

Assessing the potential for using Marine Protected Areas as a tool for the environmental management of fisheries resources in Maltese waters

M. J. Sant*

Abstract

The intensity of activities in the coastal zone² of the Maltese Islands reflects the economic significance of this area. The interdependence between the ecological health of the marine environment and the economic activities that depend on marine resources highlights the need for effective management of marine areas. A management tool that may be used to promote the sustainable use of marine resources is the designation of Marine Protected Areas (MPAs).

The management objectives of MPAs should include the protection of natural resources, and the management of resource conflicts arising from the spatial proximity of activities that require (or affect) the coastal zone and contiguous marine areas. The above objectives are of relevance to the fisheries industry, since protection of fisheries resources requires the effective regulation of activities/developments that may affect fisheries, or the viability of fish stocks.

1. Introduction

The industries making intensive use of the marine environment and the contiguous terrestrial area around the Maltese Islands include the shipping and bunkering industry, ports facilities and the tourism industry. The demand for development in these areas, and the resulting environmental concerns are detailed in the Coastal Strategy Topic Paper (Planning Authority, 2001), and the State of the Environment Report for Malta (Axiak & Sammut, 2002).

Issues associated with the marine environment are complex, given the economic value of the various industrial activities, and the various environmental concerns. The value of maritime areas as economic resources depends upon the environment health of the marine ecosystems, of which fisheries stocks form an integral part.

The integration of fisheries management initiatives with other legitimate uses of the marine environment would facilitate the successful implementation of environment protection measures. Effective environmental protection must include the effective protection of fisheries stocks, consequently the protection of their value as an economic resource.

The Structure Plan for the Maltese Islands (Planning Services Division, 1990) recognised the need for regulation and coordination of activities and development in the coastal and marine areas, through the application of the principles of coastal zone management. The main objectives of this strategy include the management of activities and development in a way that promotes the mitigation of environmental impacts, and the protection of environmental resources.

* Malta Environment and Planning Authority, St. Francis Ravelin, Floriana, Malta; Tel.: +356 22901602; Fax: +356 22902290; E-mail: Michael.Sant@mepa.org.mt

¹ The coastal zone includes both the marine environment, and the contiguous terrestrial area.

Given the above scenario, coastal zone management offers the possibility of achieving an equitable balance between the health of the marine environment, the interests of the fisheries sector, and the interests of other legitimate users of the marine environment. The potential of coastal zone management as a tool facilitating the conservation of fisheries resources (and marine areas in general) is recognised by the FAO Code of Conduct for Responsible Fisheries (1994).

Nevertheless, the designation of Marine Protected Areas (MPAs) is still required to allow management of sensitive areas that are of critical environmental and/or economic importance. It should be noted that the effective protection and management of the marine environment requires that the areas protected are of a size that is ecologically significant, and that the protected areas are significant from a biogeographic perspective (Kelleher *et al.*, 1995). Consequently, the effective protection of fisheries resources requires the establishment of a network of protected areas at both local and regional level.

2. MPAs in the Maltese archipelago

The accession of Malta to the European Union has involved the designation of a 25-mile fisheries conservation zone around the Maltese Islands. Such designation promotes the sustainable harvesting of fisheries resources, through the application of various fisheries management techniques that limit the fishing effort within Maltese waters.

No MPAs have been designated in the Maltese Islands as yet. Although the Structure Plan (Planning Services Division, 1990) lists thirteen candidate sites for designation as MPAs, the boundaries of these areas are not defined, and the list of sites is in the process of being reviewed (as is discussed below). The coordination of fisheries management techniques with area management initiatives would render the conservation of the natural environment (including fisheries resources) more effective.

The attempt to integrate fisheries management techniques within conservation areas has been limited to the prohibition of fishing activity within an area of one nautical mile radius around the islet of Filfla (Schembri, 1999). However, opposition to the designation of this area resulted in the resumption of fishing activities after a period of three years.

