Think big for marine conservation

Err on the side of caution and protect the widest-possible areas of ecologically important deep sea, say **Phil Weaver** and **David Johnson**.

Marine protected areas are key tools for conservation, but they have some serious shortcomings. The Convention on Biological Diversity (CBD) has called for these areas to cover 10% of each of the world's marine and coastal ecoregions by the end of 2020. Even this modest target is proving elusive. So far, less than 2% of the ocean has been designated as protected, and nearly all of these areas are in coastal and continental-shelf regions. This is partly the result of a lack of data from the open ocean, and partly because of pressures from various interest groups, which may resist the management of ocean areas with valuable resources.

There is now an additional option for protecting the marine environment. In 2010, the CBD created a process to officially endorse Ecologically or Biologically Significant Areas (EBSAs) and to convey information to competent intergovernmental organizations, such as the United Nations General Assembly, for further action. The point of EBSAs is to allow scientists to identify areas that are particularly important to the function of marine ecosystems without the requirement for an accompanying detailed management plan. This 'softer' procedure opens the door to labelling a larger swathe of the ocean as important to ecosystem functioning.

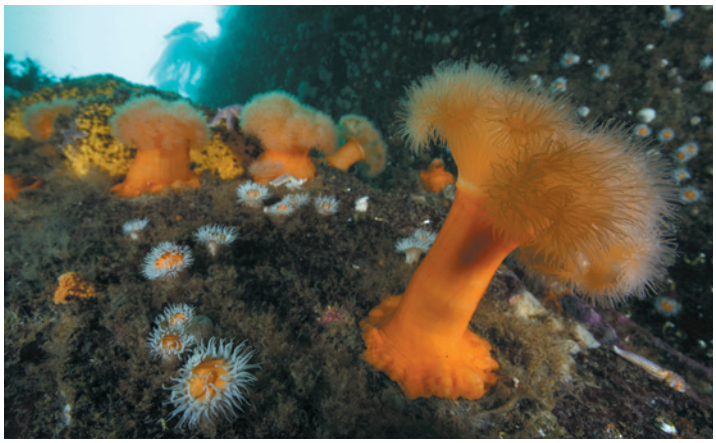
An EBSA is defined by a set of criteria established by the CBD in 2008: the area should contain unique, rare or endemic creatures and/or habitats; have a special role in the survival of a given species; be important for the survival or recovery of threatened species; be vulnerable, fragile or slow to recover once harmed; have high biological productivity; and/or have high biological diversity. These are good criteria. Unfortunately, there are vast swathes of ocean about which very little is known, for which these criteria can be hard to prove.

This lack of knowledge is not preventing fishing, deep-sea mining and other exploitation from expanding, however; nor should it stand in the way of designating EBSAs. We believe that EBSAs should be made as large as possible, encompassing all areas within which the criteria are likely to be substantively met, even before that can be proven. This approach should be widely adopted by the scientific community now, while proposed EBSAs are being drawn up for a first technical evaluation at a CBD meeting in Montreal, Canada, at the end of April, before their political endorsement.

ATLANTIC BEGINNINGS

The first CBD regional workshop to identify EBSAs was held in September 2011 to consider the northeast Atlantic, which already hosts a number of marine protected areas and precautionary bottom-fisheries closures. This ocean includes the Hatton and Rockall banks and basin area, to the west of Ireland and Scotland. This area, parts of which are heavily fished, hosts many discrete habitats and supports a wide range of animals, including fragile cold-water coral reefs and sponges. It provides feeding grounds for birds such as shearwaters and petrels. And it may harbour turtles and the endangered blue whale (*Balaenoptera musculus*) as well as the critically endangered North Atlantic right whale (*Eubalaena glacialis*). The exact boundaries of any of the habitats and species distributions are yet to be established.

Initially, there was considerable support among the 25 participating scientists for the designation of small, discrete EBSAs, such as isolated seamounts, in the northeast Atlantic. Experts were focused on their particular specialist habitat or species group, and were conscious that their expert judgement would be scrutinized by their peers. Under such circumstances, it can be difficult to support a large EBSA that extends beyond one's expertise and into areas where there are little data.



WATERFRAME/ALAMY

Species such as North Atlantic anemones deserve conservation attention.

Fortunately, the eventual consensus of this meeting was to propose large EBSAs: eight extensive areas (averaging 362,097 square kilometres each) and two smaller international bird areas. For Hatton–Rockall, that meant drawing a line around the entire banks region, measuring 264,322 km^2. This stands in stark contrast to the average size of the 276 protected areas in this ocean's national waters, which average just 1,040 km^2 each, and the 6 high-seas protected areas, at 47,718 km^2 each.

What should happen once an EBSA is defined? We suggest that a marine spatial plan be drawn up for each EBSA and regularly updated. This will articulate a vision, show what activity is taking place in the region (from commercial fishing to tourism) and study the impacts of those activities. In terms of management, we support a three-tier approach whereby areas that historically have been heavily fished and are now degraded remain unprotected; areas with light historical fishing are given full protection; and moderately fished areas are subject to further scrutiny. Marine protected areas could sit comfortably within EBSAs, giving protection to the most critical ecosystems. The main benefit of this system is that it appeals to many different stakeholders: for example, it legitimizes existing fishing activities while preventing them from spreading to vulnerable ecosystems in future.

As scientists meet to rationalize what exactly EBSAs should look like in different parts of the world, we urge them to err on the side of caution and to make the areas large rather than small. This will open the door to broader conservation measures and to sustainable development in future. ■

Phil Weaver *is science coordinator of the Global Ocean Biodiversity Initiative and is at the National Oceanography Centre, Southampton, UK.* **David Johnson** *is executive secretary for the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) in London.*
e-mail: ppew@noc.ac.uk

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