Sustainable Oceans and Coasts

Tasmania Perspectives

Sustainable oceans and coasts

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

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

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

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

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

The importance of a national strategy

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

Context setting

Prior to the online workshop, an introductory video was circulated to all participants. This video set the scene for the workshop, providing local perspectives on Tasmania's oceans and coasts from experts in the field. Speakers were asked to reflect upon their vision for sustainable oceans and coasts in Tasmania, the unique features of Tasmania's oceans and coasts, and how their expertise guides their visions and goals for the future of oceans and coasts in Australia. The speaker was Dr. Jess Melbourne-Thomas, a Transdisciplinary Researcher and Knowledge Broker at CSIRO Oceans and Atmosphere, and we thank her for her thoughtful contribution.

Tasmania workshop

On 11 September 2020, Future Earth Australia hosted the first in a series of online consultation workshops in each state and territory across the nation, for its Oceans and Coastal Sustainability initiative.

35 attendees in Tasmania contributed to the discussion, representing:

- the research sector, from CSIRO and the University of Tasmania
- all levels of government working across climate, fisheries, local planning, conservation, and primary industry
- industry and business, including aquaculture and tourism
- civil society and community, including natural resource management and advocacy groups.

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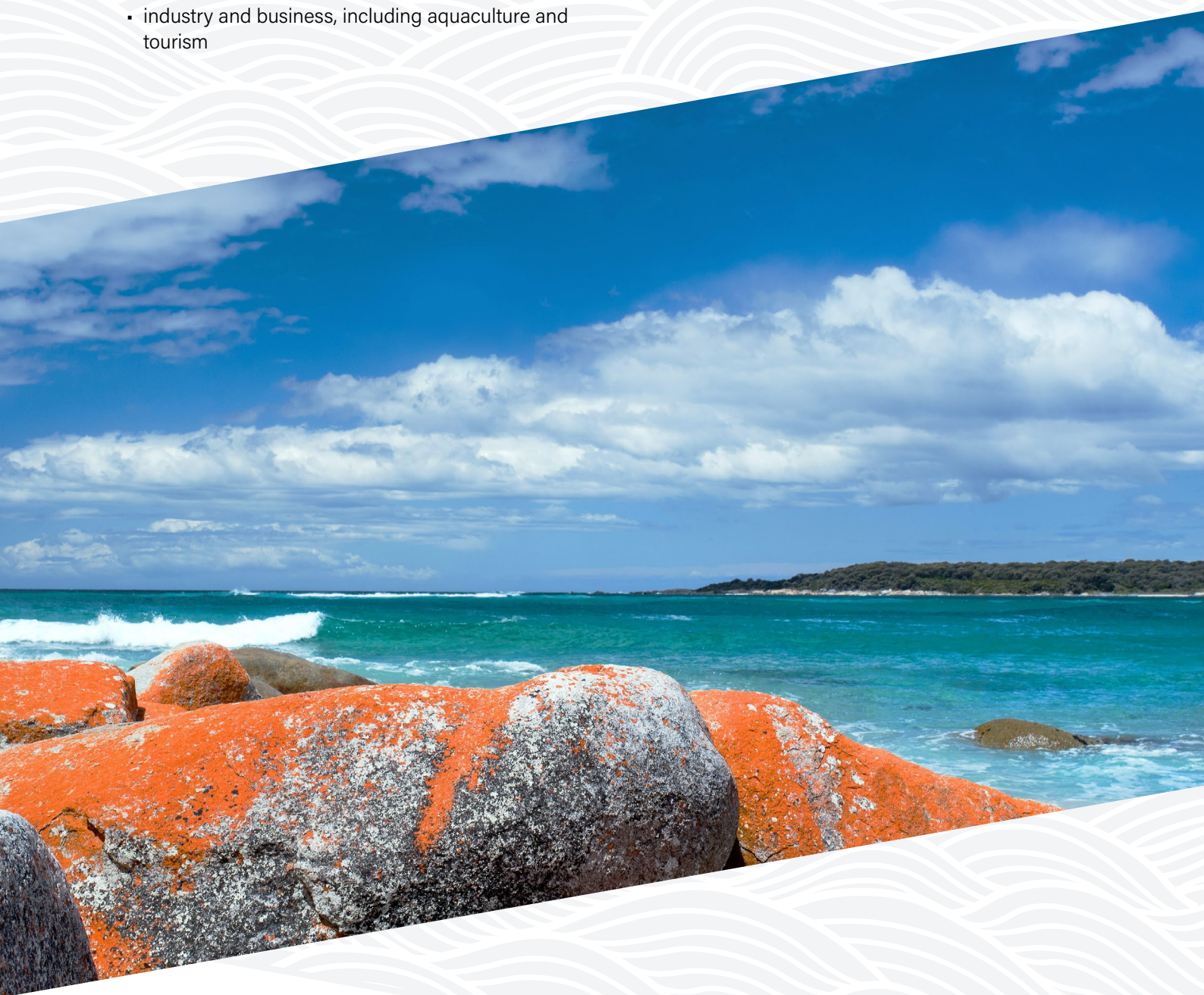
Vision

