and training opportunities for their people. However, First Nations people have widespread interests in coastal and offshore areas where they have fished, gathered and harvested food for thousands of years, which go beyond the boundaries of IPAs, native title and other established land rights. Given the long history of First Nations peoples, there are areas now under the sea that have historic and cultural value associated with their use during periods of lower sea levels (i.e., the last glacial maxima circ 20,000 years before present). For example, at least 21 accounts of sea level rise/coastal inundation exist in the histories of various groups across the continent (Nunn & Reid 2016). Most First Nations people are lacking adequate opportunities to be active participants in the decision-making and management of their coasts and oceans.



4. Australia's Sustainable Ocean Plan – the need for collaboration

In August 2024, the Australian (Commonwealth) Government published in draft their Sustainable Ocean Plan (Commonwealth of Australia 2024), delivering on a commitment made in 2022 to the High Level Panel for a Sustainable Ocean Economy (Ocean Panel 2022).

A national vision to achieve sustainable ocean management in Australia has been identified in the draft Sustainable Ocean Plan: navigating a course to 2040 (Box 1). The draft plan emphasises the importance of growth in the Blue Economy's emerging ocean sectors 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*".

Box 1 - Australia's National Vision for ocean sustainability

"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."

Four national priorities and four enablers have been identified to achieve the national vision (Commonwealth of Australia 2024). The enabler Collaboration specifically identifies the need for a collaborative and coordinated approach to manage the ocean and its economy within and across jurisdictions and sectors. Marine Spatial Planning is specifically mentioned as an opportunity to deliver collective national action, "Marine Spatial Planning could provide greater certainty to inform business planning and investment while improving transparency in decision-making". The draft Sustainable Ocean Plan identified the potential value of the work underway by the BE CRC and Victoria's Marine Spatial Planning Framework to "support the development of a national-level marine planning policy with agreed principles to guide national implementation and support harmonisation of jurisdictional frameworks".

An MSP process will also, by its collaborative and evidence-based nature, also support many of the other priorities identified in the draft SOP (Table 1).

Table 1. Positioning an MSP process to deliver on actions of the draft Sustainable Ocean Plan (SOP).

SOP priorities		Summary of opportunities for action as identified in the draft SOP	MSP as an opportunity to address action
Focus priorities	Climate Action	Elevate the role of ocean-based climate action in advancing Australia's net zero by 2050 target.	MSP has been successfully used as a process to support the establishment of low carbon ocean industries globally (Pulselli et al., 2022; Quero Garcia et al., 2019).
		Build resilience and work to adapt ocean ecosystems and ecosystem services to climate change impacts	MSP processes that support marine ecosystem function and the delivery of ecosystem services can contribute to climate resilience. MSP is being used as a process to build climate resilience in Pacific Island nations when developing their blue economy. MSP that addresses ocean climate-driven change ('climate-smart MSP') through climate-adaptive spatial management strategies could provide nature-based solutions to limit the impact of climate change on ocean ecosystems and dependent blue economy sectors (Queirós et al., 2021).
	First Nations	Empower First Nations people to be the drivers of actions that allow them to care for, benefit from and manage their sea Country. Support strong First Nations participation in the ocean economy.	MSP can support First Nations to have an active role in the planning of activities on their Sea Country. MSP has been used to support collaborative marine planning between First Nations and provincial government and has enabled the protection of First Nations governance and economy, cultural values and activities, and resource management priorities (Diggon et al., 2021).
		Foster partnerships with industry and address barriers to accessing finance.	MSP has the potential to foster partnerships between First Nations and industry because there is a process to bring these groups together and encourage them to work cooperatively, including to explore trade-offs and mitigation strategies.
	Protect and restore	National approach to restoration	MSP has the potential to support restoration, particularly if it is identified as a specific planning goal, ecosystem service outcomes are accounted for and it is applied at a sufficient scale (Lester et al., 2020).
	Industry	Harmonise governance and regulatory arrangements that present a barrier to operations at the national scale.	Harmonising arrangements, integrating processes and removing administrative roadblocks to progress are one of the key intended outcomes of MSP (UNESCO-IOC/ European Commission 2021). Integrated processes have been facilitated through MSP in several countries (e.g., countries of the European Union, Norway, specific states in the US, and Canada, Ehler 2021; Santos et al. 2019).
		Promote the development and use of a cultural-licence-to-operate (CLO) framework.	The principles in this report are consistent with many of the findings from the CLO framework because collaborators shared similar views in both reports (Hunter et al., 2024).

SOP priorities		Summary of opportunities for action as identified in the draft SOP	MSP as an opportunity to address action
Enabling priorities	Collaboration	Build on existing mechanisms and potentially establish new forums to drive agreement, cooperation and harmonisation between jurisdictions and sectors.	MSP has driven new models of collaboration to support information gathering, cooperation and harmonisation, for e.g., in Canada (Ban et al., 2013; Rutherford et al., 2005).
		Collaborate on the development of a marine planning approach with agreed national high-level principles to guide implementation of jurisdictional frameworks.	Identification of high-level principles to guide planning is a common and important output of MSP (Ehler 2021).
	Equity and inclusion	Increase coordination and inclusion in decision-making on ocean policy and management. Work to improve ocean governance so equity principles are embedded in decision-making.	Equity and inclusion are intended principles of an MSP process (UNESCO-IOC/European Commission 2021). Inclusive approaches to planning have been undertaken in South Africa (Dorrington et al., 2018) and Canada (Rutherford et al., 2005).
		Ensure access to marine resources for First Nations people for traditional use and ocean businesses.	First Nations would be encouraged to be an active participant in an MSP process. First Nations have informed what MSP should look like from the very beginning (Rivers et al., 2022).
	Knowledge	Develop an integrated national platform to support ocean data-sharing.	Integrating data and making it publicly accessible are key intended outcomes of an MSP process. Data portals or atlases have been developed as an output in many examples of MSP (e.g., Belgium, Canada, Scotland, US [Ehler 2021] and Victoria [Victoria State Government, 2024]).
		Increase First Nations-led research and consider and respect First Nations Knowledge alongside western science.	MSP processes can provide a pathway to integrate First Nations knowledge into western science (Jacob et al., 2023), although it is recognised that it can be challenging (Rivers et al., 2023).

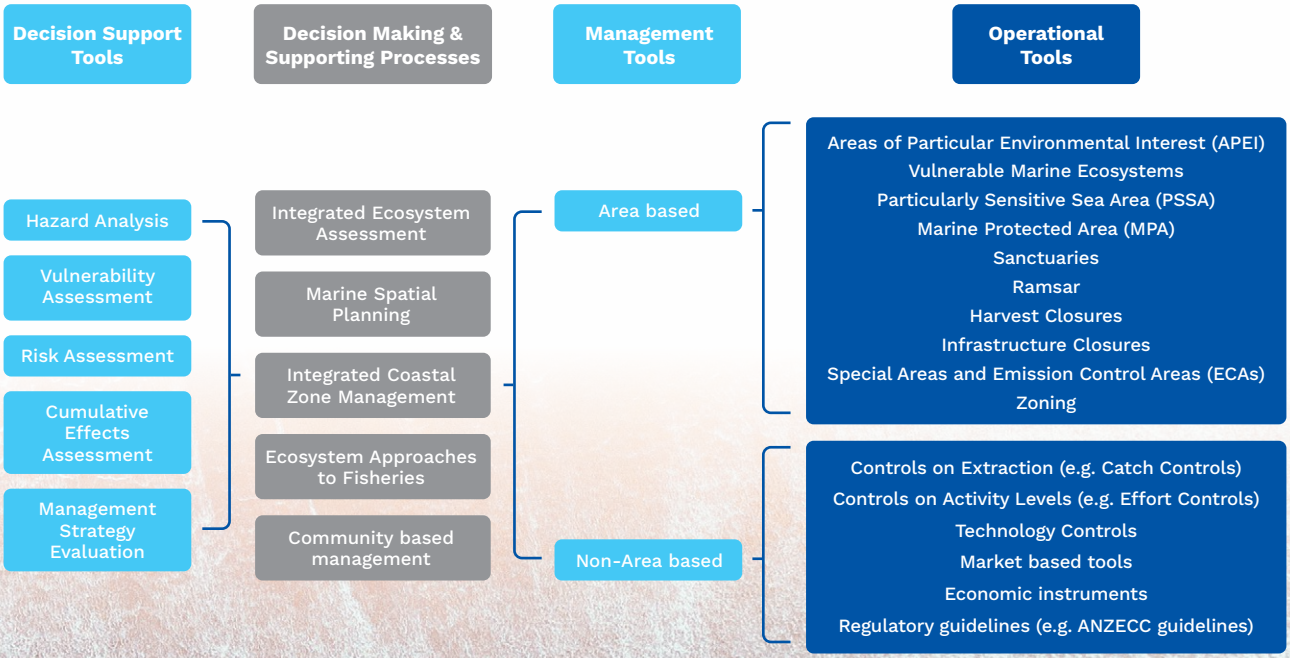
5. Marine Spatial Planning (MSP) Framework as a process to achieve integration, collaboration & sustainability

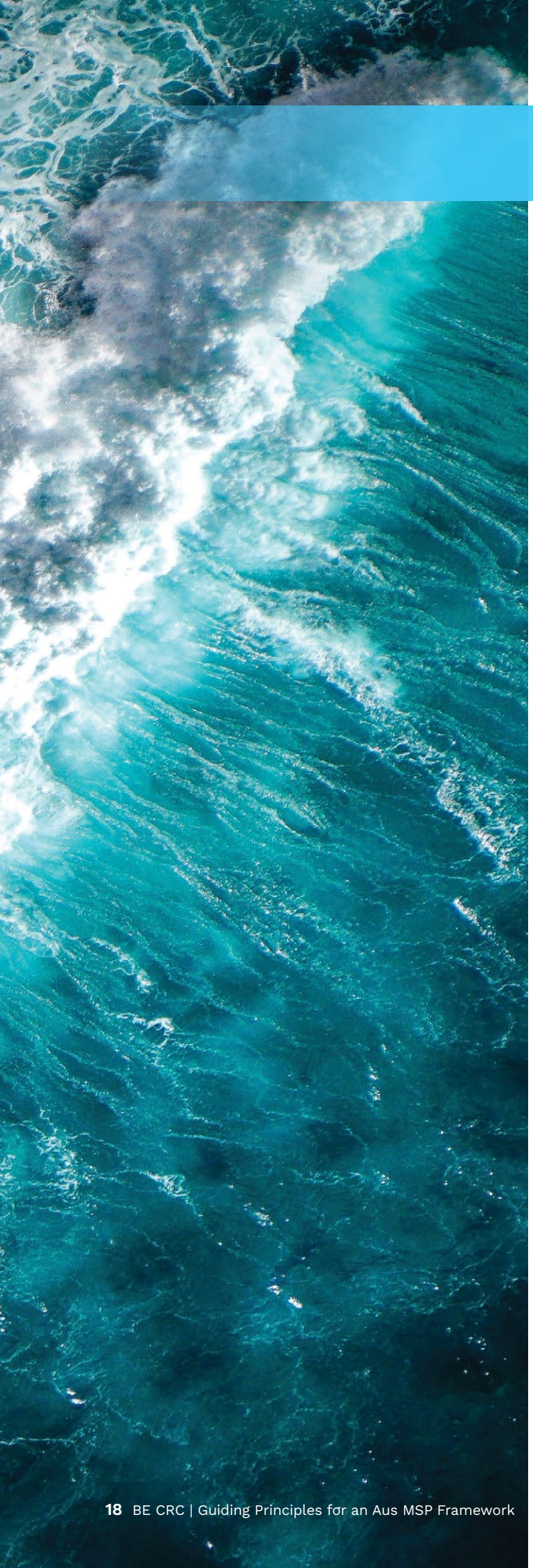
5.1. Options for integration

Integrated and collaborative frameworks can support sustainable management by streamlining and standardising processes relating to 1) cross-jurisdictional and cross-sector governance and decision-making, 2) environmental data and knowledge sharing and 3) effective engagement with First Nations and individuals, groups and organisations who are impacted by decision-making outcomes.

