

# MPA NEWS

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## MPA Science Corner: Predators - Small MPAs - Marine reserve targets - Brazilian MPA

### Recent open-access articles on MPA-related science and policy

- **Article:** "Size matters: Predator outbreaks threaten foundation species in small Marine Protected Areas", PLOS ONE 12, e0171569 (2017)

Finding: Compared to larger MPAs, small coral reef MPAs may be more prone to outbreaks of predatory crown-of-thorns starfish due to a variety of factors. The authors recommend that an understanding of predator dynamics as a function of habitat size, type, and fragmentation should be incorporated into MPA design and management.

- **Article:** "Small Marine Protected Areas in Fiji Provide Refuge for Reef Fish Assemblages, Feeding Groups, and Corals", PLOS ONE 12, e0170638 (2017)

Finding: Even small MPAs show the ability to benefit reef fish populations while also enhancing ecosystem processes that are critical to reef resilience, including coral recruitment and herbivorous grazing.

- **Article:** "Marine Reserve Targets to Sustain and Rebuild Unregulated Fisheries", PLOS Biology 15(1): e2000537 (2017)

Finding: For coral reef areas in which fisheries are unregulated, placing 20-30% of the fished habitats in no-take areas is unlikely to harm the fisheries even if most fish populations there are still healthy, and will provide greater potential to rebuild depleted fisheries and protect biodiversity than protecting a smaller amount of area (e.g., 10%).

- **Article:** "Biodiversity of benthic macroinvertebrates on hard substrates in the Currais Marine Protected Area, in southern Brazil", Biota Neotropica 16 (2016)

Finding: This study of a 14-km<sup>2</sup> MPA in the southern Brazilian state of Paraná found 176 taxa of benthic invertebrates, of which 58 were first records for the state of Paraná. The remarkable number of new records highlights the relative lack of biodiversity studies in the area, and also the unexpectedly high biodiversity of the site.

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