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

Vision for Tasmania

Tasmanians discussed a vision for the future of oceans and coasts that was sustainable, smart, and cared for.

'Sustainability' referred not only to protection of environments, but the social and economic facets which contribute to, and feed from, oceans and coasts. Sustainability was also explained to be the product of effective institutional and governance arrangements.

'Smart' was offered as meaning that Tasmania's oceans and coasts need to be used in a strategic, deliberate way, and that communication around their use also needs to be well thought through.

'Stewardship' is an aspiration for the broader public to take on this mission, along with having better literacy about oceans and coasts. In the face of a range of long-term and profound drivers of change for oceans and coasts and our communities reliant on them, 'resilience' was suggested as ocean and coastal systems will need to be more robust and able to cope with change.

National vision

The concept of 'integration' emerged saliently as a vision for both Tasmania and the nation. Integration was said to incorporate a range of dimensions,

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

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

including multi-sectoral integration, integration of diverse knowledge systems, and integration across governance regimes (both within and between levels of government). 'Resilient' was offered in the context of a nation that must deal with climate change, economic disparities, and multiple concurrent pressures on and users of oceans and coasts.

The term 'valued' was used to contrast with the current perceived low interest in oceans and coasts on the national agenda. Stakeholders in marine and coastal environments hold a vast range of priorities, and they will be unable to work on governance, knowledge building, and management without raising the profile and having a higher valuation of these areas.

'Marine citizenship' was related to the idea of stewardship, but intended to mean that all people across Australia can feel attachment and a sense of stewardship for the marine, irrespective of whether they live on the coast or further inland.

The idea of 'contributing' arose from the idea that Australia has a richness of underutilised resources when compared to other places in the world. With a growing population, we need to be smart about using these resources in a resilient, sustainable way. Australia should be a good global citizen by contributing these resources and knowledge of how to use them.

Another attendee pointed out that the conversation around oceans and coasts is often negative and focused on risks, such as withstanding pressures and coping with increasing demand. By contrast, referring to these areas as 'thriving' promotes the idea that the future of oceans and coasts can be exciting and engaging, as opposed to focusing only on threats.

Knowledge

Key points:

- We need a systematic means of identifying key knowledge gaps, as the approach to prioritising knowledge gaps in both Tasmania and Australia is piecemeal
- We need to work better with different knowledge systems, including First Nations ways of knowing and doing on their terms, and mainstream interdisciplinary and cross sectoral approaches
- We need a dynamic understanding of the cumulative impacts, changes, and behaviours across oceans and coasts
- Priority areas for capacity building are communication about oceans and coasts, leveraging different forces for collaborative progress, and better integration of community values, knowledge, and preferences within knowledge building.

Attendees noted the strong research and knowledge building capacity in Tasmania in the marine and coastal areas, particularly in terms of information that was designed to be easy for end-users to adopt and apply effectively.