There are several processes that can support integrated and collaborative marine management (integrated ecosystem assessment, MSP, integrated coastal zone management, ecosystem-approaches to fisheries and community-based management, Figure 2).

Figure 2. Types of decision-making processes and different management tools to support it *(Source: Smith et al., 2021).*





5.2. Marine Spatial Planning

Marine Spatial Planning (MSP) has been championed as one of the leaders in this space to achieve integration because it sets a clear process for integrated planning, collaborative engagement and evidence-based decision-making (Box 2; Ntona & Morgera, 2018).

As such, MSP has become the most endorsed management regime for sustainable development in the marine environment globally (McAteer et al., 2022) with more than 300 MSP initiatives identified from 102 countries/territories (IOC-UNESCO, 2022). MSP can manage conflict and enhance synergies between existing and emerging sectors of the Blue Economy (Barbanti et al., 2015; ICES 2017; Skjaerseth et al., 2023), can protect the environment and the resources upon which those activities are dependent (Harris et al., 2022; Kirkfeldt & Santos, 2021) and create opportunities for emerging industries such as offshore renewables to establish (Pulselli et al., 2022; Quero Garcia et al., 2019). Background papers on MSP used to support the project have been developed (Griffiths et al. 2024).

A marine spatial planning process does not necessarily result in the production of a plan or zoning map. The MSP process seeks to bring interested parties together to develop shared goals for a planning area and then work collaboratively to deliver the goals. In many areas the vision may already be achieved. In such cases there is a need to continue to periodically review the status of the vision, potential new activities or changing conditions. The conclusion would be that existing management measures, i.e. sectoral approaches, are sufficient at that location at that time. Where the vision is not currently being delivered and if multiple sectors are or aspire to operate in the area, then the MSP process would progress through the subsequent stage to produce a plan. The plan would set out mechanisms to facilitate sustainable utilisation of the area by multiple sectors through an agreed process.

5.3. Benefits of using MSP

There are clear benefits of using an MSP process for industry, government, First Nations and community to manage a growing Blue Economy that have been documented in the literature (Diggon et al., 2021, Ehler, 2021; Kirkfeldt & Frazão Santos 2021: Harris et al., 2022; Pulselli et al., 2022; Quero García et al., 2019, Schultz-Zehden, et al., 2019; World Ocean Council, 2016; Box 3 to Box 5).

Countries of the European Union (EU) legally mandated MSP in 2014 and have been developing their Blue Economy through MSP ever since, driven heavily by the need to support emerging industries (Voyer et al., 2017; Yates & Bradshaw, 2018). This reach has extended outside of the EU. For example, MSP has been undertaken or is in development in the United States (Smythe & McCann, 2019), Canada (Diggon et al., 2021), South Africa, Israel, and the United Kingdom (Rivers et al., 2022). There is also a concerted push to accelerate MSP in the Western Pacific (UNESCO-IOC, 2024).

Box 2 - Defining MSP

Marine Spatial Planning is defined most succinctly as a "*public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process.***" – (Ehler 2007 cited in Ehler 2021).**

High-level principles for MSP (UNESCO-IOC/ European Commission, 2021; Reimer et al., 2023)

1. **Strategic** - driven by goals and objectives.
2. **Transparent** - Developing MSP in a transparent way.
3. **Participatory** - Ensuring a process for stakeholder and rightsholder participation that is socially equitable and inclusiv.e
4. **Ecosystem-based** - An ecosystem-based approach to decision-making that is based on spatial data and knowledge and developing data products to inform on future uncertainty.
5. **Integrated** - Developing an approach that coordinates decision-making across government agencies and jurisdictions (including between terrestrial and marine realms).
6. **Forward looking and adaptive** - Future focussed and incorporating monitoring and evaluation in the planning process.
7. **Place-based** - use MSP according to the area and type of activities.

Box 3 - Key benefits of MSP for industry (Pulselli et al., 2022; Quero Garcia et al., 2019; World Ocean Council, 2016)

1. Clarify the regulatory process and make efficiencies that reduce the relevant licensing and/or approval processes by accessing science-based evidence concerning environmental, social and cultural values and cross sector interactions.
2. Give certainty to investors about the placement of activities and confidence that decisions made on consent applications will be robust.
3. Have a whole of government approach that supports industries to work together and with other stakeholders and First Nations to discuss issues, share data and knowledge and resolve potential conflicts.

Box 4 - Key benefits of MSP for government (Kirkfeldt and Frazão Santos 2021: Harris et al., 2022)

1. Provide state and federal departments with a pathway to sustainably manage areas of high interactions, that has been tested through regional case studies.
2. Have a platform for discussion between and within departments, and across sectors.
3. Enable access to data and tools to support an evidence-based decision-making process that considers cumulative impacts from all sectors.
4. Includes consideration of cultural knowledge and values and social license.
5. If adopted, MSP can contribute towards state and federal government's commitments.

Box 5 - Key benefits of MSP to First Nations and stakeholders (Diggon et al., 2021; Ehler 2021)

1. Provide First Nations, and stakeholders with a platform to inform and influence decision-making.
2. Pathways for integrating traditional knowledge, social values and cultural sensitives into the decision-making process can be identified.
3. First Nations aspirations for the planning area can be supported, e.g., financial support to research the location of underwater ancestral sites.

5.4. Challenges for MSP and how it might be further developed

MSP has been critiqued by experts in the field and reviewed widely in the scientific literature mainly by researchers, or by joint ventures between researchers and practitioners over the last twenty years (e.g. Ehler 2021; Chalastini et al., 2021).

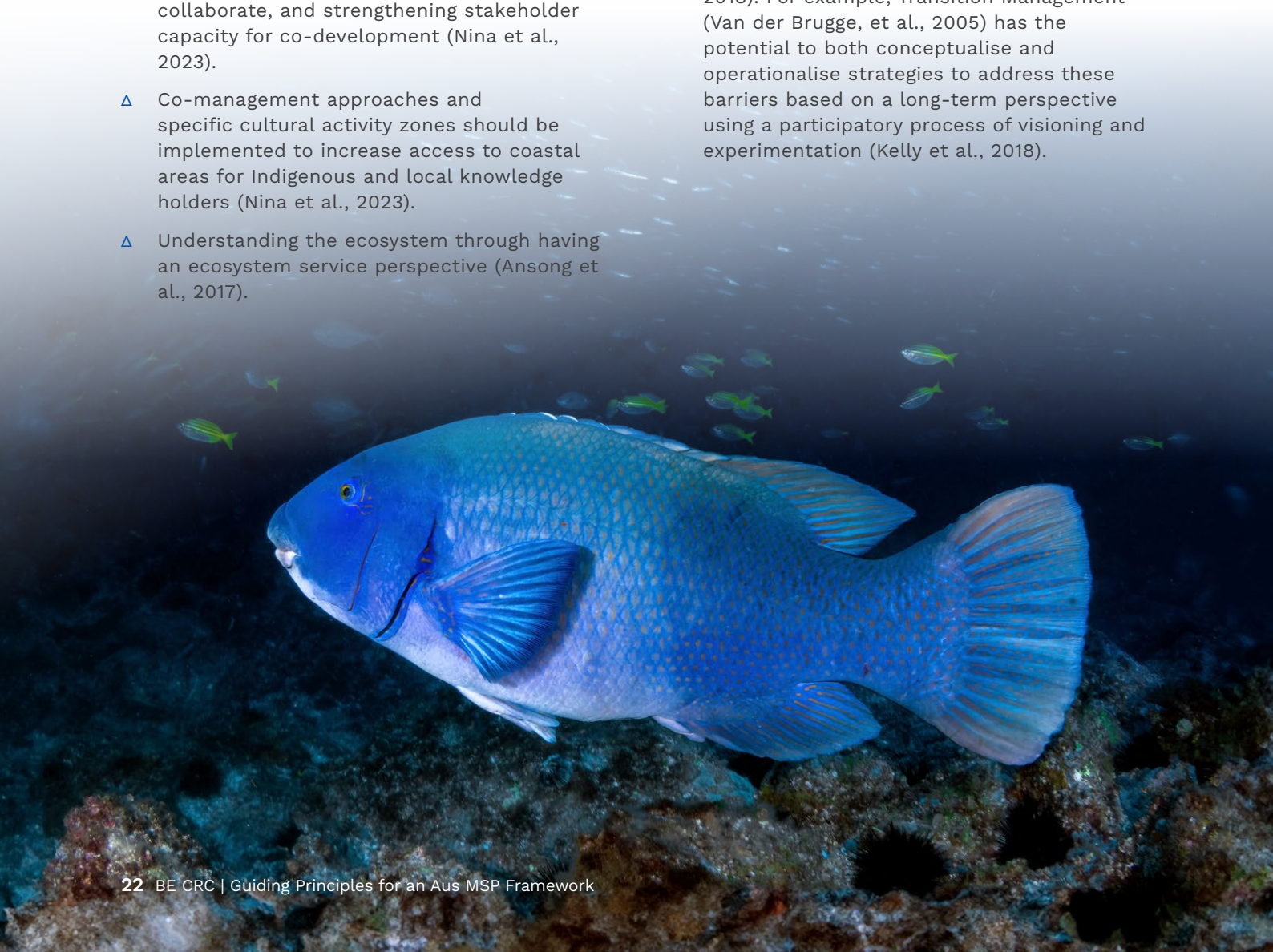
The reviews draw on multiple cases studies globally (Ansong et al., 2017; Collie et al., 2013; Ehler 2021; Flannery et al., 2016; Gissi et al., 2019; Trouillet, 2020; Zuercher et al., 2022 a, b). Multiple reviews suggest that MSP efforts tend to prioritize the environment, economy, and/or governance, while often excluding objectives related to social sustainability, cultural heritage, Indigenous rights, adaptation, and climate change (Ansong et al., 2017; Gilek et al., 2021; Saunders et al., 2020; Zuercher et al., 2022a). Other governance and institutional challenges have also been identified that cause roadblocks to integration (Kelly et a., 2018), and implementation of an MSP process (resource constraints and socio-political factors; Ehler, 2021). Research has also emerged that suggests critical challenges are in place that prevent some principles of MSP being fully realised (particularly principles of participation and adaptive, Reimer et al., 2023), and questions whether the implementation of MSP will actually transform unsustainable marine governance and management practices (Flannery, 2023). Calls for reinventing of MSP approaches to better integrate MSP theory into practise have also been made (Trouillet, 2020).

There remain many lessons to learn to understand how MSP can be applied to better achieve social, environmental and economic goals and overcome challenges described.

Some examples include:

- Broadening planning and evaluation efforts with a globally informed and relevant set of goals (Zuercher et al., 2022a).
- Set planning boundaries to consider bio/eco-regions and cover near-shore waters which means they may be beyond jurisdictional borders (Arkema et al., 2015; Ansong et al., 2017; Börger et al., 2014).