3. Management Strategies

Various definitions of MPAs have been proposed in the literature; definitions that are widely recognised are the categories of MPA proposed by the IUCN (1994). The objectives of the various categories range from strict conservation to the management of specific resources; a category of MPA that is of particular relevance to fisheries management is the Managed Resource Protected Area (MRPA).

Managed Resource Protection Areas (MRPAs) require the regulation of the exploitation of species present in a specific area, including fish stocks of commercial importance. Effective resource protection would also include protection of spawning areas and nursery areas; feeding grounds; habitats of importance to fish stocks; and species on which fish stocks are dependent. Management would be effected through fisheries management methods directed

towards limiting fishing effort. Another strategy is the No Take Zone (NTZ) as defined by the JNCC (2003), where fishing effort is restricted seasonally or permanently.

Regardless of the definitions that may be applied with respect to the form or function of MPAs, the formulation of a management strategy requires the collection and analysis of data regarding the natural environment; data on the various activities located within the coastal/marine zone is required to assess the human impact on the marine environment. Effective management of the resource also requires the identification of actual and potential threats.

The choice of management strategy should depend on the characteristics of the area requiring protection, and the specific objective of the MPA; the latter should consider the needs of all legitimate users of the area. The review of MPAs in the Maltese archipelago by Schembri (1999) is an indication of the potential for conflict between fisheries interests and conservation interests. Consequently, designation of MPAs must emphasise the fact that both 'interests' have a common goal: safeguarding the viability of fisheries stocks, and of the marine environment in general.

The above implies that MPA designation should apply the concept of multiple-use management in protected areas through the zoning of activities and the regulation of specific activities, e.g. anchoring, to control specific impacts. To achieve this objective, MPAs should involve:

- co-ordination of different activities and the promotion of conflict management;
- application of management measures over large areas;
- provision for a number of levels of access and of fishing in different zones;
- provision for the continued sustainable harvest of fish stocks; and
- minimisation of the possibility of concentrating fishing activities in particular locations, as may occur with NTZ.

To date, the lack of information with respect to coastal waters has hampered the effective formulation and implementation of policies with respect to marine areas and resources. Current priorities include the:

- identification of areas that are particularly sensitive and/or important (ecologically or economically) through benthic mapping etc.
- collection of data regarding marine activities, and activities in the contiguous coastal areas
- identification of actual/potential threats and impacts, and establishment and enforcement of environmental quality standards e.g. pollution control, environmental monitoring of development

The above process is currently underway, with substantial amounts of environmental data having been collected to allow prioritisation for area designation. Although a definitive management strategy has yet to be established, it is envisaged that effective use of MPAs will involve the establishment of a network of protected areas, where key sensitive sites will be strictly protected as NTZ, while wider scale protection will be given through designation of MRPA. Regular review of the performance of the MPA network would be required, to allow refining of management measures according to the results obtained.

4. References

- Axiak, V. and Sammut A. (2002). The Coast and Freshwater Resources. In: State of the Environment Report for Malta, 2002. Ministry for Home Affairs and the Environment. August 2002, 70p.
- FAO. (1995) Code of Conduct for Responsible Fisheries. Rome, FAO, 41p.
- IUCN Commission on National Parks and Protected Areas (1994) Parks for Life: Actions for Protected Areas in Europe. IUCN, Gland, Switzerland and Cambridge, UK, 154p.
- Joint Nature Conservation Committee JNCC (2003) No Take Zones - Background to Current Fisheries Fishing methods around the UK. Downloaded from http://www.jncc.gov.uk/marine/fisheries/environmental_obj/no_take_zones.htm
- Kelleher, G.G., Bleakley C.J. & Wells, S. A global representative system of Marine Protected Areas. Great Barrier Reef Marine Park Authority, World Bank and IUCN, Washington DC.
- Planning Authority (2001) Coastal Strategy Topic Paper; v +, 180p.
- Planning Services Division (1990) Structure Plan for the Maltese Islands. Ministry for Development of Infrastructure. xiii+,125p.
- Schembri P.J. (1999) Marine protected areas in the Maltese Islands: status and problems. Scientific Design and Monitoring of Marine Protected Areas, CIESM Workshop Series no. 8: pp. 45-47.