Tasmanian attendees suggested that there was consistent difficulty in being able to determine priority knowledge gaps, given the lack of a systematic overview of what we know, who holds the information and data, and what is missing. While it is not unusual for knowledge development to occur organically, the current piecemeal approach was identified as a major barrier in responding to critical knowledge gaps in the context of rapid change and pressures on our coasts and oceans. This issue is not limited to Tasmania, and attendees suggested that efficiencies could easily be gained across the board if information about similar research projects across the country were catalogued and could be referenced for future work. Attendees also highlighted that the knowledge sector is improving its understanding of the points of leverage and influence across the knowledge to decision making spectrum, making it more likely that the knowledge gaps that are addressed will have high impact.

Participants also spoke about a demand for improved mapping, standardisation, and accessibility of data not only across research institutions, but also in private, public, and non-government holdings. While data repositories and systems did exist in the past, some attendees felt they were ineffective, given that their impermanence undermined trust that data and intellectual property could be safely stored. However, across attendees there was wide recognition and praise for the Australian Ocean Data Network (AODN), the Integrated Marine Observing System (IMOS), and Terrestrial and Earth Resource Network (TERN), with comments made that an IMOS for coastal knowledge was required.

Attendees asserted that we will not be able to make progress in ocean and coastal sustainability without working more effectively with a range of knowledge and expertise holders. Importantly, this involves better understanding Traditional Owners' way of seeing, knowing, and working on Land and Sea Country, and creating space for a range of knowledge systems to contribute, in equal standing and on the terms of knowledge owners. We will also need to improve capacity to work with different sectoral and stakeholder partners as core business, and with different types of disciplinary expertise. Community and citizen knowledge are important also and will be discussed in greater depth in sections to follow.

As unprecedented impacts of climate and environmental change come to impact Tasmanian and Australian communities, attendees maintained that they can no longer base modelling and knowledge crafting on past patterns. Rather, additional research, monitoring, and information are needed, in real time, to demonstrate how changing conditions and behaviours are cumulatively affecting both nature and Australians, so that forward projections are dependable.

While oceans and coasts are inherently intertwined, participants noted the vast knowledge chasms that have emerged as a result of siloing and separating them as areas of study. This creates a barrier to decision making about oceans and coasts as an

integrated system. Attendees suggested that a solution could be moving towards a focus on ecosystems, as well as systems that are a gateway between ocean and coastal systems and the human and biophysical, such as estuaries.

In highlighting particular areas of interest, many participants pointed to knowledge deficits in oceanic areas, including:

- how marine systems affect human communities, economies, and wellbeing
- how to glean even basic knowledge on certain areas of marine environments, such as ocean trenches, that are inhospitable to us as land-dwellers

- how to understand the gaps between Western science and other knowledge systems.

