Ocean Acidification (OA) is a threat to marine ecosystems. OA cannot be stopped, and harmful effects cannot be avoided without mitigation measures for CO2. In the meantime, however, we can do everything we can to protect our seas from multiple stressors that act together – in combination with OA.

The protection of ecosystems from other stressors in our seas provides synergies with regards to OA. Protection measures that specifically consider OA can furthermore provide explicitly tailored solutions, such as Marine Protected Areas (MPAs) that are allocated appropriately. Scientific studies on the designation of such refugia should be strongly encouraged, and knowledge gaps should be identified and addressed. At the same time, existing suggestions for useful approaches deserve attention. For instance, protecting macrophyte beds (macroalgae and seagrass) can offer a temporal refuge for calcifying organisms otherwise susceptible to OA. Local or regional actions must happen in tandem with other actions, such as alleviation of overfishing and eutrophication to mitigate the ongoing loss of bladderwrack and other macrophytes.

The protection of marine ecosystems in Europe has several existing instruments. The Marine Strategy Framework Directive (MSFD) could guide EU member states to a coordinated view on marine protection in general, and specifically with regard to ocean acidification. The Regional Conventions of the Seas also provide frameworks for nations outside the EU. Protection of marine ecosystems under the Natura2000 network (in EU member countries) and the Emerald Network (also including non-EU countries) could provide a foundation for coherent protection of biodiversity that would also increase resilience against OA. Initiatives by local stakeholders, including those of municipalities and even private property owners, can be found within these MPAs, and some of the MPAs are based on the joint efforts of local initiatives to be part of UNESCO’s “World Network of Biosphere Reserves”.

Local initiatives to protect marine areas must be strongly encouraged. At the same time, local initiatives need the support of research and planning. European-wide governance is of the utmost importance. Recognising the roles of OA and other stressors in an integrated approach to marine protection provides the opportunity to create science-based transnational marine corridors that increase the resilience of our seas. At present, however, there is an urgent need to improve the use of marine governance instruments in Europe.

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