- Implementing meaningful engagement between policy makers, stakeholders and scientists to articulate objectives to operationalise goals into SMARTIE objectives and do so in an early, often and sustained way (Collie et al., 2013; Zuercher et al., 2022a).
- Implement purposeful engagement that recognises the uneven capacity across stake¬holders to meaningfully engage with planning processes by considering the societal and political processes at hand that can constrain such approaches (Flannery et al., 2023; Gilek et al., 2021).
- Social sciences should be better integrated into modelling approaches supporting MSP processes, even if social learning and social-ecological innovation are at stake in order to guide change towards sustainable management and use of ocean resources (Gissi et al., 2019).
- MSP processes need to be co-developed with Indigenous and local knowledge holders from inception for such processes to be contextual, equitable, and transparent. Enabling factors include thinking out of the box, taking the time to engage, listen and collaborate, and strengthening stakeholder capacity for co-development (Nina et al., 2023).
- Co-management approaches and specific cultural activity zones should be implemented to increase access to coastal areas for Indigenous and local knowledge holders (Nina et al., 2023).
- Understanding the ecosystem through having an ecosystem service perspective (Ansong et al., 2017).
- Consideration of how spatial management measures like the establishment of conservation areas, such as marine protected areas, and restriction zones for fisheries, such as no-take zones or trawl free zones, can be implemented through MSP (Kirkfeldt & Santos 2021).
- Incorporate long- term scales of change, especially for climate related changes, in methods and tools to support MSP (Gissi et al., 2019).
- Overcome present barriers in modelling approaches towards incorporating social, ecological and temporal changes in MSP. Models and decision support tools for MSP should be considered as problem solving tools, e.g. to give evidence on potential consequences of planning and management actions to decision makers (Gissi et al., 2019).
- Consider having a legal framework to ensure that results from monitoring and evaluating of plans are adapted through review and revision (Ansong et al., 2017).
- Overcoming institutional roadblocks to implementation can require transformative change (Flannery et al., 2023; Kelly et al., 2018). For example, Transition Management (Van der Brugge, et al., 2005) has the potential to both conceptualise and operationalise strategies to address these barriers based on a long-term perspective using a participatory process of visioning and experimentation (Kelly et al., 2018).



5.5. A path forward

Any application of MSP needs to take account of the challenges and shortcomings in the approach, particularly in regard to achieving socio-cultural sustainability, resourcing the process and be adapted to the particular policy, economic and environmental context of the location.

Integrating lessons learned in a continuing and adaptive manner will be key to ensure that MSP becomes truly sustainable, integrated, and operational (Ehler 2021). We hope that the BE CRC's collaborative and uniquely Australian approach (section 7.2) to understand the needs and aspirations for an MSP Framework in Australia will be a step towards improving this.

This project was instigated as a result of BE CRC partners interest in the possible benefits of an MSP approach in Australia where there is a need. In the remainder of this report, we consider the possible opportunities for an Australian MSP framework that recognises the specific societal priorities, economic circumstances, legislative frameworks and policy settings. As such the framework includes guidelines, principles, and processes that have been identified by state and commonwealth agencies, industry, non-government organisations and Traditional Owners of Sea Country across Australia's marine sector.

6. Policy context for an Australian MSP Framework

MSP was identified by the BE CRC as a potential approach for application in Australia to help promote development of a sustainable Blue Economy and, subsequently, within the Draft Sustainable Ocean Plan as a possible means of delivering integrated, collaborative and holistic ecosystem-based management in areas that could benefit from such an approach.

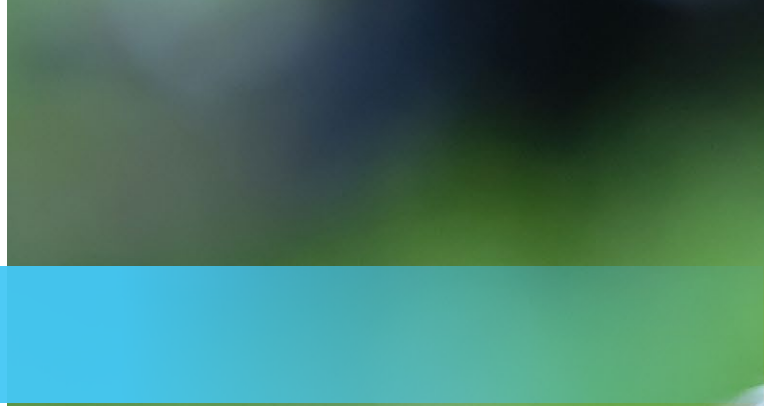
There are multiple policies, commitments, initiatives and plans that MSP could support. Australia is party to numerous international conventions and initiatives which collectively seek to achieve a sustainable ocean economy, protect its biodiversity, and protect cultural heritage (Commonwealth of Australia 2024, Appendix 1). There are also national and state policies focussed on developing a strong and equitable Blue Economy that are centred around the potential of ocean industries to decarbonise the economy. MSP could be used alongside other mechanisms already in operation, to support the achievement of these goals and objectives, international commitments, and National and state initiatives, policies and plans (Appendix 1).

7. Engagement

7.1. Purpose of engagement

The BE CRC sought to collaborate with representatives of Australia's marine estate, to develop a shared vision of the need for, and the potential nature of, an Australian MSP Framework.

While collaboration was a key aspect of the project and well-resourced by the BE CRC, consultations with stakeholders targeted senior representatives and peak bodies, rather than individual businesses and local communities (exceptions were BE CRC partners) to gain high-level and strategic perspectives. Collaborators included First Nations organisations and communities, commonwealth, state, territory and local government agencies, industry peak bodies, environmental non-government organisations, consultancies and research institutes. To protect the privacy of our collaborators, all conversations were captured through notes without attribution (Chatham House rules), and summarised for the relevant sector (e.g., government, industry, NGO, First Nations).

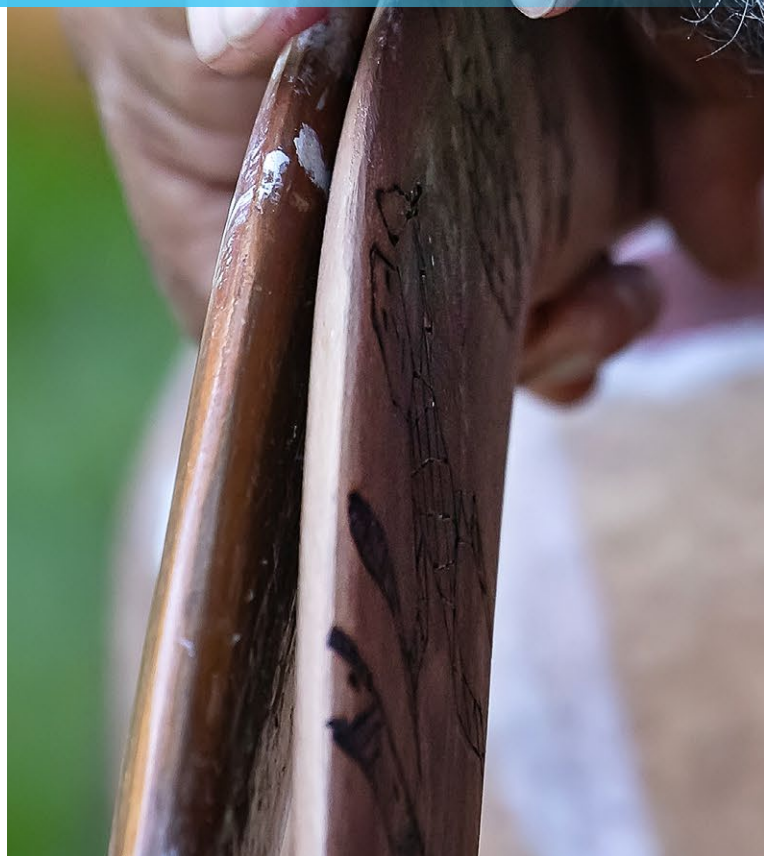


7.2. Method of engagement

7.2.1. Engagement with Australia's First Nations

It was clear early in the project, that engagement with First Nations people needed to occur through a separate, culturally appropriate process. This was to respect their status as long-term custodians of the marine estate, and to ensure that views could be expressed openly, in a culturally appropriate and safe space.

Guided by an Indigenous Engagement Advisory Committee (IEAC) and facilitated by an Indigenous-led consultancy (*Synapse*) we developed and implemented an Indigenous Engagement Strategy (Synapse 2024).



Key groups engaged in Sea Country management were identified and invited to engage with the project team through Synapse led and facilitated meetings. The invitees included Land and Sea Councils, Aboriginal Corporations, Traditional Owner groups/agencies including Sea Ranger groups, and individual Elders (Appendix 2). For each event, discussion papers were provided to participants and consent for participation was sought before engagement.

Face to face workshops were undertaken across the country, in Darwin, Thursday Island (Torres Strait), Wollongong, Perth, Broome, and Adelaide, between July and September 2024. Virtual workshops were also conducted, through MS Teams, with targeted groups to support broader engagement and to provide a diversity of engagement styles. In-person workshops generally lasted 2-3 hours, while virtual meetings were of 1-2 hours duration. The project team have, at the time of writing, engaged with 55 individuals and 31 groups/organisations. These discussions are ongoing and additional issues or opinions may emerge. Engagement with the project was on a voluntary basis. Constructive feedback was provided from participants after each event.

7.2.2. Engagement with non-indigenous collaborators

Engagement with non-indigenous users of Australia's marine estate occurred through semi-structured conversations based around a series of questions posed in the briefing papers and presentations. Engagement occurred via; online 'focus group' discussions, webinars, and one-on-one meetings (on-line or in-person) between November 2022 and September 2024. In addition, a Stakeholder Advisory Committee (SAC), which consisted of representatives from 19 government agencies and organisations (Appendix 3), provided strategic advice to guide the wider engagement process. The project collaborated with a 184 non-indigenous people from 62 organisations across 58 meetings. Engagement with the project was on a voluntary basis. Constructive feedback was provided from participants after each event.

8. Planning principles for a uniquely Australian MSP Framework – Outcomes of engagement with collaborators

Across the indigenous individuals and organisations that engaged with the project, there was considerable interest in developing a new approach to Sea Country management and a number of specific issues were repeatedly identified as being desired for Sea Country management.

Recurrent themes also emerged from our conversations with non-indigenous collaborators. These themes reflect the needs and aspirations of our collaborators and have been condensed into five planning principles by the research team (Figure 2). The outputs from our discussions with collaborators are detailed in a report on engagement summaries (forth coming).

The five planning principles were broadly supported acrossv all sectors and First Nations and form the basis for the integrated Australian MSP Framework. Although the same questions were raised at each meeting, they allowed for a dynamic flow of conversation, meaning that not every group/conversation covered every aspect or used the same vocabulary. Despite this, there were no dissent against these five principles. Potential mechanisms to deliver on the five planning principles were also discussed during conversations with some collaborators and these discussions are continuing. These principles broadly align with common principles for an MSP process (Box 2).

