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Science Corner: MPAs and fish catch - Dynamic MPAs - Network performance indicators - Cumulative impacts and conservation planning - Residual MPAs

These recent articles on MPA-related science and policy are each free to access.

Article: Cabral, R.B. et al. [A global network of marine protected areas for food](#). PNAS 117 (45).

Finding: This study uses distribution data for commercially important fish stocks worldwide to model how MPAs in different locations would affect catch. The modeling suggests that strategically expanding the existing global MPA network by 5% could improve future catch by at least 20%.

Article: Cashion T. et al. [Shifting seas, shifting boundaries: Dynamic marine protected area designs for a changing climate](#). PLoS ONE 15(11).

Finding: This study suggests that dynamic MPAs – with boundaries that shift over time in response to climate change – could bring about regional increases in both fish population biomass and fisheries catch.

Article: Meehan, M.C. et al. [How far have we come? A review of MPA network performance indicators in reaching qualitative elements of Aichi Target 11](#). Conservation Letters, published online 6 September 2020.

Finding: This study finds that the evaluation of MPA network effectiveness typically overlooks qualitative factors such as equity in management and how MPA networks are integrated into the wider landscape and seascape. This is believed to be the first systematic review of indicators used to assess MPA networks.

Article: Magris, R.A. et al. [A blueprint for securing Brazil's marine biodiversity and supporting the achievement of global conservation goals](#). Biodiversity Research, published online 1 November 2020.

Finding: This study presents a model for a comprehensive ecological approach to identifying strategic priorities for marine conservation. It combines cumulative impact assessment with a conservation planning approach that covers a broad diversity of marine habitats, threatened species, and their associated vulnerabilities.

Article: Devillers, R. et al. [Residual marine protected areas five years on: Are we still favouring ease of establishment over need for protection?](#) Aquatic Conservation 30:9.

Finding: This study explores the impact on MPA policy and management of a publication from 2015 that found that the placement of MPAs was often 'residual' – i.e., created in places of low economic interest, no matter their value for conservation. The follow-up study finds uneven impacts of the earlier research on MPA policy and management.

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