

Science for Environment Policy

MPA costs cut through international collaboration

The cost of a Mediterranean marine protected area (MPA) network could be cut by over two thirds if countries surrounding the Sea collaborate in its creation. This is the conclusion of a study that explored how the Convention on Biological Diversity's goals to protect wildlife through MPAs could be met cost-efficiently.

Multinational efforts to conserve [marine biodiversity](#) make sense given that marine systems are naturally connected. However, in practice, most marine conservation programmes are not coordinated between different countries. This is partly because such programmes are perceived to be more costly.

This study suggests that multinational work can reduce the cost of marine conservation. It explored how different levels of cross-border collaboration would affect the cost of implementing an MPA network in the Mediterranean. The Mediterranean Sea is a [biodiversity](#) hotspot and one of most complex marine regions in the world. It is bordered by over 20 countries across three continents: Africa, Asia and Europe.

The researchers considered three collaboration scenarios, which would all ensure that 10% of the distribution of 77 threatened or near-threatened species in the Mediterranean is within MPAs, as per the [Convention on Biological Diversity's Target 11](#):

- 1) **Uncoordinated:** 10% of each vulnerable species' distribution is protected within each country's own exclusive economic zone (EEZ).
- 2) **Partly-coordinated:** all Mediterranean countries within each continent protect 10% of each vulnerable species' distribution within their combined EEZs. For example, European countries would protect 10% of distributions within their collective EEZ space.
- 3) **Fully-coordinated:** all countries surrounding the Mediterranean collectively protect 10% of each vulnerable species' distribution within the Sea as a whole.

The cost of protecting these species was based on estimates of financial losses as a result of fishing closure in the MPAs. The researchers also considered the cost to individuals of reduced subsistence fishing, i.e. fishing for non-commercial purposes, and the financial impacts of locating MPAs at varying distances from fishing ports.

The results suggest that, in all three cases, approximately the same amount of space would be protected. However, working together allows countries to cluster MPAs in areas that are high in conservation value but less important to fishers, i.e. financial losses are minimised.

A fully coordinated network was estimated to cost US \$275-653 million (€205-485 million) per year. The range in costs depends on the MPAs' distance from port. Costs decrease the further MPAs are from ports because fewer fishers will require compensation from authorities for loss of fishing grounds.

This fully coordinated plan would save 70-77% of the total cost of the completely uncoordinated scenario (US \$1219-2540 million (€908-1892 million) per year). A partly-coordinated plan (US \$350-1140 million (€261-849 million) per year) would save 55-71% of the total uncoordinated costs.

The study's authors acknowledge that political, social and economic barriers make collaboration between all Mediterranean countries highly unlikely. However, the results show that even partial coordination could bring huge gains.

The researchers suggest that existing cross-border initiatives provide good platforms for developing further collaboration. They highlight the [EU's MPA network](#) to be established by Member States under the [Marine Strategy Framework Directive as a key example of one of these initiatives](#).



9 October 2014
Issue 388

[Subscribe](#) to free
weekly News Alert

Source: Mazor, T., Possingham, H. P., & Kark, S. (2013). Collaboration among countries in marine conservation can achieve substantial efficiencies. *Diversity and Distributions*. 19(11): 1380-1393. DOI:10.1111/ddi.12095.

Contact:
tessa.mazor@uqconnect.edu.au

Read more about:
[Environmental economics](#), [Marine ecosystems](#)

The contents and views included in Science for Environment Policy are based on independent, peer-reviewed research and do not necessarily reflect the position of the European Commission.

To cite this article/service: "Science for Environment Policy": European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.