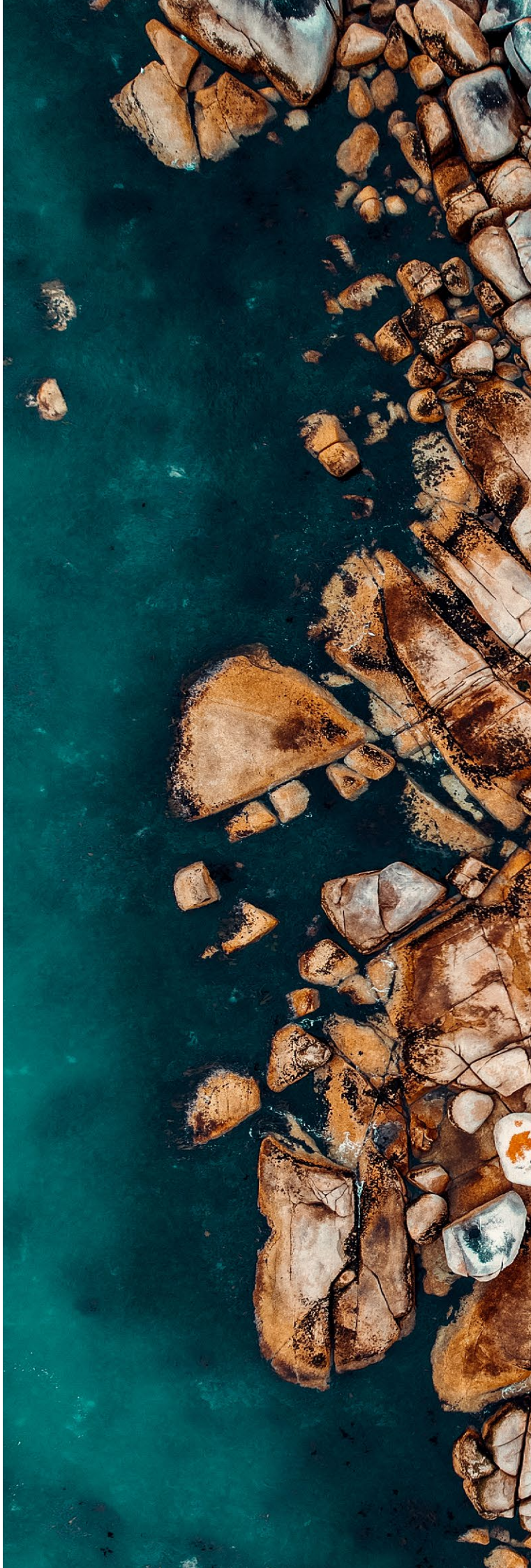
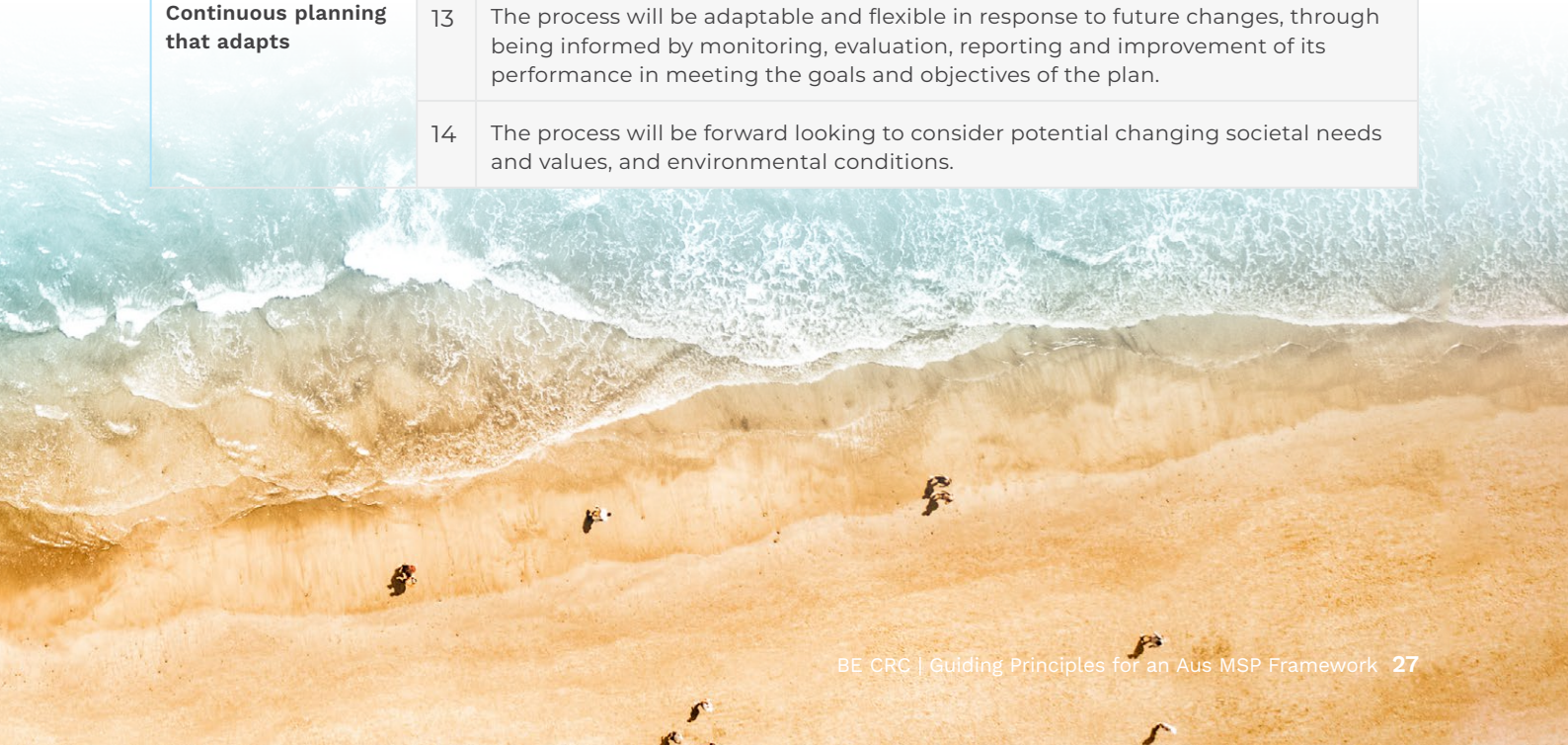
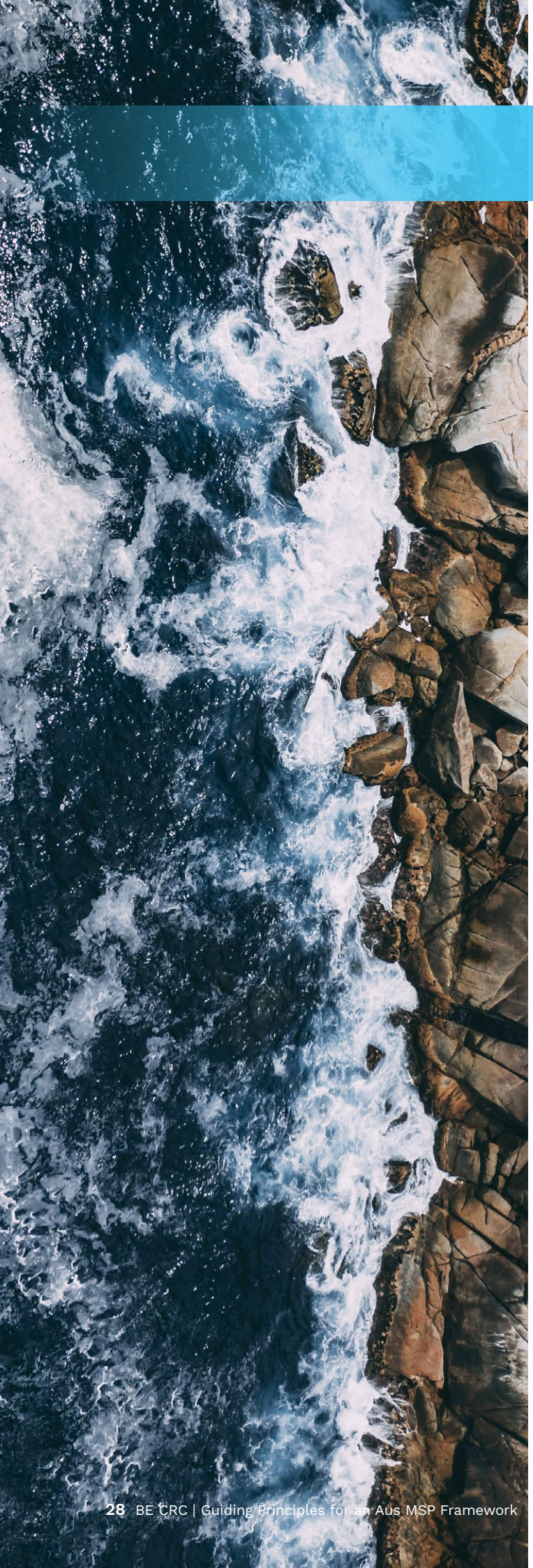


Table 2. An integrated Australian MSP framework

Planning Principles	A process to deliver on the principles	
Transparent planning	1	Government and regional planning priorities will guide development of the plan and inform decision-making.
	2	The planning process is transparent in its purpose, scope, design, implementation and decision-making outcomes.
	3	The planning process recognises historic issues and problems faced by First Nations and creates opportunities for First Nations within the Blue Economy.
Integrated planning to guide decision-making	4	An integrated governance framework will utilise cross-sector and cross-jurisdictional arrangements and will clarify and streamline processes.
	5	Integrated governance arrangements will leverage existing sector-based policies and planning frameworks.
	6	Recognition of the shared responsibility to 'care for Country' and that part of the current marine estate was terrestrial land and used as such by First Nations peoples.
Participative planning that is equitable and inclusive	7	Early and consistent engagement with First Nations (saltwater mobs) that follows 'Free, prior and informed consent' will be a key part of the MSP process. Sufficient time and resources will be provided to facilitate meaningful engagement.
	8	First Nations and stakeholders will be supported to understand conflict and synergies between users and discuss trade-off opportunities (across socioeconomic and environmental realms).
Sustainable planning that uses an evidence-based approach	9	Decisions will be informed by the best available evidence and include traditional and social knowledge, science, data and data products.
	10	Open access to verified and standardised data and data products will be enabled and will include mechanisms to deal with data uncertainty and sensitivity.
	11	Knowledge sharing will be open and honest while protecting cultural sensitivity and commercial confidentiality.
	12	Modelling and other predictive approaches will be made available to support an understanding of spatial use, risks to social, cultural, economic and environmental values and where possible, cumulative impacts to the environment.
Continuous planning that adapts	13	The process will be adaptable and flexible in response to future changes, through being informed by monitoring, evaluation, reporting and improvement of its performance in meeting the goals and objectives of the plan.
	14	The process will be forward looking to consider potential changing societal needs and values, and environmental conditions.





8.1. Transparent planning process

National strategic priorities are important to guide management of Australia's coasts and oceans.

National priorities have recently been set by the draft Sustainable Ocean Plan, which will be an important driver for Commonwealth, state and territory government agencies to reflect, reassess and realign their own priorities to support the plan.

The four national priorities identified in the plan as focus areas include:

- **Climate change impacts are understood, the ocean is resilient and adaptive to change and ocean ecosystems and ocean industries make a major contribution to Australia's net zero emissions target.**
- **First Nations are a central part to the ocean economy and supported to have a genuine and representative role in Sea Country decision-making and ocean policy development.**
- **The ocean is healthy, protected, resilient and recovering and key threatening processes are addressed.**
- **Current and emerging ocean businesses are environmentally sustainable, socially responsible and economically prosperous for current and future generations.**

These priorities, that appear to be weighted equally, support the government to be transparent in their decision-making processes when faced with conflict (between sectors and between the environment and sectors). They also enable states and territories to be proactive in their approach to support emerging industries. National priorities also support different industry sectors to know where they sit in the hierarchy of decision-making across jurisdictions, this is particularly relevant when responding to issues of precedence.

Our industry collaborators noted:

"Some sectors have been given precedence historically over other sectors. There needs to be more transparent management of all sectors that is underpinned by governments overarching strategic priorities".

"Decisions on applications needs to be based on an agreed strategic assessment of government priorities, rather than being driven momentarily by stakeholder needs (e.g., first in best dressed). An overarching agreed set of principles and objectives should be used to guide decision-making in a transparent way."

Transparent decision-making is a valued principle by industry and government because it implants trust in the process, gives clarity around decision-making, supports government and stakeholder relations and reduces sectoral conflict when other sectors take precedence over their sector. First Nations groups also identified the importance of transparency to build trust:

"Transparency is considered essential to build trust and get buy-in into the MSP process".

"Many First Nations groups have experienced challenges when interacting with Government (all levels), industry and other groups. These problems were not necessarily related to marine issues but have created, and continue to foster, a high level of distrust. Any planning process will need to recognise these issues and work through them, by adopting a transparent planning and decision-making process and taking time to build relationships and shared visions".

'Caring for Country' is a cultural imperative for First Nations people. Our collaborators frequently emphasised that need for a planning process to put 'Caring for Country' as priority. Several First Nations groups were also wanting to lead or co-lead an MSP process. The experience of First Nations tribes in British Columbia show that placing First Nations groups at the core of the marine planning process, leads to building reconciliation and delivers strong economic and social outcomes for both First Nations and the wider coastal community (Marine Plan Partnership for the North Pacific Coast).

We heard several examples where First Nations were not part of the decision making in planning for Sea Country. It's this desire to change the status quo that has led to the establishment of the Sea Country Alliance.

Nearly all First Nations groups who engaged with us, shared a desire to benefit from Blue Economy development in some way. These include through providing opportunities for young people to be upskilled and find employment, through financial gains (royalties) or through supporting communities to have better access to care for their Sea Country and exercise traditional practises.

"Were keen to see the planning process open to the creation of opportunities to allow First Nations people to benefit from the growth of a sustainable Blue Economy" (First Nations).

Further details of how benefit sharing can be achieved in Blue Economy development are detailed in Hunter et al., (2024).

8.2. Integrated planning to guide decision-making

An integrated approach to guide decision-making requires a common framework for understanding of management challenges and opportunities across the whole of government. It is not limited to the result of national government actions but is the sum of all the processes, organisations, institutions, and instruments with an influence over the marine environment (Glegg et al., 2015). An integrated governance framework (Box 6) is important to clarify, streamline and coordinate planning processes across different jurisdictions, sectors and people. An integrated process was considered important by many of our collaborators.

"An integrated framework would benefit industry and government agencies by standardising and clarifying application and administrative processes" (government and industry).

"Industry would benefit by a reduction in administrative costs associated with duplicated approvals processes and a reduction in costs to fulfil EPBC Act and other legislative requirements. For example, costs could be shared among proponents to better understand uncertainties around environmental, social, and cultural impacts" (industry).

"The intersect between land and sea management needs to come together to support Blue Economy growth and environmental protection. E.g., legislative gaps need to be addressed where infrastructure on land is needed to support offshore industries (i.e., legislation is not currently in place to enable land infrastructure to support offshore renewables)" (government).

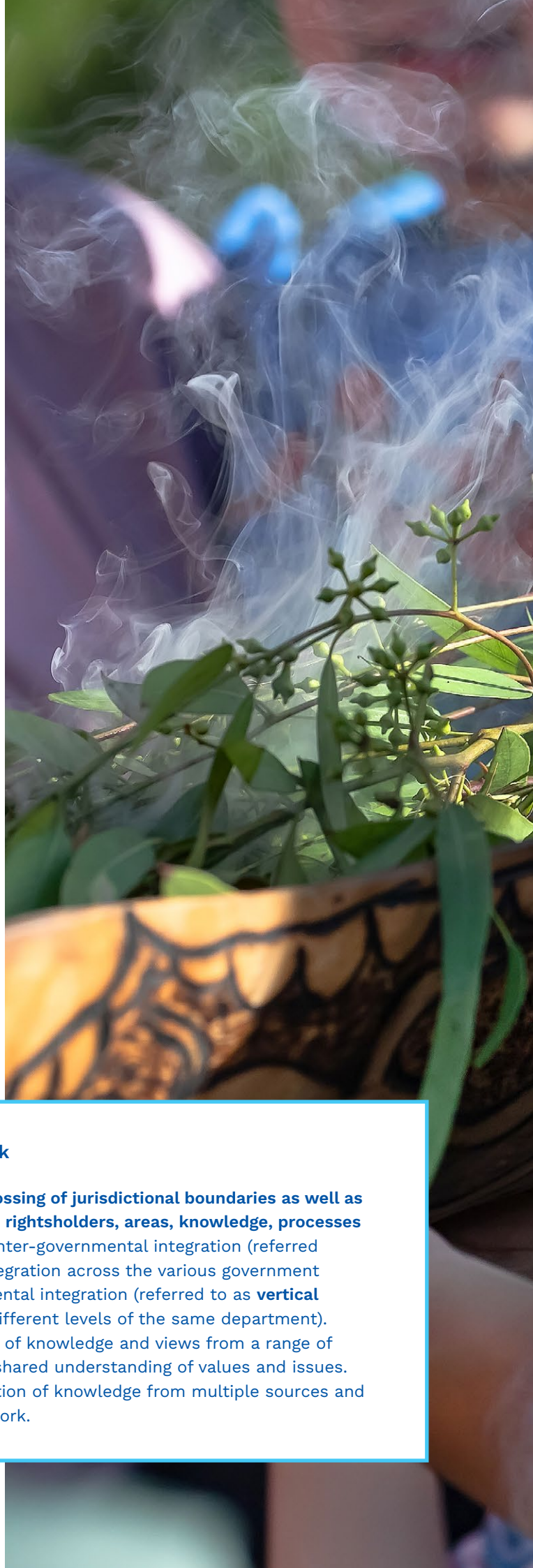
"A coordinated process could support industry to connect to other relevant agencies, stakeholders, and First Nations groups" (First Nations).

The cultural obligation on First Nation peoples to 'care' for their Country, is broadly consistent with the National Vision for the marine estate (Box 1). Integrating First Nations 'saltwater' people into the planning process, will strengthen our ability to deliver that vision while allowing for the protection of key cultural and historical resources and delivering sustainable development opportunities.

First Nations organisations are often daunted by the matrix of government agencies particularly when skills and resources are scarce. It also means that traditional practices may be limited by man-made boundaries. We heard from our First Nations collaborators:

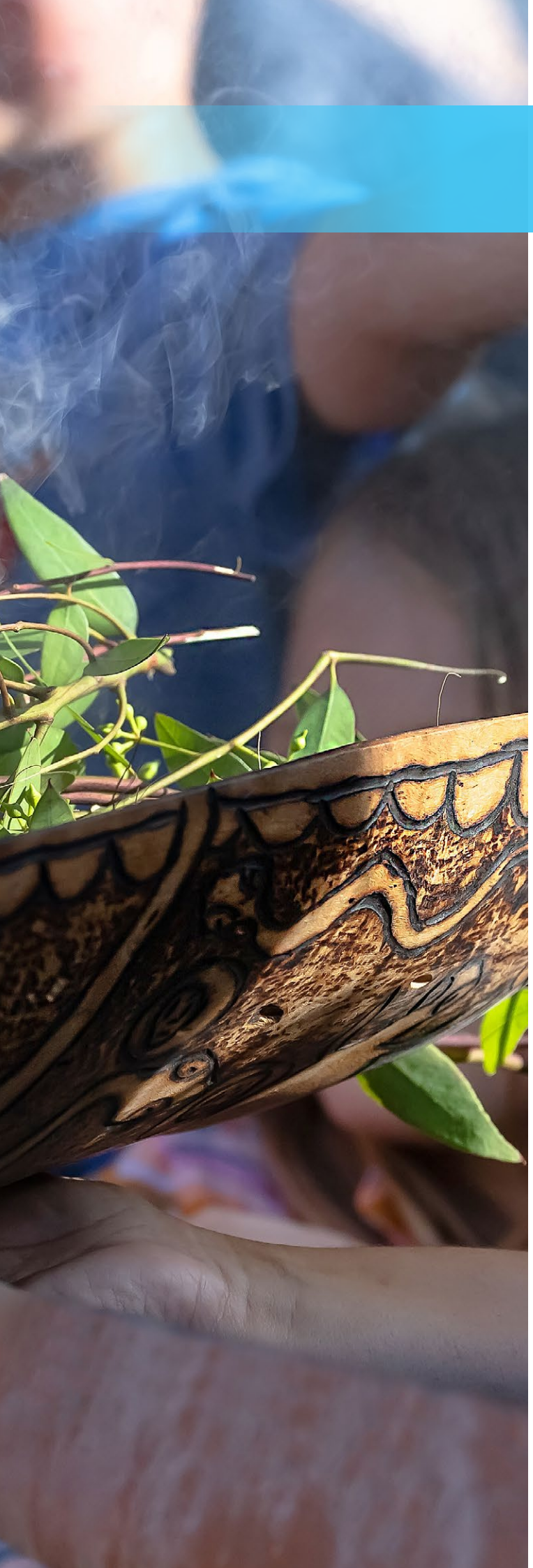
"Western law is based on different boundaries to communities which creates roadblocks. Communities have to deal with different levels of government for one area and vice versa – governments may need to work with numerous communities – some crossing government boundaries".

"An integrated process would enable traditional owners to integrate more freely in government processes".



Box 6 - An integrated governance framework

An integrated framework is defined here as **the crossing of jurisdictional boundaries as well as boundaries separating Departments, stakeholders, rightsholders, areas, knowledge, processes and resources.** It includes both cross-sectoral or inter-governmental integration (referred to as **horizontal integration** because it enables integration across the various government departments and jurisdictions) and intra-governmental integration (referred to as **vertical integration** because it enables integration within different levels of the same department). Integrated frameworks can support the integration of knowledge and views from a range of stakeholder and First Nations interests through a shared understanding of values and issues. Integrated frameworks can support the amalgamation of knowledge from multiple sources and disciplines into one consistent organisational network.



8.3. Participative planning that is equitable and inclusive

The UN Declaration of the Rights of Indigenous Peoples (UNDRIP), which is recognised by Australia, sets out the core principle of Free, Prior, Informed Consent (FPIC).

Our collaborators frequently emphasised the need for a planning process to include FPIC. Participative planning addresses the core values of FPIC, however they can also be considered under the other planning principles (e.g. transparency supports the "free from coercion" component, while sustainable planning also supports the 'informed' component). Recognition and acknowledgement of Indigenous rights and cultural values is a central tenet of the framework. Managing potential conflict between various stakeholders, First Nations and community is key to support growth in the Blue Economy. A process to identify issues before they become conflicts, or to reconcile conflicts between potential users is fundamental to progress.

"A process to manage conflict between sectors and departments within the boundaries of existing legislation is needed".

An understanding of stakeholder's and First Nations values and concerns for planning is important for government, First Nations and industry because of legislative requirements to mitigate impact on users and to ensure the planning process is supported by users. Repeated examples were given of late engagement in consultations around projects occurring on/ adjacent to Sea Country where engagement occurred at a late stage and was seen as a tick box exercise with no real scope for dialogue.

"First Nations must be involved from the ground level up. We need time to consult with council and communities".

In the case of one particular project, we heard *"the First Nations community wasn't against the project but they were only given a short period to discuss and respond with little information provided".*

Establishing a process that brings stakeholders and First Nations together early and consistently throughout the planning process, can reduce potential conflict by providing a platform to discuss identify and mitigate issues. For example, through exploring trade-offs across the different users.

While our First Nations collaborators recognised the need for 'representation' of First Nations peoples in planning, they also noted that representatives would need to refer back to Elders and the community before positions or commitments were firmed up. This process will take time and as such the planning process must not be conducted against hard deadlines that preclude effective and genuine engagement.

"It is critical that First Nations groups are resourced sufficiently with sufficient time to allow their genuine engagement in the process". This point was made succinctly by both First Nations and non-first nations collaborators.