Finally, there is a need to better support end users and people working on the ground, such as local governments and industries such as offshore energy. These stakeholders need localised and accessible data, as well as skilled communication to deliver complex information to decision makers who often do not have specialised knowledge in oceans and coasts.
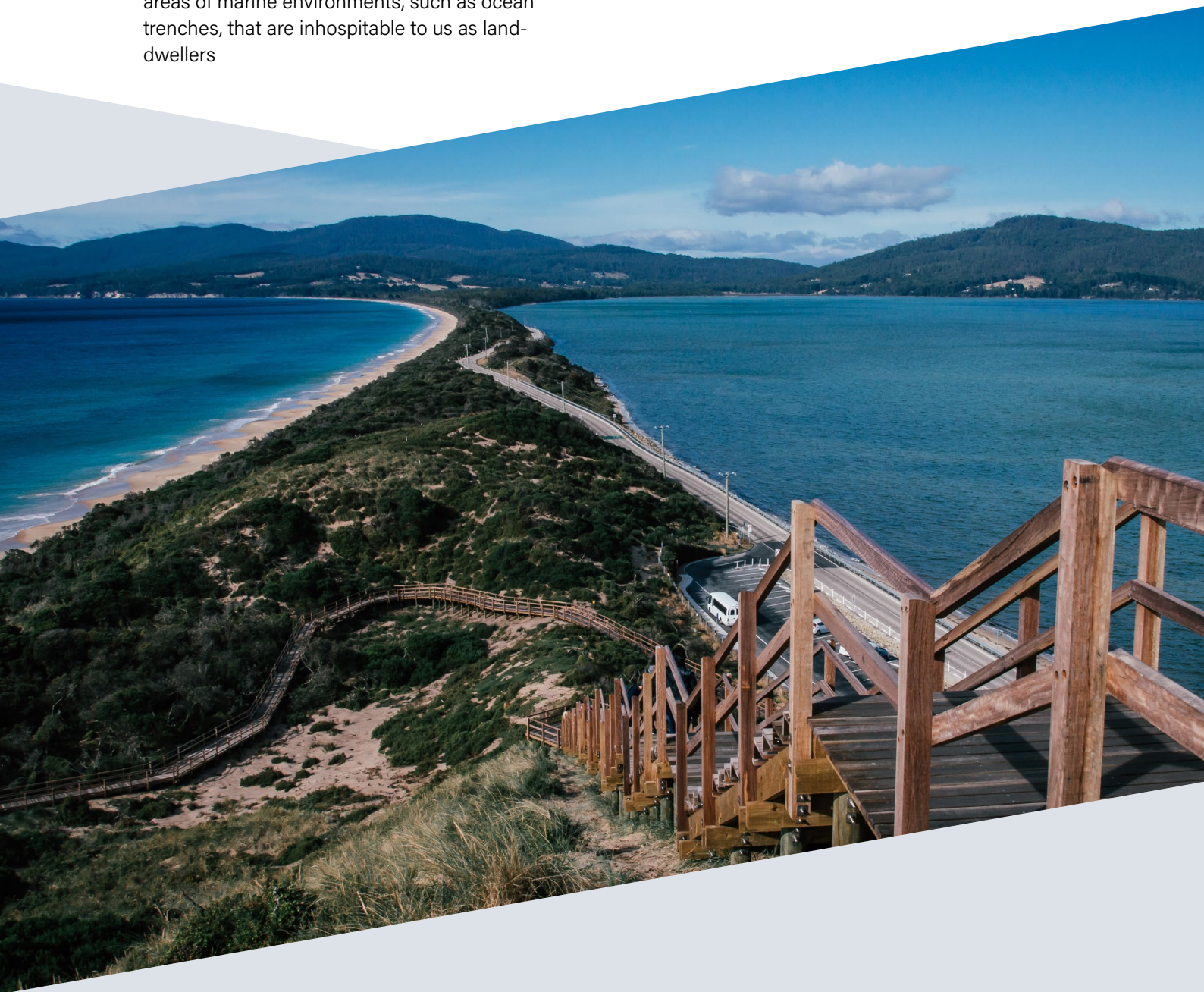
Institutional design and governance

Key points:

- The lion's share of governance in issues around ocean and coastal sustainability falls on local and regional bodies, including local councils, peak bodies, community organisations, conservation groups, schools, universities, and small businesses; while this is a strength in local people being able to respond effectively to local realities, they need more support

- We require better negotiation of top-down and bottom-up leadership and governance: to jointly identify jurisdictional cracks and tackle them together, to manage the complex legislative arrangements across jurisdictions, to achieve policy coherence across levels of government, to acquire adequate funding, and to learn from others across the nation

- All governance initiatives must be underpinned by real social license and empowerment of a range of entities to collaboratively govern for ocean and coastal sustainability.

Coming from a diversity of sectors, Tasmanian contributors have all had extensive experience navigating the complex governance arrangements in the coastal and ocean space. A major component of their shared vision for coastal and ocean sustainability requires a more thoughtful, coherent approach to 'sharing the load.'

Tasmanian attendees described local and regional entities as being at the coalface of multiple key activities: preparing for the enormous changes associated with climate and environmental degradation, balancing community expectations, and fulfilling existing obligations associated with core business. Important local entities principally include local governments, but they are not alone— regional bodies, community organisations such as sporting clubs, churches, and advocacy collectives, conservation groups such as Coastcare, businesses, and schools are all engaged in activities to both preserve their oceans and coasts and anticipate new

threats. This is an advantage, as local people are able to respond most appropriately to the local context and activate social networks and relationships.

However, there was a strong belief that local entities are not being supported adequately and that they are, by design, not able to take on a range of integral roles and should not be expected to. Conversely, participants also described a marked increase in the expectation that large private entities take on responsibility for public good in oceans and coasts. While this can be part of the picture, large corporations are not equipped, incentivised, or designed to fulfil this role.

