

## Seagrass meadows in the Mediterranean — nature protection at sea to support climate resilience



*Posidonia oceanica* is a common Mediterranean species of seagrass which provides many ecosystem services that are relevant in the face of climate change.<sup>1</sup> Not only does it directly capture CO<sub>2</sub>, it also decreases the water pH to buffer the acidification caused by climate change, protects coastlines from erosion, provides essential habitats for wildlife, and forms the spawning grounds and nursery areas for many fish species, in turn delivering positive impacts for fisheries. Despite these benefits for nature, climate mitigation and people, more than a third of *Posidonia* meadows have been lost from the Mediterranean Sea in the last 60 years due to combined pressures from climate change and human activities which disturb the seabed, including fishing and tourism.<sup>2</sup>

Science has observed that when MPA networks are effectively planned and implemented, they are capable of protecting and supporting the growth of *Posidonia oceanica* — one of the ocean's climate mitigation heroes. For instance, a 2013 study found that within Torre Guaceto, a well-managed MPA in Italy, the protected seagrass habitats were more resistant to damaging human activities than those outside the protected area, thus enhancing the stability of surrounding marine ecosystems.<sup>3</sup>

## Salt marsh restoration project on the Baltic Sea coast — the harmony of habitat recovery and carbon capture

In 2014, a restoration project on the German Baltic coastline began: two 100-hectare polders (artificial coastal areas created by means of dikes and draining) were to be restored to their natural marine state. 4.5 kilometers of dikes were removed to open former intensively-drained meadows to the sea. New dikes were built, and the two polders were successfully flooded in November 2019 and March 2020. Once flooded, the former polders quickly started to revert to salt marshes.

Under the previous conditions, the exposed peatlands degraded, emitting vast amounts of CO<sub>2</sub>. Thanks to the new

saltmarsh vegetation and high water level, 5,000 tons of CO<sub>2</sub> emissions are calculated to now remain locked in the ground every year. The now-restored habitat also overlaps with the migratory routes of several species of waterfowl, delivering a haven on their long journeys.

This project also exemplifies successful spatial co-management, with constructive dialogue between the local farmers and municipalities contributing to the effective implementation of the restoration project.



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# OUR MISSION IS TO STOP DEGRADATION OF THE PLANET'S NATURAL ENVIRONMENT AND TO BUILD A FUTURE IN WHICH HUMANS LIVE IN HARMONY WITH NATURE.

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# MARINE PROTECTED AREAS: DELIVERING OCEAN RESILIENCE TO ALLEVIATE THE EFFECTS OF CLIMATE CHANGE

The climate crisis brings unprecedented threats to our planet and its ocean

Rising water temperatures, ocean acidification and increased weather instability contribute to the degradation and loss of marine services in many ways — from shifts in fishery and energy resources to more frequent storms and heat waves. These impacts create many challenges for all communities, coastal and inland, including threatened food security, the destruction of man-made structures and systems along our coastlines, loss of assets supporting our socio-economic well-being and the collapse of marine habitats that both people and wildlife call home. This puts coastal and oceanic goods and services, worth an estimated US \$2.5 trillion annually, at risk.

