

Science for Environment Policy

Mediterranean Marine Protected Areas help safeguard vulnerable seabird

Mediterranean Marine Protected Areas (MPAs) provide important habitats for the yelkouan shearwater, a species of conservation concern, new research concludes. The study examined the behaviour of the birds at sea and found that they used MPAs extensively as foraging grounds.

Marine biodiversity of all kinds is under threat from human activities and to help prevent further degradation of such ecosystems, target 11 of the Convention on Biological Diversity¹ states that countries should designate at least 10% of coastal and marine habitats as MPAs by 2020. However, designing MPAs for the greatest benefits to all aspects of a [marine ecosystem](#) is a complex task.

For this study, funded by 'PACOMM, Natura 2000 en mer', which works to establish Natura 2000² sites in the marine environment, researchers examined whether three Mediterranean MPAs provide useful habitat for the yelkouan shearwater (*Puffinus yelkouan*). This seabird breeds only in the Mediterranean Sea. It is listed as vulnerable by the IUCN and numbers are falling as a result of birds being caught accidentally by long lining fishing boats, predation by invasive mammals and overfishing which causes their food supply to decline.

As a result of these threats, this species is listed in Annex I of the EU's Birds Directive³, which requires a network of Special Protection Areas. Work on establishing a marine network of Natura 2000 sites, including marine SPAs, is still ongoing and therefore this research provides a timely and highly relevant evaluation of the importance of MPAs.

The study focused on three MPAs just off the south coast of France: Parc National de Port Cros, Parc National des Calanques and the Parc Naturel Marin du Golfe du Lion. These cover 152 km², 1 413 km² and 4 019 km², respectively.

In 2011 and 2012, the researchers fitted 20 birds breeding within the Parc National de Port Cros with GPS tags to record their exact location. In 2011, they also carried out 63 hours of observations on a boat, recording numbers of shearwaters, including untagged birds, in different areas. Finally, in the winter of 2011 and spring of 2012, the researchers carried out 59 hours of surveys from a small aircraft, again recording the numbers and locations of shearwaters.

The GPS tracking results show that the birds tended to stay within 20 km of the shoreline and used the MPAs more than might be expected. An average of 38% of dives for food occurred within the MPAs and, overall, the birds were found in these areas 31% of the time. These figures, the researchers conclude, are surprisingly high, given that the MPAs cover only a small proportion of the habitat available to the birds. As an illustration of this, the MPAs extend across only 30-100 km of coastline, but the maximum distance of a foraging trip made by the shearwaters was 270 km from the colony.

The boat and aircraft surveys confirmed these findings, showing high densities of birds within MPAs. However, other non-protected areas outside the MPAs were also important, such as offshore of the town of Agde, which is in the middle of the Gulf of Lion.

The researchers conclude that these Mediterranean MPAs do provide important habitat for this vulnerable species, despite having been mainly designed to preserve the seafloor ecosystem, rather than mobile predators such as seabirds. However, they caution against reducing protection for MPAs in future, whereby areas are designated protected 'on paper', but legislation is weakened so that overexploitation of ecosystems can continue.



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1. <http://www.cbd.int/sp/targets/>

2. http://ec.europa.eu/environment/nature/natura2000/index_en.htm

3. http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm