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early view



Marine Animal Forest of the World (MAF WORLD)

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Marine Animal Forest of the World (MAF WORLD)

3) Can Marine Animal Forests benefit from existing conservation measures? A systematic approach towards the identification of protected sessile benthic species in the Mediterranean Sea

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Abstract

Some marine benthic invertebrates increase the structural complexity of the seabed, thereby providing suitable habitats to several associated species, resulting in biodiversity hotspots. Marine Animal Forests (MAFs) encompass a set of the most important marine benthic habitats into which diversified sessile suspension feeders like sponges, corals, sea pens, tube worms, bivalves, bryozoans and ascidians occur. Such a mix of sessile species brings characteristic assemblages and supports important ecosystem functions. In the last decades, some species which form MAFs have been the object of international conventions, EU directives, and national policies aiming to address natural and human-induced disturbances. Effective conservation, monitoring, and restoration actions require summarizing the available information to include MAFs in conservation plans. In the present work, the main international policies for the protection of coastal and marine fauna were screened in order to provide a list of protected species which form Mediterranean MAFs. These international normative documents include the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of European Wildlife and Habitats (Bern Convention), the European Habitats Directive, and the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) of the Barcelona Convention. The analysis of the normative items revealed that 62 Mediterranean potential MAF-forming species have been included in one or more legal annexes as protected species. These species belong to different phyla, including Porifera, Cnidaria, Bryozoa and Mollusca. A wider view was proposed by the International Union for Conservation of Nature (IUCN), setting the bases of a legal acknowledgement of the MAFs as one of the largest biomes on Earth. This study represents a first step to obtain a baseline of MAF legal protection framework in order to support the further implementation of management measures aimed at increasing the effective protection of MAFs. Reporting the status of the Mediterranean MAF species that should be considered in management plans and conservation measures will be crucial for policymakers, as well as for mitigating current and future impacts on these distinctive marine environments.

4) Temporal Shifts of *Posidonia oceanica* and *Corallium rubrum* in Cap de Creus (NE Spain): Recreational SCUBA diver's perception of change

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Abstract

Temporal trends of the main Mediterranean benthic coastal marine habitats point to an overall decline of their extent and health status. We assessed recreational scuba divers' perceptions of the temporal change abundance of two key Mediterranean ecosystem engineering species in the Cap de Creus

Marine Protected Area: the red coral *Corallium rubrum* (an octocoral, component of coralligenous assemblages) and *Posidonia oceanica* (a seagrass, forming meadow formations on soft bottoms). We conducted semi-structured interviews and a target survey to recreational scuba divers of the area. Scuba divers reported decreasing abundance for *C. rubrum* but not for *Posidonia oceanica* meadows during the last four decades. Qualitatively comparable ecological data for the area are only available for the last two decades and suggest stability in the abundance of both species. We explain the mismatch between data sources regarding *C. rubrum* arguing that, while ecological data mainly focus on no-take areas inside Cap de Creus, divers mainly visit areas where red coral colonies are unprotected. For *P. oceanica*, stability over the last two decades is indicated both in ecological data and in divers' responses, suggesting that this habitat did not suffer major decline during the study period. The results of this study are overall limited by a low replication. However, it highlights local expert knowledge (i.e., recreational divers' knowledge) as an untapped source of observations that could contribute to increase information of the historical ecological trends of these key species.

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