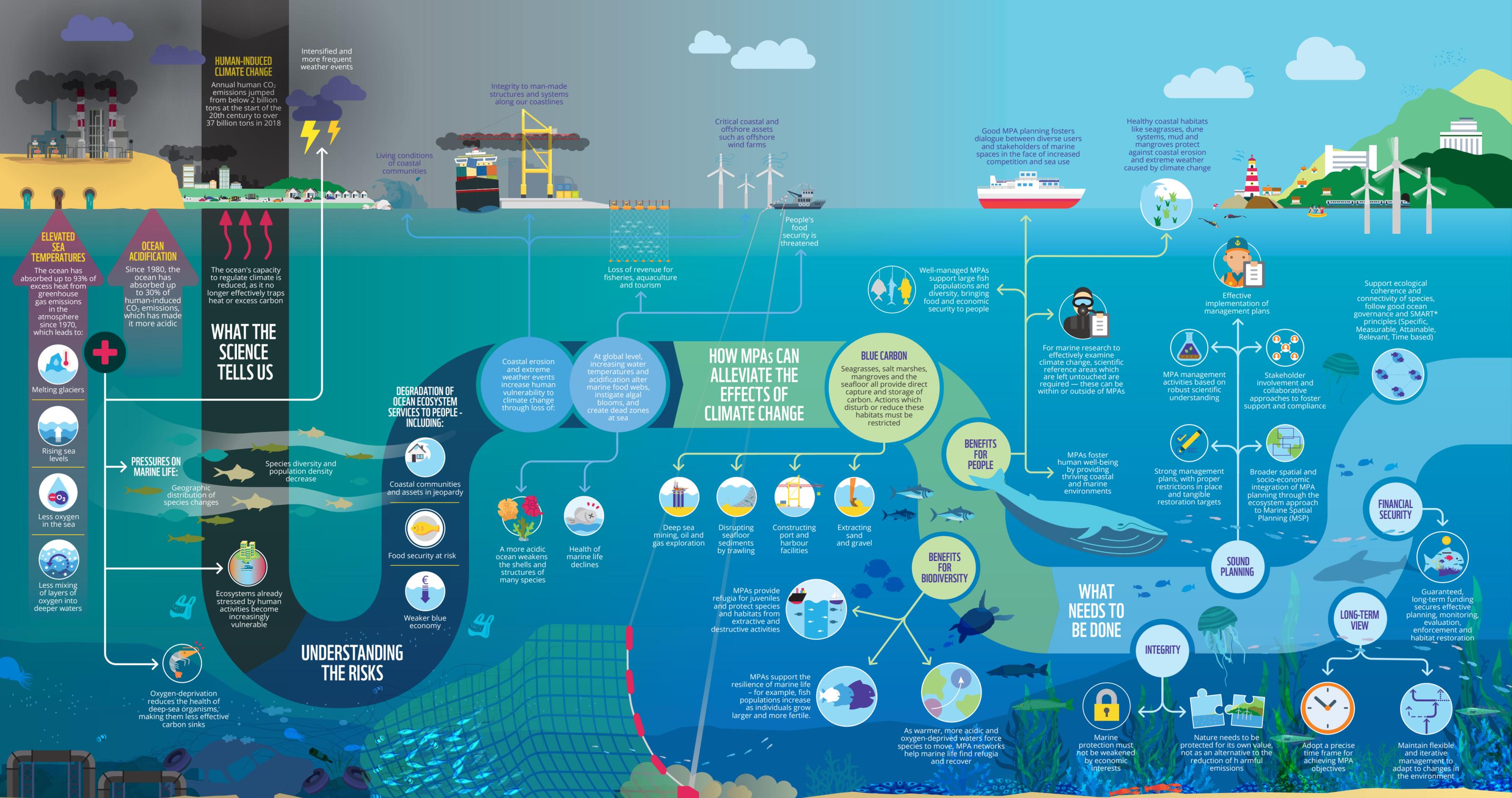
Marine Protected Areas (MPAs) are scientifically demonstrated to be efficient and cost-effective tools for alleviating the impacts of climate change and human pressures, reinforcing ecosystem resilience and improving the capacity of habitats to act as a blue carbon sink. As such, they directly contribute to the achievement of **United Nations Sustainable Development Goal (SDG) 14: Life Below Water**. MPAs are central in achieving target 14.2 *Protect and restore ecosystems*, as well as target 14.5 *Conserve coastal and marine areas*, neither of which has been on track to meet their 2020 deadline. At the same time, effective MPAs would support the success of *SDG 13 Take urgent action to combat climate change and its impacts* and contribute to the climate actions laid out by each nation following ratification of the 2015 Paris Agreement, called Nationally Determined Contributions.

However, to be resilient to the impacts of climate change, MPAs need to be based on scientific criteria and follow good ocean governance. Lack of effective management in areas designated for protection continues to deliver many Paper Parks — where governments have declared their intentions for MPAs, but not followed up with tangible action on the ground or in the water to effectively restore and protect these areas. **In 2019, one year before the SDG target 14.5 deadline for a minimum 10% of coastal and marine areas to be protected, less than 2% of European seas were effectively managed and monitored under MPAs.**

Policy solutions for our ocean must work together in a cohesive and collaborative way, complementing the overall reduction of harmful emissions and supporting shared actions to limit global warming to 1.5 degrees Celsius, as required by the Paris Agreement.

Working together  
to safeguard Marine  
Protected Areas





## POLICY RECOMMENDATIONS

- ✓ By 2030, **protect at least 30%** of our ocean under effective MPAs, including **highly protected areas**, with fully implemented management plans, monitoring and transparent reporting.
- ✓ Ensure that MPAs conserve biodiversity through restoring and maintaining **ecosystem functionality**, thereby alleviating the impacts of climate change.
- ✓ Ensure that MPAs are designated in **ecologically meaningful locations**, work as a well-connected and coherent network, and account for predicted shifts in the geographic distribution of species caused by climate change.
- ✓ Ensure that the **main priority of all MPAs is conservation of biodiversity and restoration of ecosystems**, not economic growth of marine industries or industrial carbon offset schemes. A sustainable blue economy and economic opportunities for coastal communities are welcome added benefits of MPAs.
- ✓ Develop MPAs in the broader framework of **ecosystem-based Marine Spatial Planning**: ensure space for nature and take the limited carrying capacities of our ocean into account when planning for sustainable marine economic activities.

**ACT NOW!**