

RESEARCH ARTICLE

Ocean literacy for an Ocean constitution

Emma McKinley 

School of Earth and Environmental Sciences, Cardiff University, Cardiff, CF10 3AT, United Kingdom
Email: Mckinleye1@cardiff.ac.uk

Abstract

Firmly cemented in history as a connector of people, a facilitator for trade and transport routes and a driver of culture and heritage, the ocean has directly influenced globalization, and humanity more generally, for generations. While the ocean was perhaps once viewed as infinite and insurmountable, globally our oceans, coasts and seas have experienced unprecedented change in recent decades with climate change, loss of biodiversity and overfishing among the challenges being addressed through contemporary ocean governance. Moreover, and crucially as we continue to strive for sustainable ocean futures, the global ocean is increasingly being recognized as a peopled space. This article explores the role of ocean literacy as we look towards achieving sustainable ocean futures.

Keywords: biodiversity loss; climate change; marine social sciences; ocean constitution; ocean literacy; overfishing; UN Decade of Ocean Science for Sustainable Development

I. Introduction

Firmly cemented in history as a connector of people, a facilitator for trade and transport routes and a driver of culture and heritage, the ocean has directly influenced globalization, and humanity more generally, for generations (Franke et al. 2021). While the ocean was perhaps once viewed as infinite and insurmountable, globally our oceans, coasts and seas have experienced unprecedented change in recent decades with climate change, loss of biodiversity and overfishing among the challenges being addressed through contemporary ocean governance (Nash et al. 2020). Moreover, and crucially as we continue to strive for sustainable ocean futures, the global ocean is increasingly being recognized as a peopled space (Bennett 2019). For many of those who work with the ocean, its lure and wonder are perhaps somewhat taken for granted – indeed, most of us will have entered into our careers as ocean scientists, researchers or practitioners because of a long-held – probably from childhood – love of the ocean (see Lotze 2020 for more on this). Yet, for many outside our watery sphere, that is not the case, with the disconnect between society and the ocean increasingly recognized as one of the most pressing challenges facing humanity (Potts et al. 2016). Recent years have witnessed a growing call for improved understanding of how people in different contexts view, value, connect with (or don't) and use the ocean, together with their perceptions and understanding of ocean issues and related management (e.g. see Gelcich et al. 2014; Jefferson et al. 2014; Lotze et al. 2018). These calls are

echoed through the UN Decade of Ocean Science for Sustainable Development (UN Ocean Decade), launched in 2021, which aspires to transform the relationship between society and the ocean. As will be explored in other articles, the dual climate and ecological crises require rapid interventions and urgency if the predicted impacts are to be avoided, or at the very least mitigated. But to do this, it must be acknowledged that ocean governance is not really about managing the ocean; rather, it is about understanding and managing people, their uses and their impact on the global ocean.

II. Whose ocean?

Among other aspirational goals, the UN Ocean Decade's underpinning strap line calls for 'ocean science for the ocean we want'. Building on the notion of the ocean as peopled spaces and part of a complex socio-ecological system explored earlier, it is perhaps timely and necessary to consider who is included in this 'we' referred to here. When thinking about global ocean governance infrastructure, such as the UN Convention on the Law of the Sea (UNCLOS), it must be recognized that while new instruments, such as marine spatial planning, marine protected areas and even the UN Sustainable Development Goals have emerged in recent decades, the majority of decision-making infrastructure has been in place for many years – and could be described as being 'of its time' and perhaps in some ways 'out of date'. For example, while calls for improved understanding of the importance of marine culture and heritage have been recognized in a UN Ocean Decade-endorsed programme of activity,¹ UNCLOS does not reflect this, with no consideration of social values, of coastal communities and of cultural and heritage aspects, all of which are increasingly recognized as being core aspects of the ocean governance mosaic. As we think about ocean governance in the UN Ocean Decade and beyond, the questions of 'whose ocean' and 'whose voice and values' must be asked and answered. The emergent international and interdisciplinary marine social science community provides a wide diversity of expertise and skills, and a suite of tools that can be employed for this very purpose (Bennett 2019; Jefferson et al. 2021; McKinley et al. 2020; McKinley et al. 2022). Moreover, to ensure that the true diversity of values and connections is accounted for and considered, there is perhaps a need for a more transdisciplinary approach to be taken to ocean governance, with research and practitioners recognizing the presence of numerous types of knowledge. There are therefore increasing calls for ocean governance to move towards a more co-developed, participatory process, which draws not only on the traditional natural and social science communities, but also on the expertise and insight that can be gathered from arts and humanities scholars, alongside the rich and varied knowledge and values of the ocean held by local and Indigenous communities the world over. Reflecting on this, social justice, equal access to resources and opportunities to participate, and inclusivity of diverse voices and values must also be central tenets of future ocean governance (Bennett et al. 2021; Worm et al. 2021).

