Putting communities at the heart of marine conservation

Gabriella Church, Sophie Benbow and Henry Duffy

The ocean hosts some of the most productive ecosystems and sustains over three billion people (OECD, 2023). But following decades of overexploitation it is severely degraded. Overfishing has reduced fish biomass and truncated food webs, and destructive fishing has destroyed critical marine habitats and weakened ecosystem resilience. Carbon emissions are driving ocean warming and acidification, with negative impacts on marine biodiversity, and sea-level rise is threatening coastal communities. Plastic waste is clogging the seas and fragmenting into microplastics that are significantly affecting marine life (Entwistle et al., 2018).

These unprecedented threats facing the ocean require urgent and coordinated global action. Ambitious international targets were set in December 2022 at the Conference of the Parties to the Convention on Biological Diversity (CBD), with the adoption of the Kunming–Montreal Global Biodiversity Framework. Ambitions around marine protected areas are included within Target 3, to protect 30% of land and sea by 2030, commonly referred to as the 30 by 30 target. Site-based conservation measures, such as marine protected areas, can have wide-ranging benefits for biodiversity (e.g. Marshall et al., 2019), increase climate adaptation and protection from extreme weather events (e.g. Jacquemont et al., 2022), and provide socioeconomic benefits (e.g. Smallhorn-West et al., 2019). The 30 by 30 target became the headline of the CBD negotiations, but much depends on its implementation: will biologically important sites be prioritized, will sites be managed effectively, and will community-led approaches be at its heart? Reference to other effective area-based conservation measures and recognition of Indigenous and traditional territories set the groundwork for successful action to halt biodiversity loss, but progress needs to be monitored to ensure livelihoods and tenure rights of Indigenous Peoples and local communities are not compromised (International Institute for Sustainable Development, 2022).

Fauna & Flora is committed to increasing conservation impact in marine and coastal ecosystems for the benefit of biodiversity and people, and we recognize the important role the 30 by 30 target could play in protecting the ocean. However, we support calls to ensure that area-based marine conservation networks are designed and managed with the consent, participation and leadership of local stakeholders. Central to Fauna & Flora's approach is the support we provide, either directly or via locally-based partners, to coastal communities. By initially adopting a small-scale, community-led approach, we are ensuring that existing and newly designated sites achieve their objectives, benefiting marine ecosystems and the communities that rely on them, and providing a robust foundation for scaling of effective and equitable marine conservation. This approach has proven to be effective across a range of contexts, as demonstrated by the articles in this and previous issues of *Oryx*.

Fauna & Flora has been working in Aceh province, Indonesia, since 2006, initially supporting post-tsunami recovery among coastal communities through measures such as increasing access to finance (Novriyanto et al., 2012). Continued support has strengthened the traditional fisheries management system, the *Panglima Laot*, and created partnerships between fishers and local authorities (Wilson et al., 2012). Working alongside the government, efforts have focused on the co-design and management of a locally managed marine areas network that formalizes rights to traditional fishing grounds, empowers communities to manage marine resources sustainably and equitably (Syakur et al., 2012), and minimizes habitat degradation and maintains fish biomass (Campbell et al., 2012). Similarly, in Myanmar's Myeik Archipelago, three locally managed marine areas were designated in 2017 to encourage sustainable fisheries management and support conservation. These are the first co-managed areas for marine fisheries in Myanmar, and a further four communities are now engaged in new locally managed marine area initiatives (Thiha et al., 2023).

This approach is also illustrated in Cambodia where, as a result of long-term collaboration between NGOs and government, the first large-scale marine protected area was designated in 2016. In Koh Rong Marine National Park, resource management is based around the Community Fisheries framework, in which legally recognized, community-level institutions are mandated to manage their marine resources (Glue et al., 2020). Surveys in 2019 revealed signs of recovery in Koh Rong, such as increases in hard coral coverage and grouper and parrotfish biomass. Also in Cambodia, stakeholders including NGOs and government are applying mixed methods, gathering data from local communities and nesting beach surveys to investigate the conservation status of sea turtles, showing that a small, highly threatened population remains (Duffy et al., 2023). As a result, a number of priority conservation actions have

Gabriella Church (orcid.org/0000-0003-3948-8480, gabriella.church@fauna-flora.org), Sophie Benbow (orcid.org/0000-0002-4770-9354) and Henry Duffy (orcid.org/0000-0002-9360-5142) Fauna & Flora, The David Attenborough Building, Pembroke Street, CB2 3QZ, Cambridge, UK

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been suggested, including strengthening local capacity for sea turtle conservation, recognizing the role that charismatic marine species can play in catalysing community-level action.

A community-based approach is also proving valuable in Honduras, where five NGOs in the Atlántida Seascape, comprising four marine protected areas and their connecting waters, have been working to enhance collaborative governance, including empowering small-scale fishers, women and Indigenous groups to participate in decision-making. This has generated positive effects, including enhanced social capital, and early signs of increased abundance of fish and flagship species (Steadman, 2021). Similarly, in Cabo Verde, the Maio Biodiversity Foundation is empowering local communities to improve protection of nearshore waters and threatened species through several means, including the Guardians of the Sea—a group of local fishers who monitor and record infractions in their fishing grounds—and a beach patrol programme monitoring sea turtle nesting in coastal villages around Maio Island that is fully integrated into coastal communities (Dutra & Koenen, 2014). This work has resulted in a 75% reduction in the poaching of nesting females, and has positioned Maio Island as a globally important refuge for the Vulnerable loggerhead sea turtle (Patino-Martinez et al., 2022) and one of the largest nesting colonies (Patino-Martinez et al., 2023). Finally, in Turkey, local NGO Akdeniz Koruma Derneği has developed community-based management for six no-take zones in the Gökova Bay marine protected area, resulting in a significant increase in fish biomass, and has successfully trialled a novel conservation approach for the Endangered Mediterranean monk seal, constructing an artificial ledge in a cave to provide critical pupping and resting habitat (Saydam et al., 2023).

To address the threats to marine ecosystems, large-scale ambitions, such as 30 by 30, are necessary to galvanize global action. Nonetheless, if area-based conservation is to be effective, it needs to be adapted to varied contexts, designed and implemented with local stakeholders, managed effectively, and monitored to assess impact. The protection and restoration of nature will only be sustained if it is delivered by, or in close collaboration with, Indigenous Peoples and local communities. This is an approach that Fauna & Flora has found to be effective across a range of contexts, and we strongly advocate its continued adoption globally.

This Editorial and the *Oryx* articles cited herein are freely available as a virtual issue at cambridge.org/core/journals/oryx/virtual-issues.

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