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We don't need a huge blue grab to save sharks and rays

Amid calls to ring-fence nearly a third of oceans to protect marine life, it now seems a fraction of that could save key species, says **Lesley Evans Ogden**



Don't stick to protected areas

Andrey Nekrasov/imageBROKER/REX/Shutterstock

By **Lesley Evans Ogden**

Conservationists are still arguing about exactly how much of the world's oceans should be protected to ensure marine life does well.

The UN Convention on Biological Diversity has a goal of 10 per cent by 2020. And at the

International Union for Conservation of Nature's World Conservation Congress last year, a headline-grabbing target of 30 per cent by 2030 was endorsed.

But such targets may miss the point. Are our existing marine protected areas (MPAs) doing a good job of conserving the biodiversity they were designed to safeguard? Are they always in appropriate places? A new analysis focusing on one important class of species suggests not (*Nature Ecology and Evolution*, DOI: 10.1038/s41559-016-0040).

It also concludes that to prevent extinctions for these creatures, much could be done by shielding just 3 per cent more of the oceans, above and beyond the 3.5 per cent already protected.

Essential but exposed

The research, by Lindsay Davidson and Nicholas Dulvy at Canada's Simon Fraser University, looks at how well existing MPAs protect sharks, rays and chimeras, which belong to the Chondrichthyes. This class of marine life has a key role in keeping ocean ecosystems healthy, but it is also the one with the highest proportion of species threatened by extinction.

Of the 99 imperilled species examined, just 10 were found to have at least 10 per cent of their range within existing MPAs. And only one, New Zealand's Kermadec spiny dogfish, confines itself entirely to such areas.

This surprised Davidson and Dulvy because, as of 2015, 29 per cent of MPAs had been designated specifically to protect sharks.

Their analysis reveals that most of these protected zones are not in biodiversity hotspots for sharks and their close relatives. That may be because during negotiations for their establishment, fisheries interests and the oil and gas industries often get first dibs, say the researchers. Conservation gets the leftovers.

But there was some good news. Where sharks, rays and chimeras are concerned, we don't need to protect anywhere near 30 per cent of the oceans to conserve them. Expanding the current coverage of MPAs with a strategically chosen extra 3 per cent would cover half the geographic range of those 99 species. Such an expansion focused on biodiversity hotspots might be more financially and politically attainable too.

Conservation shortfall

Though this assessment is limited to sharks, rays and chimeras, it's not the first to suggest the MPAs have a "profound conservation shortfall".

Setting a target for the proportion of ocean to be protected is appealing in many ways, not least for its simplicity. But there are concerns about a singled-minded focus on this, with growing calls for empirical checks on whether MPAs are meeting biological objectives, including conserving biodiversity breadth and avoiding extinctions, while balancing human food security needs as well.

However, even if we can boost biodiversity conservation by being clever about which few

extra bits of ocean we protect, sharks' vast ranges mean they cruise widely outside of MPAs. So the researchers stress the importance of joined-up thinking, considering fisheries management as a crucial partner strategy to that of protected areas.

Whatever numbers we decide on, protected areas alone will not secure biodiversity. On land, conservation measures outside protected areas have found favour since the 1980s. It's time for that thinking to head out to sea.

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