III. Looking towards sustainable ocean futures

The relatively recent momentum gathering around the concept of ocean literacy appears to be an opportunity to redesign and rethink existing governance structures, resulting in

¹See <https://www.oceandecadeheritage.org>.

something that is more inclusive, more equitable and more holistic. Defined at its very simplest as ‘an understanding of the ocean’s influence on you, and your influence on the ocean’ (NMEA 2020), ocean literacy has garnered significant attention in recent years since being positioned as a key mechanism for transforming the relationship between society and the ocean within the UN Ocean Decade. Over the last two decades, ocean literacy has undergone, and is continuing to undergo, a substantial evolution, building on its original roots of marine education and knowledge exchange to encompass a whole suite of dimensions (McKinley and Burdon 2020; McKinley et al. 2023). Moreover, while originally targeted as civil audiences, particularly those in close proximity to the coast, ocean literacy initiatives are increasingly recognizing a broader set of audiences, ranging from school children to businesses, sustainable financiers and policy-makers. As we continue to reflect on who gets to be involved in ocean discussions, there is also an opportunity to reconsider who gets to be viewed as a valid ‘ocean’ person or ‘coastal community’, recognizing and championing the role and importance of the ocean in every aspect of life and as part of the wider environmental system, harnessing the relatively fast-paced growth in interest around ocean literacy as a pathway to foster and enhance marine citizenship and also play a significant role in ocean governance (Bennett et al. 2022; McKinley and Fletcher 2012). To successfully achieve this, we must create agency and foster stewardship without paralysing people with fear or apathy. Embracing a realistic ocean optimism approach (Borja et al. 2022) to communicating, education and empowering must be part of global strategies to realize the multiple goals of international goals and commitments, and to respond to the growing emergency facing our oceans, coasts and seas. Part of this will entail creating and funding programmes of work that operate across disciplinary, sectoral and policy boundaries; building capacity to support such interdisciplinary and transdisciplinary teams; and critically evaluating and challenging the status quo.

IV. Achieving balance is challenging

Not without its critics, the UN Ocean Decade nevertheless sets out a welcome call to arms from the ocean community, seeking a transformed relationship between society and the ocean, embracing a broad definition of what ocean science might mean. With this in mind, in addition to stimulating research and celebrating and championing the ocean, perhaps the UN Ocean Decade can afford us a much-needed opportunity to reflect on existing ocean governance through a critical lens. In the coming years, the UN Ocean Decade and the large-scale, multinational events that will no doubt come with it, may act as a catalyst for the development of a new and improved ocean constitution for the future. What that might look like remains to be seen. There are strengths within existing governance infrastructure that should not be forgotten and could – indeed must – be learned from, drawing expertise not only from the ocean sphere but also from other areas of policy. An ongoing challenge within ocean governance relates to how existing tensions between growth, equity and sustainability can be balanced. There is no quick fix, and no one-size-fits-all solution. However, there are examples of where innovative ways of assessing ocean values are being explored and tested (see, for example, the UKRI funded Diverse Values project).² The critical factor will be that any truly forward-looking

²Integrating Diverse Values into Marine Management – Sustainable Management of Marine Resources (smmr.org.uk).

constitution for the ocean must learn from the past and position the relationships between people, ocean and place at its centre.

