Biodiversity Council

Submission to the proposal to prepare six draft management plans for 44 Australian Marine Parks

29 September 2026

About The Biodiversity Council

The Biodiversity Council brings together leading experts including Indigenous knowledge holders to promote evidence-based solutions to Australia's biodiversity crisis. The Council was founded by 11 universities with the support of Australian philanthropists.

Introduction

The Biodiversity Council welcomes the opportunity to provide feedback on the proposal to prepare six draft management plans for 44 Australian Marine Parks (the Proposal).

Our understanding

The management plans for 44 Australian Marine Parks are due to expire in 2028. These include:

- Coral Sea Marine Park Management Plan
- Temperate East Marine Parks Network Management Plan
- South-west Marine Parks Network Management Plan
- North-west Marine Parks Network Management Plan
- North Marine Parks Network Management Plan

A new, separate management plan is proposed for Norfolk Marine Park. This is subject to a separate consultation process.

The Director of National Parks intends to prepare six new management plans covering 44 marine parks. The Proposal is not a consultation on the draft management plans, but an earlier step where the government is seeking input to inform drafting.

Target 3 of the Kunming-Montreal Global Biodiversity Framework (the '30 by 30' target) is to ensure that at least 30% of marine areas are effectively conserved and managed through ecologically representative protected areas by 2030. The National Roadmap for protecting and conserving 30% of Australia's land by 2030 (the Land Roadmap) states that "opportunities for strengthening marine protection, consistent with the 30 by 30 target, are being explored through the Sustainable Ocean Plan and the *10-yearly reviews of Australian Marine Park Management Plans* [emphasis added]."

We also note that a recent 'scientific consensus statement' was signed by numerous colleagues, including members of the Biodiversity Council, and submitted to Australian Marine Parks. We fully support and endorse this statement, which can be viewed here.

In this submission we (1) add some additional detail relating to the five actions proposed in the scientific consensus statement; and (2) extend the list of considerations with another four additional action points, bringing the total number of comments to nine.

Priority actions:

1. **Protect at least 30%, as a minimum, of each of Australia's marine bioregions within highly protected no-take zones (IUCN Ia or II), implemented according to Comprehensive, Adequate and Representative (CAR) principles and with priority given to productive continental shelf, slope, and coastal ecosystems that are currently under-represented.**

There are several different foci within this priority. First, no-take zones have been shown to be vital for the successful conservation of marine biodiversity (e.g., Hall et al. 2023, Sève et al. 2023, Young et al. 2025, Davis et al. 2026). While approximately 25% of Commonwealth waters are classified as highly protected, only approximately 10% of Commonwealth waters

surrounding mainland Australia are managed within fully protected no-take zones. Higher protection remains concentrated in remote offshore and territorial waters, while many productive continental shelf and slope ecosystems, where biodiversity, fisheries and human pressures are greatest, remain under-represented.

Second, a long-running concern of the Council is that the focus of the Australian Government is on the total area of Australia's marine reserves, not their representativeness. Australia will only meet 30 by 30 when 30% of all mappable conservation features are conserved. This is not the same as 30% of Australia's entire EEZ. Currently, only 6 of Australia's 42 provincial bioregions have no-take protection covering at least 30% of their area, while 20 bioregions have less than 5% of their area protected by no-take zones (Leunig et al. 2026). Many of Australia's ecosystems remain inadequately protected. There is much less biodiversity conservation value per unit area in conserving widespread habitats with low species richness than in conserving more unusual habitats that often support rare and endemic species.

Marine parks should be designed so that collectively they establish a Comprehensive, Adequate and Representative (CAR) marine reserve system. The goal is to build protected area systems which embrace a full range of viable representatives of all biodiversity, taking into consideration biodiversity composition, structure and function and evolutionary processes (Althaus et al. 2017, Watson et al. 2023). In practice, this means including representative examples of as many habitats and species as possible in reserves as well as attempting to capture a full range of biophysical conditions and heterogeneity (Beger and Possingham 2008, Geselbracht et al. 2009). Ensuring that marine reserve systems are effective for biodiversity conservation from the outset is critical, as ad-hoc planning approaches can compromise long-term objectives and reduce impact (Devillers et al. 2015).

2. **Commit to and implement no future downgrading, downsizing, or degazettement of existing, highly protected marine park zones**

Downgrading areas from no-take zones to fishing zones, and other dilutions of marine protection undertaken to appease vocal or powerful stakeholders, are damaging to long-term conservation initiatives. There is abundant evidence to suggest that the benefits of marine protected areas require long time periods – up to as long as 30 years – for their benefits to be realised (Barrett et al. 2007, Vandeperre et al. 2011). Short-term evaluations of MPA effectiveness are often misleading. Reductions in the area of the national marine park estate based on premature or subjective perceptions, or political convenience, will undermine the slow, long-term processes that these areas are created to conserve and restore.

3. **Remove industrial extractive activities, including trawling, longlining, and mining, from all marine parks.**

Industrial extractive activities, including trawling and longlining, remain permitted across approximately one third of 'continental' Commonwealth marine parks. For example, a shipping channel is maintained through the Multiple Use Zone of the Dampier Marine Park, and a dredge spoil ground now partially buries paleoshorelines and associated diverse sessile invertebrate communities (Lebrec et al., 2022). There is a growing awareness in marine ecology and conservation science of the harmful effects of these activities on the marine environment (Day et al. 2012, Grorud-Colvert et al. 2021). Current regulations also

make it relatively difficult to prevent mining, dredging, and other potentially harmful activities, as well as both inshore and offshore infrastructure expansion, near to protected areas (for example, see issues raised by the World Heritage Commission in relation to the Great Barrier Reef Marine Park at https://whc.unesco.org/en/decisions/4657/ and https://whc.unesco.org/en/documents/117104/). The fact that the risks and potential impacts of many of these activities are poorly understood does not make them acceptable (Miller et al. 2018, Howard et al. 2020). Industrial activities may provide short-term benefits to society but can significantly impact biodiversity and undermine long-term sustainability. As the oceans absorb more heat and pollution, classical notions of keeping fish stocks fished down to their level of maximum productivity are no longer tenable (Pauly et al. 2002, Edgar et al. 2024, Ludwig 2026). Rising variance in environmental conditions will mean increasing fluctuations in population sizes; management of highly variable resources requires a highly precautionary approach if collapse is to be avoided (Caddy 1999, Ludwig 2026). Unfished MPAs should retain the capability to act as a critical source of resilience, from which re-stocking and more rapid recovery can occur to surrounding locations (Bengtsson et al. 2003).

4. **Adequately resource marine park management, enforcement, monitoring, research, and community engagement to avoid the proliferation of ineffective "paper parks".**

The 30 by 30 target aims to ensure that at least 30% of marine areas are effectively conserved and managed. This requires an effective monitoring program. In our submission regarding the South-east Marine Parks Network Draft Management Plan we raised concerns that the plan did not include a comprehensive monitoring and evaluation program, nor commit to developing one.

MPA monitoring globally faces a need to better include and track changes in the non-fished species that parks protect (Hopf et al. 2024) as well as a range of challenges in implementing conservation (Papadopoulou et al. 2025). Subjectively, we note that the focus in Australia is strongly on fishing and fished species, marine mammals, sea turtles, and a small sub-set of additional charismatic or problematic taxa. There is relatively little inventory or consideration of other species that play structurally or functionally important ecological roles. Monitoring should include these types of species, moving beyond habitat-forming seagrass and algae to include a greater diversity of herbivorous fishes, crustaceans, and invertebrates that have no obvious commercial value. MPAs also have a key role to play in the restoration of populations of keystone species such as coral and kelp (Hopf et al. 2022).

Effective monitoring programs should be subject to evaluation based on clear sets of quantitative indicators and clearly stated, *a priori* criteria on which to judge success or failure (Cardoso-Andrade et al. 2022). Indicators should be connected to underlying processes and drivers of critical interest and related specifically to these processes, and ideally developed over long time frames (Stow et al. 1998, Lindenmayer et al. 2022, Puig-Gironès and Real 2022). Monitoring programs must also connect different elements of the same environment to provide an integrated assessment (Nicol et al. 2013). So, for example, an indicator species that is selected as a focus for monitoring the management of pollution impacts should be sensitive to the kind of pollution that is of greatest concern for the MPA; and measures of water quality should be related directly to numbers of the species that are most affected by poor water quality. The findings of monitoring programs should also be clearly

connected to actions to be undertaken by managers; evidence that a water quality-sensitive species is declining, for instance, should trigger an appropriate and feasible management response.

We recognise that developing and implementing good and useful monitoring plans requires substantial expertise and capacity and strongly encourage the relevant governments and agencies to provide sufficient resources to support and achieve these aims.

5. **Invest in national communications and education initiatives that improve public understanding of marine park protection levels, ocean stewardship and Indigenous engagement.**

In our submission regarding the South-east Marine Parks Network Draft Management Plan we welcomed the desired outcome 'First Nations people have increased opportunities to build connection to, and care for, Sea Country in Australian Marine Parks', the intent of the First Nations connections and partnerships management program to 'Respect and support the ongoing cultural responsibilities and connections of First Nations people to care for Sea Country in marine parks'. However, the Plan lacked detail on how this would be operationalised. The actions did not make reference to any framework, process or existing model for working with Aboriginal and Torres Strait Islander peoples, despite this being a core objective of Australia's Sustainable Ocean Plan.

It is unclear if the intent is to follow the First Nations Engagement Standard, which has not been released with the first four National Environmental Standards under the reforms to the *Environment Protection and Biodiversity Conservation Act 1999*.

6. **Embed climate adaptation into management plans**

Climate change is already impacting marine ecosystems. Its impacts include bleaching of corals from marine heatwaves, southward species migration, spread of introduced species, and changes to nutrient cycling as well as shifts in the number and nature of perturbations from storms, wind, and wave action (e.g., Doney et al. 2012, Pecl et al. 2017, Smith et al. 2023, Wernberg et al. 2024).

The development of new and updated management plans provides an opportunity to identify changes that are occurring now and that are likely to occur in the future within each of the marine parks, and propose actions that could be undertaken to respond to these changes (Prober et al. 2019).