Identification of, and access to, all stakeholders and First Nations that have an interest in a planning area are needed to identify conflict and support an evidence-based approach. First Nations 'saltwater' mobs have cultural links and long knowledge of Sea Country and need to be engaged in marine planning. Emerging industries, not yet represented by peak bodies or groups, should also be brought to the table.

"A clear pathway for participation and knowledge sharing would ensure all values and needs are defined and considered during the decision-making process".

8.4. Sustainable planning that uses an evidence-based approach

The management of Australia's coasts and oceans should be enshrined in decision-making that considers the long-term impact of decisions on the environment, society, and the economy. An evidence-based framework supports sustainable management of the environment, its users and its values because it acts as a point of truth on which to make decisions about future use. It therefore helps manage conflict by providing information to support discussion between industry sectors and users, predicts environmental, economic and social risks and scenarios (e.g., cumulative impacts, social and economic valuations such as ocean accounting and disclosure) to inform and limit trade-offs, and identifies opportunities for co-location and/or coexistence among different industries and users.

An evidence-based approach to decision-making is best supported by open access to data that is standardised, and quality assured and is in a format (data product) that can be used by regulators. Standardised and accessible data and knowledge is important to regulators because it supports consistent decision-making across departments and jurisdictions, can enable an understanding of cumulative impacts across sectors and can improve modelling predictions to understand future social and environmental changes (e.g., climate change). As noted by our government collaborators:

"The standardisation of data collection, data products and data submission (from proponents) and access to this data, provides decision-makers with an uncontested baseline on environmental and social risks".

"We want comprehensive science-based evidence that looks at the impact of all sectors within the spatial footprint (cumulative impacts) when undertaking approval processes (i.e., not just the impact of the activity being proposed)".

An evidence-based approach is important to industry because it can identify opportunities for growth, support discussions about trade-offs, and foster collaborative research to address areas of uncertainty, improve projections about uncertainty and put into context the level of risk for proponents.

"Standardised data can support focussed collaborative research to address areas of uncertainty in the spatial context. This is particularly relevant for large scale data-sets that cross jurisdictional boundaries and can be lobbied for Commonwealth funds to answer. Standardised data can identify areas of uncertainty, improve projections about uncertainty and put into context the level of risk for the proponents" (industry).

Accessible and standardised data and knowledge provides industry and regulators with an uncontested baseline of understanding to support discussions about trade-offs.

"Standardisation of data enables an uncontested baseline on environmental, social and economic issues/benefits to form the basis for discussions about trade-offs" (government and industry).

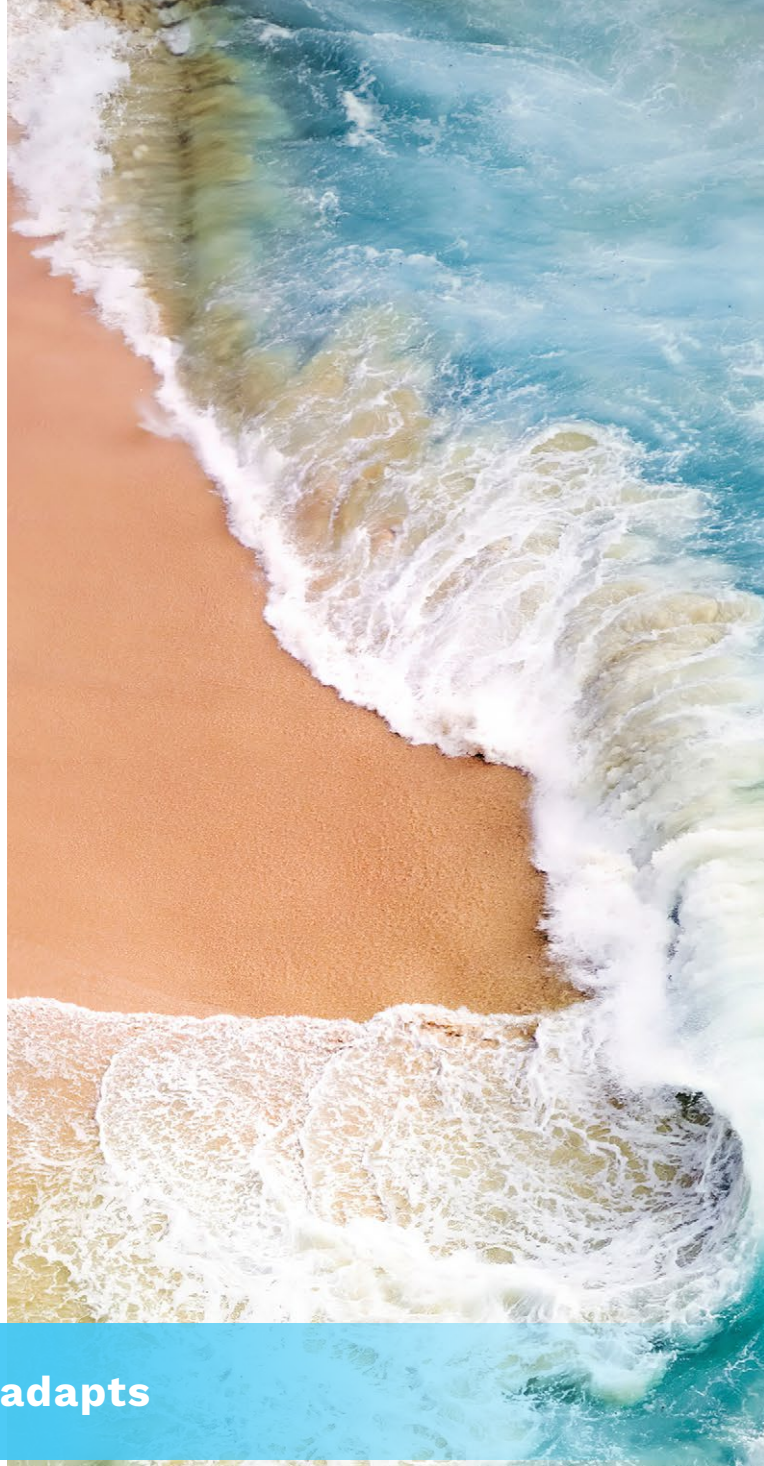
An evidence-based approach also implies a process that allows Elders and Traditional Owners of Sea Country to share appropriate summaries/syntheses of their traditional knowledge and values that express their societal views.

"We would welcome better access to information and the ability to place our traditional knowledge which extends through millennia alongside modern knowledge. At present, traditional knowledge is often ignored, as it is not written" (a First Nations collaborator).

An evidence-based approach is also important to First Nations, environmental non-government organisation and conservationists, to ensure development of the environment is sustainable and important coastal and marine areas are protected. Communication is key:

"We have difficulties in accessing information collected by others, including national science agencies, universities, as well as industry, on our Sea Country" (First Nations).

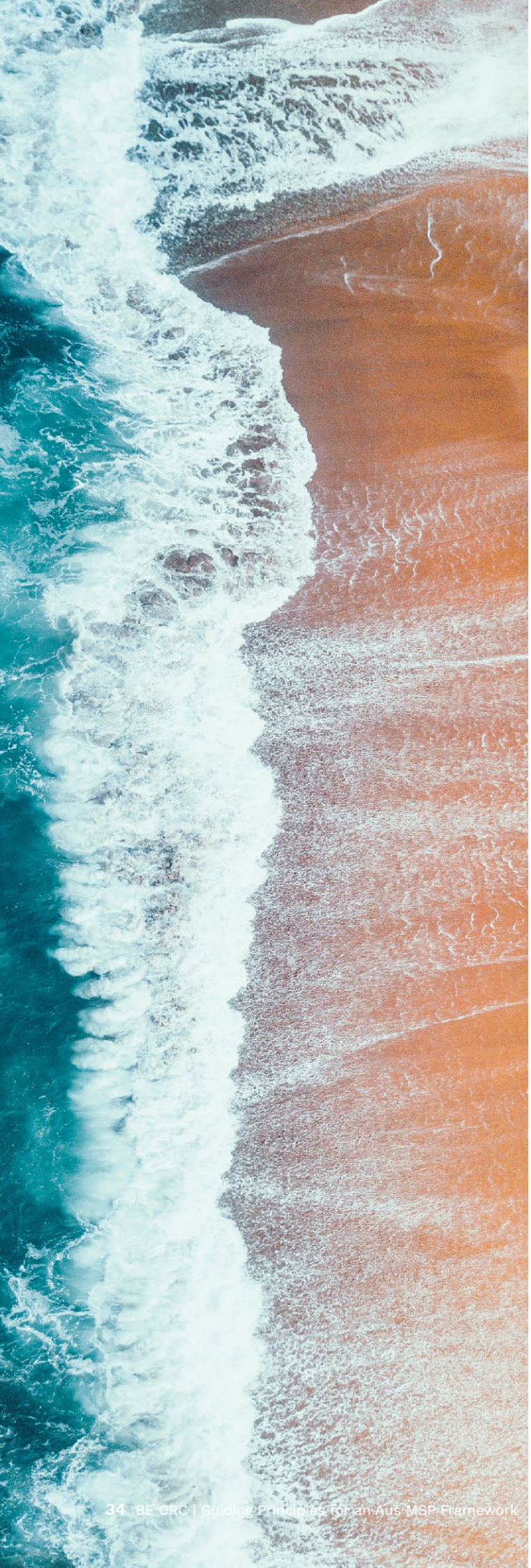
Our collaborators noted that some information would have to remain commercially confidential to industry but also expected others to respect the cultural sensitivities of their traditional knowledge. It was felt that open discussions of high-level data products and broad understanding of the system would be productive without the need to compromise the confidentiality or sensitivity of anyone.



8.5. Continuous planning that adapts

Our collaborators recognised that the 'World is changing' and that a flexible approach to planning is important to underpin adaptive management and build industry confidence given future changing climate conditions. Areas of use and societal value may change through time as new industries emerge and as climate change or other drivers alter the ecological and economic landscape for species and users.

"We need a climate proofed framework. How do we build business confidence in the face of climate change. How can economic viability be maintained when movement of species, changes to ecosystems and physical forcings is imminent" (industry).



"Science needs to better understand and predict changes from climate change to help advise government and industry because it is a significant issue for some states currently" (government).

An adaptive management framework supports achieving plan goals and objectives over the longer-term by incorporating outcomes from monitoring, evaluation and review into the plan design so changes can be implemented as needed to achieve the goals. Ongoing review and improvement is important to provide flexibility needed to adapt to changing environmental and social conditions. The need for continued dialogue and review of the plan's success against changing circumstances and in the face of new knowledge was identified specifically by First Nations collaborators.

"First Nations people want opportunities for rangers and others to be involved in ongoing monitoring and evaluation of projects".

9. Delivering a uniquely Australian MSP framework

During discussions with our collaborators, we have sought advice on how an Australian MSP Framework could use the five principles to support planning in an operational sense. This remains an ongoing discussion, particularly with First Nations, but some key aspects are emerging.

From the outset we heard that (i) marine spatial plans should only be developed for areas where they would provide benefits (i.e., there would be no Australia wide marine spatial plan) and (ii) when the community feels a plan would deliver benefits the scale (area) of the plan should reflect the area of concern (i.e. there is no set size for a plan area). The MSP process could be applied anywhere in Australia, however it will not necessarily result in the production of a plan because the decision for a plan, as an outcome of the MSP process, will be based on need.

The draft Sustainable Ocean Plan has identified a high-level vision for Australia's marine estate (Commonwealth of Australia 2024).

This overarching vision sets the context for ocean planning (Box 1) and covers from the coastline out to 200 nautical miles, including external territories. The draft SOP does not propose new legislative instruments but seeks to deliver this national vision within the existing policy and legislative arrangements. Delivering on the SOP by 2040 therefore provides a needs-based rationale for strategic planning. MSP has been deemed to be an effective option for strategic planning when the need arises out of shared concerns and a pressing problem, rather than a more structured, legalistic or bureaucratic approach (Smythe & McCann, 2019).