Participants suggested that leadership from the higher levels of government is required to empower others to do their work, and free them from responsibilities they are not designed to take on. These include:

- Tackling jurisdictional gaps together. Ocean and coastal governance cuts across a range of traditional portfolio and jurisdictional areas, and especially as climate change enflames existing pitfalls of these siloed structures, leadership from Commonwealth, state, and territory governments is needed to identify and address these critical gaps. Addressing gaps also requires reform of the very complex and often overlapping legislative requirements from different governments. Making these requirements stronger and simpler is important for coherence.

- Singing from the same songbook with improved policy coherence. All actors require a consistent long-term policy framework, goals, and objectives to which all can plan, work, and collaborate for long term success. Other countries have a Minister for Oceans and an Ocean Policy, which Australia lacks. Without arrangements to enable coherence between jurisdictions, and between ocean and coastal work, we will not reach our vision.

- Enabling collaboration and incentivising 'sharing the load.' Leadership and investment (financial and

political) at the highest levels encourages groups, communities, and businesses across the Nation to work together for coastal and ocean sustainability. This work in bridging sectors and knowledge systems must be supported by a generation of trained specialists, as opposed to expecting collaboration and bridging to be an add-on for those who have specialised in other competencies.

- Resourcing of critical work. Local governments in particular are known to be under-resourced for the plethora of important functions they're expected to take on. The multitude of cumulative and unpredictable impacts of climate and environmental change will put them under enormous pressure. Local governments and those working with them at the community and regional levels need support on behalf of all Australians.

- Enabling learning to save time and resources. Experimentation is happening across Australia in all manner of issues that will define coastal and ocean sustainability, and these learnings should be shared.

When thinking about contributions that the research community can make, participants spoke to the need for governance decisions to be enabled by real-time, context appropriate information. The credibility of local government decision making both in Tasmania and more broadly, while as accurate as possible, can be undermined when it is often not based in rigorous data. Providing such data is not currently possible at scale, and this will only change when seen as a governance imperative.

Integral to all of the above is an acknowledgement that good governance is only possible through collaboration and buy-in across the board, a concept that was emphasised by many participants. Real social license must be established in the context of a long-term relationship.

Community engagement

Key points:

- Community must be engaged meaningfully across any work for ocean and coastal sustainability: visioning our future, negotiating values and priorities, sharing knowledge, and putting plans into practice
- Meaningful community engagement requires resourcing, time, and willingness to share power over defining the outcome
- In negotiating values and ideas for sustainable oceans and coasts, community cannot be seen as a single entity; thoughtful work must be put into capturing the diversity of community members and views, developing a shared vocabulary, and approaching ocean and coastal sustainability as a fundamental priority to people on the scale of their jobs, health, family, and belonging
- First Nations culture, knowledge, and practices must be better mainstreamed as a cornerstone of any ocean and coastal sustainability effort, and on their terms; we must do better at 'two-way seeing', that is, understanding how First Nations people understand Land and Sea Country, the importance of culture in relating to knowledge and living with Country, and creating space for this alongside and together with Western approaches.

Community engagement in knowledge building, visioning and stewardship was seen by many as critically important for oceans and coasts. As opposed to a segmented process, attendees believe the most effective community engagement comes from building long term relationships that are based on consistent dialogue. Long term building of trust can facilitate buy-in to processes and decisions, enhance the adaptability of all involved as conditions change, and provide a more stable foundation for co-design at a high level. Dialogue should involve iterative communication about the purpose of engagement and the pathway forward, discussions of how the communication will affect decision making, and feedback on the results of the consultation. This is particularly important in a

fractious media landscape and online world that is geared towards polarisation.

To many, community must be central in elucidating and co-developing a vision for how sustainable oceans and coasts will play a role in our future. This is difficult in practice when many descriptors like 'resilient' have different meanings to different people, and so this process must be shepherded by those with expertise in navigating values for a pragmatic purpose.