References

- Bennett, N. 2019. 'Marine Social Science for the Peopled Seas'. *Coastal Management* 47(2):244–52.
- Bennett, N, L Katz, W Yadao-Evans et al. 2021. 'Advancing Social Equity in and Through Marine Conservation'. *Frontiers in Marine Science* 8:711538.
- Borja A, M. Elliott, OC Basurko, A Fernández Muerza, F Micheli, F Zimmermann and N Knowlton. 2022. '#Ocean Optimism: Balancing the Narrative About the Future of the Ocean'. *Frontiers in Marine Science* 9: 886027.
- Franke, A, K Peters, Hinkel, J. et al. 2021. 'Making the UN Ocean Decade Work? The Potential for, and Challenges of, Transdisciplinary Research & Real-World Laboratories for Building Towards Ocean Solutions'. *People and Nature* 51(1):21–33.
- Gelcich, S, P Buckley, JK Pinnegar et al. 2014. 'Public Awareness of Impacts on Marine Environments'. *Proceedings of the National Academy of Sciences* 111(42):15042–47.
- Jefferson, RL, I Bailey, D Laffoley, JP Richards and MJ Attrill. 2014. 'Public Perceptions of the UK Marine Environment'. *Marine Policy* 43:327–37.
- Jefferson, RL, E McKinley, H Griffin, A Nimmo and S Fletcher. 2021. 'Public Perceptions of the Ocean: Lessons for Marine Conservation from a Global Research Review'. *Frontiers in Marine Science* 8:711245.
- Lotze, HK. 2020. 'Combining Love and Knowledge to Heal the Ocean'. *Ethics in Science and Environmental Politics* 20:33–39.
- Lotze, HK, H Guest, J O'Leary, A Tuda and D Wallace. 2018. 'Public Perceptions of Marine Threats and Protection from Around the World'. *Ocean & Coastal Management* 152:14–22.
- McKinley, E, TG Acott and KL Yates. 2020. 'Marine Social Sciences: Looking Towards a Sustainable Future'. *Environmental Science and Policy* 108:85–92.
- McKinley, E and D Burdon. 2020. *Understanding Ocean Literacy and Ocean Climate-Related Behaviour Change in the UK: An Evidence Synthesis*. Final report produced for the Ocean Conservation Trust and Defra, October.
- McKinley, E and S Fletcher. 2012. 'Improving Marine Environmental Health Through Marine Citizenship: A Call for Debate'. *Marine Policy* 36:839–43.
- McKinley, E, E Burdon and RJ Shellock. 2023. The evolution of ocean literacy: A new framework for the United Nations Ocean Decade and beyond. *Marine Pollution Bulletin*, 186, p.114467.
- McKinley, E, R Kelly, M Mackay, R Shellock, C Cvitanovic and I van Putten. 2022. 'Development and Expansion in the Marine Social Sciences: Insights from the Global Community'. *iScience* 25(8):104735.
- Nash, K, JL Blythe, C Cvitanovic et al. 2020. 'To Achieve a Sustainable Blue Future, Progress Assessments Must Include Interdependencies Between the Sustainable Development Goals'. *One Earth* 2:161–73.
- National Marine Education Association (NMEA). 2020. *Ocean Literacy: The essential Principles and Fundamental Concepts of Ocean Sciences for Learners of All Ages*. Available at: <<https://www.marineed.org/ocean-literacy/overview>>.
- Potts, T, C Pita, T O'Higgins and L Mee. 2016. 'Who Cares? European Attitudes Towards Marine and Coastal Environments'. *Marine Policy* 72:59–66.
- Worm, B, C Elliff, JG Fonseca et al. 2021. 'Making Ocean Literacy Inclusive and Accessible'. *Ethics in Science and Environmental Politics* 21:1–9.