There was a strong appetite for a holistic, integrated and effective marine management planning process expressed by the diverse range of collaborators consulted by the BE CRC. The identification of a needs-based pathway for an Australian MSP Framework is important to support progression of sustainable Blue Economy development and suggests that implementation of MSP is likely to be effective without being driven by a statutory requirement. While a needs-based, integrated approach can be effectively implemented through strengthening sectoral and inter-agency agreements, the process is likely to require political and community trust and buy-in from stakeholders and First Nations at all levels (Olsen et al., 2014). An integrated approach is not intended to replace single-sector management and it rarely does in the international exemplars of MSP. Rather it aims to integrate sectors and enhance cooperation between sector authorities (Rodriguez, 2017) while reflecting the reality of ecosystem interactions.

A needs-based rationale would be a uniquely Australian approach to MSP. Internationally, MSP is commonly implemented through a legal framework (Eher, 2021; Griffiths et al., 2024) and some authors argue that a statutory process is required to ensure engagement and compliance (Zuercher et al., 2022). Having a legal context for MSP, particularly having a legal authority and enforcement mechanisms and incentives for compliance and resourcing, is considered as one of the key enabling conditions for effective MSP (Zuercher et al., 2022). In recognition of this, guidelines have been prepared to support countries to incorporate MSP into their existing legal framework (Blue Prosperity Coalition 2020).

In discussing the implementation of MSP in Australia with our collaborators, some felt that a statutory process was preferable and would ensure an MSP process was adopted. Alternatively, other collaborators expressed a desire for flexibility in the approach, given the vast size of Australia's marine estate and different commonwealth, state and territory priorities. Within the state of Victoria, a Marine Spatial Planning Framework is required under their Marine and Coastal Act (2018), as part of the Marine and Coastal Policy (2020), to achieve integrated and co-ordinated planning and management of the marine environment (DEECA 2023). In South Australia, a single regulatory framework has been legislated for energy under the Hydrogen and Renewable Energy Act (2023). Deciding to adopt a uniquely Australian MSP process that is based on need would enhance capacity for collaboration and effectively support inclusion and participation efforts (Jacob et al., 2023; Stalmokaitė et al., 2022) and may also result in an MSP process being up taken sooner compared to if it were rolled out through a statutory process.

The draft SOP provides the policy imperative to deliver the national vision (Box 1) through mechanisms that deliver collaborative approaches. A uniquely Australian MSP process offers practical mechanisms for engagement and evidenced based discussions to support a collaborative approach.

10. The next steps

This report is open to receiving feedback and the project team welcome comments and are happy to engage in further discussion.

The next step to progress the Australian MSP Framework will include developing the practical steps to operationalise the framework and will incorporate feedback from this report. We will further engage with our collaborators to develop these steps following the release of this report. The final Australian MSP Framework will be launched in September 2025. At that time, we will be releasing a suite of data products and tools the project has developed to support decision-making and understanding the environmental and societal landscape, and the outcomes from applying the framework to the case studies.

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Appendix 1 – Policies, commitments, plans and initiatives that could be supported through Marine Spatial Planning

An MSP Framework can support Australia's existing efforts to deliver international and national commitments related to sustainability, environmental protection, decarbonisation, and social and cultural equity.

International agreements and initiatives that could be supported and delivered using MSP include:

- *United Nations Sustainable Development Goals (UNSDG)* - Australia has committed to delivering the 17 Sustainable Development Goals (SDGs) by 2030. Although MSP is of most relevance to Goal 14 life below water, MSP can address all 17 SDGs (Kirkfeldt & Frazão Santos 2021; Figure A; Ntona and Morgera 2018).

Figure A: Relationship between MSP and the Sustainable Development Goals (SDGs) *(source: UNESCO-IOC/European Commission 2021).*

- *High Level Panel for a Sustainable Ocean Economy* - Australia is one of 14 nations to commit to managing 100% of its national waters sustainably by 2025 (High Level Panel for a Sustainable Ocean Economy, 2020). The development of the Sustainable Ocean Plan 2025 for Australia is driven by this agreement. Marine Spatial Planning can contribute to many of the priorities identified in Australia's Draft Sustainable Ocean Plan (Commonwealth of Australia 2024) because sustainable ocean governance is at the heart of MSP design (Ehler et al., 2019).
- Australia has agreed to *Kunming-Montreal Global Biodiversity Framework (GBF)* which is the vehicle to implement the *Conservation of Biological Diversity (CBD).* Australia has committed to protecting 30% of its coastal and marine areas by 2030 (30by30) and using participatory integrated biodiversity inclusive spatial planning and/or effective management processes to do this. Australia has also committed to actions that meet people's needs through sustainable use and benefit-sharing particularly for indigenous peoples and local communities, as well as integrating biodiversity and its multiple values into policies, regulations, planning and development processes. Australia's commitment to the GBF, is reflected in it commitment as a member state to the *Global Ocean Alliance* and *The High Ambition Coalition for Nature and People.* The MSP framework can be used as a tool to champion ocean action through sustainable planning, support livelihoods and the rights of indigenous peoples and support Australia to achieve the 30by30 target.
- United Nations Framework Convention on Climate Change (UNFCCC), 2015 Paris Agreement and *1997 Kyoto Protocol* The UNFCCC is the parent treaty of the Kyoto Protocol and Paris Agreement all of which aim to reduce greenhouse gas emissions. Australia became a party to the UNFCCC in 1992, Kyoto Protocol in 1998 and the Paris Agreement in 2016. Australia commits to reduce greenhouse gas emissions to 43% below 2005 levels by 2030 and commits a net zero carbon emissions target by 2050 (Australia's Nationally Determined Contribution 2022) (under Article 4 of the Paris Agreement). MSP can be used as a tool to support decarbonisation and a transition to renewable energy economies (Young 2015; Yates et al., 2018; Skijkerboer et al., 2020).
- *United Nations Convention on the Law of the Sea (UNCLOS)* – Australia ratified UNCLOS in 1994. UNCLOS has been widely regarded as a "constitution for the oceans" and enshrines the notion that "the problems of ocean space are closely interrelated and need to be considered as a whole". The concept of holistic planning is a key principle of the MSP process and can be used to implement and strengthen this law.
- *United Nations Decade of Ocean Science for Sustainable Development (2021 – 2030)* – The Intergovernmental Oceanographic Commission of UNESCO launched the "Ocean Decade" to provide a framework for science, business, industry and the public across the world to undertake research, investment and initiatives to engage, partner and collaborate to support more robust-informed policies and decision-making. The Ocean Decade is intended to drive progress toward the meeting the SDGs. MSP aligns with three of the ten actions to fulfil the Ocean Decade Challenges (develop a sustainable and equitable ocean economy, create a digital representation of the ocean and protect and restore ecosystems and biodiversity).

National plans and initiatives that could be supported and delivered using MSP include:

- *Nature Positive Plan (NPP)* – Delivers on the government's commitment to strengthen and streamline Australia's environmental laws in response to the Independent Review of the EPBC Act (Samuel 2020). The government committed funds in 2023-24 to deliver key initiatives including, establishing a new independent Environmental Protection Authority, establishment of Environment Information Australia and legislating the commitments set out in the NPP. New National Environmental Standards (including new environment laws) are a centrepiece of the EPBC Act reforms and include developing standards for community and First Nations engagement and consultation, and data and information, as well as a *Regional Planning Initiative* that will enable "better and faster decision-making". There are many elements in the NPP that align with principles and objectives of MSP, indicating that MSP could provide a vehicle to achieve the goals of the Nature Positive Plan.

- *Net Zero Plan* and *Powering Australia Plan* – Comprehensive plans centred around policies, measures and reforms to decarbonise to meet net zero targets through a wide application of funding schemes, strategies, restructures and commitments. The plans supports the development of low emission industries and introduces incentives, mechanisms and policy changes to support investment, build capacity, capability and technologies and transition to a clean energy economy. The plans also support public, business and community energy efficiency across the electricity and transport sectors. The plan includes a "commitment to work across government with relevant departments and agencies, industries, experts, unions, and the community to develop six sectoral decarbonisation plans to meet its Net Zero 2050 target and feed into its 2035 emissions reduction targets". MSP could be used to deliver on these commitments through supporting investment and facilitating the development of offshore low carbon energy generation capacity in appropriate locations (to meet user needs and alongside other ocean users). Some initiatives related to these plans include:
  - *Rewiring the Nation* – The government has committed $20 billion in funds to accelerate investment in electricity transmission projects. Australia has committed to increase overall renewable energy production to 82% of the National Electricity Market generation by 2030 (Annual Climate Change Statement 2022). Part of this plan involves a $1.5 billion commitment to fast-track the development of offshore wind farms and renewable energy zones to lower electricity prices to Australian households, including funding towards transmission projects through state waters of priority for renewable energy zones.
  - *National Energy Transformation Partnership* - A framework for Commonwealth, state and territory governments to work together on reforms to help transform Australia's energy system to achieve net zero by 2050. Offshore wind energy generation has been identified as an important sector to support the energy transition (Briggs et al., 2021). MSP can support the wind sector to be accommodated alongside other users and account for environmental and social considerations.
- *The National Agreement on Closing the Gap* and the *Uluru Statement from the Heart* - A commitment to deliver actions that ensure key structural changes are implemented by all governments to improve the lives of Aboriginal and Torres Strait Islander people. Four priority reforms are agreed to under the National Agreement. Marine Spatial planning can support many of the priority reforms, surrounding establishing formal partnerships and shared decision-making abilities, providing employment opportunities and training, improving engagement, and providing access to data and information.
- *National Marine Science Plan (2015-25)* – A ten-year plan for Australia developed by Australia's expert marine science community to identify priorities for research and investment to address sustainability challenges and fulfil Australia's Blue Economy potential. MSP can contribute to help solve four of the seven challenges facing our marine estate (equitable, balanced resource allocation, biodiversity conservation, climate change adaptation, and energy security).
- State renewable energy targets and plans - An offshore wind target of at least 2 gigawatts (GW) of offshore generation capacity by 2032 has been set by *Victoria* with finance earmarked to support the transition. Victoria has also legislated an increase for its renewable energy target from 40% by 2025 and 50% by 2030 to 65% by 2030 and 95% by 2035. Targets are also being considered by other states with approved and proposed ORE areas (*Tasmania's Renewable Energy Action Plan; boosting renewable energy plans in South Australia and Western Australia*). A MSP Framework can support achieving the offshore renewable energy targets as it has done in many other countries (Quero García et al., 2019; Skijkerboer et al., 2020).
- The private and research sector of Australia has also identified MSP as a national priority to enable data-driven decision-making to support the Ocean Decade (Ocean Business Leaders Summit 2023; Sustainable Futures Australia).

A national MSP Framework can also provide support to state-led MSP initiatives and integrated management programs and provide guidance on how governance can be integrated across jurisdictions.

Examples include:

- *Victoria's Marine and Coastal Policy 2020 (including its Marine Spatial Planning Framework) and Marine and Coastal Strategy 2022* - The instruments that give effect to Marine Spatial Planning in state waters, with implementation through the of *Marine Spatial Planning Guidelines* and *Marine Planning Areas*.
- *NSW Marine Estate Management Strategy* – A ten-year strategy that sets the overall management of the NSW marine estate. The strategy uses the best available evidence, as well as input from scientists, the community, Aboriginal people, industry, government and non-government organisations and integrates with other state-led reforms and programs to achieve a more coordinated approach to management. The strategy addresses key threats to the economy, the environment and to cultural values that benefit the marine estate community, identified through an elicitation process with the community and experts.

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Appendix 2 – Indigenous collaborator affiliations

Affiliations of First Nations groups we have engaged with to develop the MSP Framework, including those who are part of the project's Indigenous Engagement Advisory Committee.

Location/ Affiliation	Organisation	
Darwin	1	Larrakia Land and Sea Rangers
	2	Northern Land Council
Wollongong	3	Illawarra Local Aboriginal Land Council
	4	Wreck Bay Aboriginal Community Council Rangers
Thursday Island	5	Badu Traditional Owner
	6	Masig (Yorke Island) Traditional Owner/Strait Experience
	7	Kaurareg Native Title Aboriginal Corporation (RNTBC)
	8	Protected Zone Joint Authority
	9	Meriba Ged Ngalpun Mab
	10	Mura Kosker Sorority
Perth	11	Champion Lake Centre Community Elders
	12	Beelya Cultural Tours
Broome	13	Ngunarmarta Rangers
	14	Yawuru Corporation / Indigenous Saltwater Advisory Group
Victoria, Sea Country Partnership	15	Gunaikurnai Land and Waters Aboriginal Corporation (also part of the National Sea Country Alliance)
	16	Gunditj Mirring Traditional Owners Aboriginal Corporation
	17	Bununrong Land Council Aboriginal Corporation (also part of the National Sea Country Alliance)
	18	Department of Energy, Environment and Climate Action
	19	Eastern Maar Aboriginal Corporation
National Sea Country Alliance	20	National Native Title Council and secretariat support for the NSCA
	21	Gnaala Karla Booja Aboriginal Corporation (WA)
	22	South Australia Native Title Services (SA)
	23	Gur A Baradharaw Kod Torres Strait Sea and Land Council (Torres Strait)
	24	Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC (WA)
	25	Indigenous Land and Sea Corporation (WA)
	26	Kariyarra Aboriginal Corporation RNTBC (WA)
Indigenous Engagement Advisory Committee	27	Indigenous Land and Sea Corporation
	28	University of New South Wales
	29	CSIRO
	30	Nyamba Buru Yawuru
Adelaide	31	Narungga Aboriginal Corporation

Appendix 3 – Collaborator affiliations (non-Indigenous)

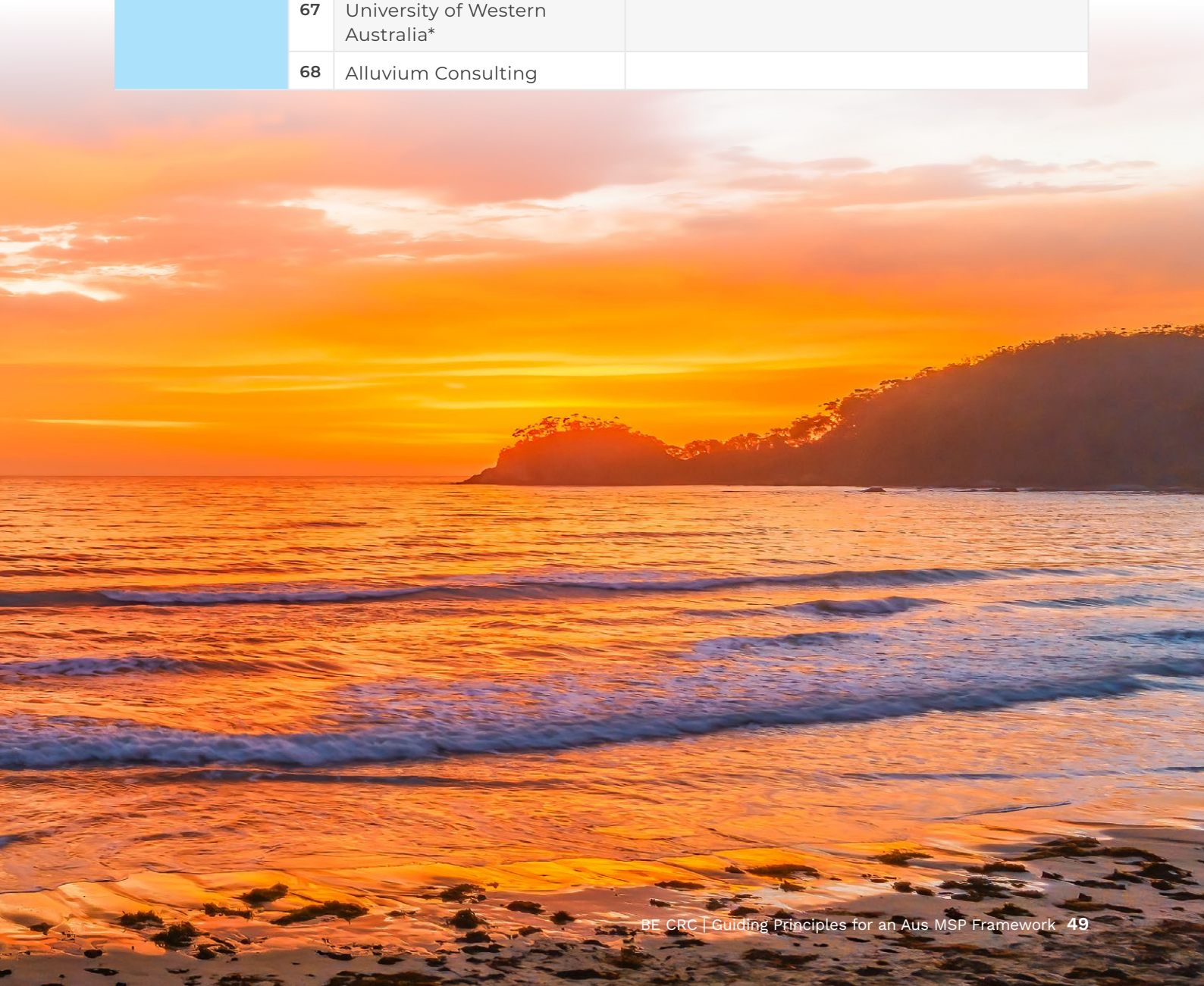
Affiliations of those we have engaged with to develop the MSP Framework, including those within the project team, industry partners of the BE CRC and those who are part of the project's Advisory Committee. *Members of these departments and organisations were part of the Stakeholder Advisory Committee.

Grouping	Department or Organisation		Sub-division/unit/branch/team
International - government	1	Marine Management Organisation, United Kingdom*	Marine Planning and Strategic Renewables, Marine Development (Domestic and International)
Government – Commonwealth	2	NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority)*	Offshore Renewables Regulation
	3	AFMA (Australian Fisheries Management Authority)	Policy, Environment, Economics and Research Division
	4	AMSA (Australian Maritime Safety Authority)*	Navigation and Communication Systems, Policy and Regulation Division
	5	DCCEEW (Department of Climate Change, Energy, the Environment and Water)*	Ocean and Wildlife Branch, International Environment Reef and Ocean Division; Offshore Renewables Branch, Net Zero Industries Division; Marine and Island Parks Branch, National Parks Division.
	6	DISR (Department of Industry, Science, and Resources)*	Offshore Resources Branch, Oil and Gas Division
	7	DAFF (Department of Agriculture, Fisheries and Forestry)*	Fisheries Branch, Agvet Chemicals, Fisheries, Forestry and Engagement Division
	8	Geosciences Australia	National Earth and Marine Observations Branch
	9	Defence	Australian Hydrographic Office; Maritime Access
	10	Home Affairs	
	11	Department of the Prime Minister and Cabinet	Policy
Government - Western Australia	12	DPIRD (Department of Primary Industries and Regional Development)	Sustainability and Biosecurity; Aquaculture Research and Development; Primary Industries Development
	13	DPLH (Department of Planning, Lands and Heritage)	Land Use Planning
	14	JTSI (Department of Jobs, Tourism, Science and Innovation)	Science Capability and Partnerships

Grouping	Department or Organisation		Sub-division/unit/branch/team
Government - Western Australia *(Continued)*	15	DWER (Department of Water and Environmental Regulation)*	Marine Ecosystems Branch
	16	DBCA (Department of Biodiversity, Conservation and Attractions)	Planning; Marine Conservation Branch; Marine Science Program;
	17	DMIRS (Department of Mines, Industry Regulation and Safety)	Energy Policy
Government - South Australia	18	PIRSA (Primary Industries and Regions South Australia)*	Fisheries and Aquaculture Division
	19	DEW (The Department for Environment and Water)	Heritage and Native Vegetation
	20	DEM (Department for Energy and Mining)	Clean Energy Infrastructure
	21	EPA (Environment Protection Authority)	Assessment and Reporting
	22	Defence	South Innovation Partner
	23	DTI (Department for Trade and Investment)	Urban Planning and Marine Areas
Government - Victoria	24	Home Affairs	
	25	Department of the Prime Minister and Cabinet	Policy
Government - Tasmania	26	DPIRD (Department of Primary Industries and Regional Development)	Sustainability and Biosecurity; Aquaculture Research and Development; Primary Industries Development
	27	DPLH (Department of Planning, Lands and Heritage)	Land Use Planning
Government - New South Wales	28	DPI (Department of Primary Industries)*	Regional Marine Planning; Fisheries; Aquaculture; Aboriginal Fisheries; Recreational Fisheries; Marine Estate Blue Economy; Policy
	29	DCCEEW (Department of Climate Change, Energy, the Environment and Water) (previously Department of Planning and Environment)	Marine, Coastal, Estuaries and Flood Branch, Biodiversity and Conservation Division; EnergyCo
	30	Transport for NSW	Martime
Government - Queesland	31	DAF (Department of Agriculture and Fisheries)	
Government - Northern Territory	32	DPIR (Department of Primary Industry and Resources)*	Research and Strategy, Fisheries

Grouping	Department or Organisation		Sub-division/unit/branch/team
NGO/public interest	33	WWF International (World Wildlife Fund)*	Oceans
	34	TNC (The Nature Conservancy)*	
	35	AMCS (Australian Marine Conservation Society)*	
	36	IUCN Committee	Australian Committee of the IUCN
	37	Friends of the Earth	
	38	Pew Institute	Oceans Team
	39	Victoria National Parks Association	Nature Conservation
Peak Body	40	APPEA (Australian Petroleum Production & Exploration Association)	Environmental Health and Safety; Decommissioning
	41	CFA (Commonwealth Fisheries Association)	
	42	FRDC (Fisheries Research and Development Corporation)	Strategic Partnerships; Strategy and Innovation
	43	LGAQ (Local Government Authority Queensland)	Planning, Development and Environment; Natural Resources and Environment; Qld Coast
	44	SIA (Seafood Industry Council)	Wild catch
	45	Tourism Australia	
	46	Shipping Australia	
	47	Victorian Marine and Coastal Council	
	48	NIAA (National Indigenous Australians Agency)	
Industry	49	Huon Aquaculture Ltd	Environmental Compliance & Development;
	50	Nexsphere*	
	51	Norton Rose Fulbright Australia	
	52	Petuna Aquaculture	
	53	Tassal	
	54	Saitec	
	55	Southern Ocean Company	
	56	Echoview	

Grouping	Department or Organisation		Sub-division/unit/branch/team
Industry *(Continued)*	57	Griffith University*	
	58	University of Ghent, Belgium	
	59	University of Tasmania	
	60	The Western Australian Marine Science Institute	
	61	CSIRO (Commonwealth Scientific and Industrial Research Organisation)	
	62	University of Queensland	
	63	Auckland University of Technology, New Zealand	
Research and Consultancy	64	BMT	
	65	Macquarie University	
	66	Norton Rose Fulbright Australia	
	67	University of Western Australia*	
	68	Alluvium Consulting	



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