Attendees felt that this engagement must be a bottom-up process that engages with diversity within communities by balancing the loudest voices with a plethora of others. To better represent the complexity of diverse communities and their perspectives, participants suggested adopting an attitude of 'two-way seeing' that is particularly useful for understanding and incorporating First Nations contributions on the terms they stipulate as appropriate.

Community engagement involves determining the diversity of values people hold, and it is from this basis that participants believed we can understand when and how people feel threatened by change or stasis. At the same time, attendees felt an understanding of values should be accompanied by the development of consistent socio-economic metrics to provide a shorthand for gauging competing uses and values. Conflict negotiation and transparency, therefore, should be core business in working toward our vision for sustainable oceans and coasts, as trade-offs are unavoidable (for example, in discussions about whether communities must retreat or adapt to changing coast lines).

Others saw community education about oceans and coasts as the priority, as literacy in these areas is a means for oceans and coasts to be prioritised in the governance agenda, for investors and community efforts.

There was divergence in attendee attitudes pertaining to the relationship between science, community engagement, politics, and advocacy. Some saw direct community engagement and dialogue with knowledge holders as a means of

avoiding advocacy that can politicise information, while others saw advocacy as an important biproduct of growing education about threats to ocean and coastal systems. Either way, workshop attendees noted that citizen engagement in visioning and stewardship involves navigating the power dynamics embedded in the community. Attendees in Tasmania were sensitive to the fact that science can be seen as a threat to livelihoods and values where there isn't a clear dialogue about the way that values and science affect decision making choices.

Implementation

- Implementation requires that we address the institutional and governance barriers to progress, as identified above
- Co-design and co-production must be at the heart of implementation of our vision for coastal and ocean sustainability; whether they be efforts led by government, the private sector, community, or researchers
- We need to prioritise not only understanding the current state of oceans and coasts, but also building literacy across the community of the threats and opportunities in the next ten years and beyond; we cannot rely on assumptions that are based on the past
- To achieve any implementation, we must solve the funding gap, as relying solely on public resourcing will not be an adequate strategy
- Successful implementation should be based in informed hopefulness

Participants suggested that a long-term vision for sustainable oceans and coasts can only be achieved by sharing responsibility and action. People across the private sector, government, community, and research sectors are ready to do this, but cannot be enabled to do so without leadership from the highest levels of government, for the reasons outlined in the previous section around institutional design and governance.

Many attendees suggested that we require nationally coherent policy and institutions to deliver coordination, structure, and a whole-of-government approach.

Coordination and structure involve mapping, strategising, and implementing a number of different programs, including:
- existing legislation and appropriate reforms
- existing programs from local to national scales
- priority issues in which we can make the deepest gains for our social, economic, cultural, and environmental goals
- understanding of community values across the country and the diversity within communities

Learning and program diffusion were seen by many as key to implementation, as they create a means of sharing successful collaborative governance and stewardship activities and structures, as well as developing templates, ideas, and guides for others to apply in their own setting. This includes innovations in Australia and from other places in the world. In this vein, the National Sea Grant Program in the USA was touted as an excellent model for national funding of locally-led research on marine and coastal themes, which also institutionalises support for a network in which collaborators and information are easy to find. This is not possible without a trustworthy mechanism for people across sectors and specialities to share information and access data.

Aside from governance issues, attendees suggested that implementation of our vision requires ocean and coastal literacy, in the sense that citizens adopt oceans, rivers, beaches, flora, and fauna and the connections between them as part of their story and that of their community. This literacy should not only be a celebration of oceans and coasts' places in our lives, but also an awareness of the threats and opportunities coming in the next ten years and beyond. A focus on the future and knowledge of what is coming will underpin any implementation of our vision. Community and citizens should therefore be empowered to respond, while also feeling a sense of ownership and hopefulness that their actions will be worthwhile.

Participants spoke to the vast scale of our vision and what is required to reach it, and how this will require a society-wide conversation about how we finance these activities. Government will play a major role, as it is their responsibility to pursue our common wellbeing. However, government cannot accomplish these tasks alone. Many felt that the role of companies and corporations must be put into the spotlight: not only in the frame of corporate social responsibility and global citizenship, but also as major holders of capital. Development of innovative financial products and instruments, and stimulating the market for these, continues to be a priority.