We recommend that management plans should outline how climate adaptation planning will be undertaken for each park. Methods like adaptation pathways and scenario planning that take a futures approach to help navigate uncertainty are appropriate (Peterson et al. 2003, Maier et al. 2016), but should be undertaken in partnership with Aboriginal and Torres Strait Islander people, stakeholders and the community. The potential contributions of MPAs to climate resilience for marginalised communities also require explicit attention (White et al. 2025).

Fuchs et al. (2026) identify four strategic priorities for MPA climate adaptation (quoted here verbatim): (1) improving ecological monitoring and climate-informed spatial planning including attention to connectivity and climate refugia; (2) embedding equity and participatory

governance to enhance social legitimacy; (3) aligning legal and institutional frameworks across sectors and scales; and (4) securing sustainable, long-term financing.

7. **Explicitly consider land-sea linkages and develop management strategies for resolving land-based threats to marine biodiversity.**

The ocean is impacted directly by runoff from agriculture (e.g., sediment, pesticides, fertilisers) as well as by other land-based pollutants (e.g., plastics, shipping emissions, oil spills, and outflows from wastewater plants that contain nitrogen, pharmaceuticals, and faecal bacteria) (Beman et al. 2005, Landrigan et al. 2020). According to Landrigan et al. (2020), pollution of the oceans is widespread, worsening, and in most countries poorly controlled; over 80% of marine pollutants originate on land. These impacts are largely treated as externalities in current management plans despite evidence showing that their effects can extend many kilometres out to sea, particularly in the aftermath of significant flooding events (Brodie et al. 2012, Kroon et al. 2012), which will become more frequent under climate change Extended plans and strategies will be needed for managing these impacts, particularly for nearer-shore MPAs, as the incidence of extreme precipitation events increases.

The recent harmful algal bloom in South Australia is a good example of a harmful outcome resulting from the combined effects of land-sea linkages (increased nutrient levels) and ocean warming (Roberts et al. 2019; Chilton et al. 2026). It is unclear what has been learned from this episode and what is being done to prevent its re-occurrence (McAfee and Martin 2025, Baum et al. 2026, Dinsdale 2026). Management plans for MPAs in potentially vulnerable areas should consider the potential for rare but disastrous events such as this and consider in advance what management actions can be taken now to avoid and/or mitigate them.

8. **Develop and implement a national connectivity plan that considers potential changes in connectivity under climate change and seeks to fill gaps between existing protected areas, with particular reference to migratory species and long-distance dispersers and those that are reliant on transient resources.**

The Australian MPA network has been developed in a somewhat *ad hoc* manner and has some notable gaps. As the climate changes, and as human impacts increase along Australian coasts, the location of MPAs may become critical for the persistence of migratory and far-ranging species in particular (McCook et al. 2009, Beger et al. 2022). Goetze et al. (2021), for example, found that increased connectivity and depth improved Australian marine reserve benefits. The recently reported findings of >50% decline in the dugong population in the Gulf of Carpentaria (see, for example, https://www.abc.net.au/news/2026-09-02/scientists-find-dugong-population-decrease-gulf-of-carpentaria/107101178) should be a wake-up call that suggests Australian parks are not achieving their core objectives. In a recent review, Wang et al. (2025) found that (1) dugong ranges are expected to shift towards higher latitudes as waters warm; and (2) most dugong habitats already lie beyond the boundaries of existing MPAs. More generally, connectivity between MPAs is critical for the re-colonization of areas in which local populations have gone extinct following perturbations (e.g., after harmful algal blooms or heatwaves), and the deliberate creation of stepping-stone and refuge locations for marine biodiversity offers an important way of supporting and enhancing the regional resilience of marine biodiversity.

9. **Stronger integration of MPA management plans and related legislation with other relevant policy and governance tools, particularly relating to fisheries, to ensure seascape management rather than a piecemeal approach.**

Lastly, we note that Australian policy relating to marine environments is piecemeal and spans many different jurisdictions, user groups, and governmental departments (Techera 2016, Yin and Techera 2020, Fullbrook and Vince 2026). Approvals for industrial activities often sit in different branches of government from those responsible for biodiversity conservation. The fragmentation of responsibility makes it challenging to achieve cohesive ecosystem management at the scale that ongoing changes in the marine environment demand. We strongly recommend that a formal rationalisation of marine biodiversity policy be undertaken, particularly in relation to the interactions between resource-oriented (fisheries provisioning), public-oriented (local coastal resource users and the tourism industry) and biodiversity-oriented (protection of ecosystem structure and function) objectives, and embedded more transparently in MPA management plans. Management plans ideally need to clarify which organisation is responsible for resolving specific problem situations where these impact MPAs (e.g., declines in turtle numbers, illegal fishing, oil spills, shellfish population crashes due to overfishing) and provide a clearer indication of how different agencies and organisation are expected to work together to resolve the problem. The implementation gap between conservation planning and implementation will also need to be overcome, with the aims of ambitious plans often failing to be realised on the ground (Fabbrizzi et al. 2026).

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