Tasmania

Tasmania is Australia's physically smallest and southern-most state, separated from mainland Australia by the Bass Strait and encompassing a total of 68,401 square kilometres[2] (including its 334 islands[3]).

In 2020, Tasmania's population was estimated to be 535,5000 people, and had a low rate of population growth (0.2%) (prior to the COVID-19 pandemic and its associated immigration restrictions). Tasmania has an older population compared to other states, as it sees greater inflows of people over 50 while younger people leave to other parts of the country[4]. This is not uniform across the region, with Hobart and its surrounds, and Devonport in the North, projected to see population growth while many regional areas decline.

Tasmania has 29 local governments, and four regional organisations that facilitate collaboration on common issues of importance[5]. Community groups are highly active in coastal and marine care; for example, there are around 50 active Coastcare groups in the state[6]. Hobart is unique in Australia for its role as an Antarctic gateway and hosts a strong scientific base for Antarctic research[7].

Tasmania is treasured for its wildness and cultural and natural heritage admired by the world. Governance of terrestrial and marine estate involves a complex legal regime including international commitments, Commonwealth law, and Tasmanian law. This regime co-exists with governance regimes of the First Nations peoples whose connection to Country and sovereignty pre-dates colonial governance systems[8].

Tasmania has around 5400 kilometres of coastline. Commonwealth law demarcates Australian Marine Parks[9]. Tasmanian law accounts for marine nature reserves (in which fishing is generally prohibited) and marine conservation areas (which allow both commercial and recreational fishing)[10]. These have differing uses and allowances, with 1.1% of Tasmania's coastal waters being sanctuary zones[11].

Tasmania's marine environment is home to an incredible diversity of species unique to that place, with over 80% of all marine plants and animals found nowhere else on the planet.[12] Parts of Tasmania's waters host some of the highest plant diversity worldwide.[13] Many of its islands are home to a range of birds, seals, reptiles, and mammals, some endemic to their island.

Much of Western Tasmania is protected by its World Heritage listing[14]. When counting all public terrestrial reserve, 42% of the terrestrial landmass is managed as protected area[15].

Tasmania's economy is based primarily in the primary industries of agriculture, forestry, and fisheries, followed by healthcare and social assistance.[16] Tourism is also a salient and important industry for the state. Indeed, these sectors complement each other, with many visitors attracted by the coastal landscapes and wilderness[17], with the opportunity to visit wineries, farms, and orchards along the way.

Agriculture is highly diverse, encompassing dairy, fruit, vegetables, red meat, wool, and wine, and speciality products such as nuts, seeds, and honey. Aquaculture is dominated by salmon and tuna production, along with seafood such as oysters and mussels. Tasmanian forestry includes both plantation and native timber, and other products.

Climate change will affect all of these industries, positively in some cases but creating uncertainty and risk for others. For example, rising waters means changes in currents, having a profound impact on the species and ecosystems on which fishers depend.[18] Given the touristic value of Tasmania's coastline, tourism will be particularly affected by climate change in both positive and negative ways.

While agriculture, forestry, and fisheries contribute 10.3% of gross state product, they employ only around 5% of the workforce and are mostly full-time, male employees. By contrast, healthcare and social assistance employ over 14% and these are feminised industries that are split almost evenly between full- and part-time positions.[19] Tasmania's partial dependence on forestry in particular has been a flashpoint for conflict where communities have been concerned about the cultural value and natural wonder of native and old growth forests that is endangered by industry. Conversely, Tasmanians dependent on these sectors see harvest as fundamental to survival of their communities.[20] In the

water, salmon farming has also been controversial with many concerned—including companies involved in aquaculture—that Tasmanian waters have not been adequately protected from intensive operations.[21]

The majority of Tasmania's workforce is publicly funded. While manufacturing has traditionally played a larger role in the state's economy, many full-time male workers have lost their jobs over the past decade. The greatest job gains have been made by women in part-time work in health and education.

Explore Aboriginal language groups in Australia

See more information and maps for Tasmanian Marine Reserves

See more information and maps on Australian Marine Parks

Endnotes

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