long-term monitoring and research purposes.

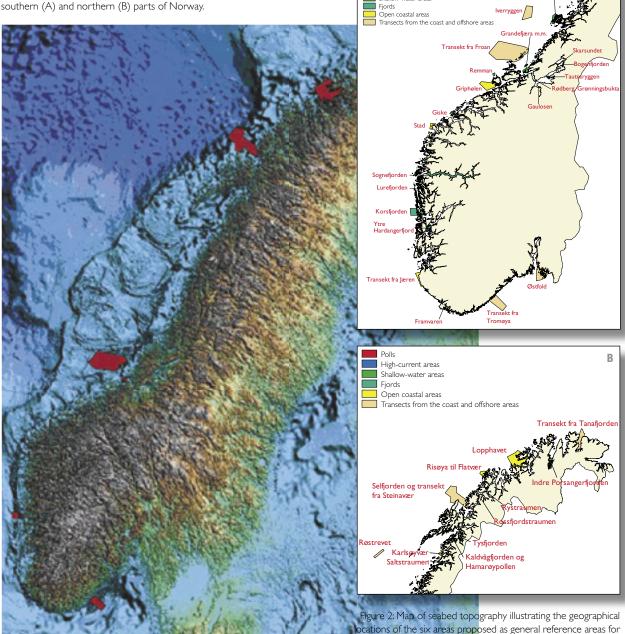
Marine Protected Areas in Norway

BY HEIN RUNE SKJOLDAL

An advisory committee has proposed the inclusion of 36 areas in the first phase of a Norwegian national marine conservation plan. The areas concerned range in size from five to 3450 square kilometres, and most of them lie within the coastal zone. Representativeness and distinctive qualities have been the most important criteria involved in the selection of these areas, which are intended also to serve as reference areas for research and monitoring.

An advisory committee appointed in 2001 has recently given the Norwegian authorities its recommendations regarding the establishment of Marine Protected Areas (MPAs). This work is based on the findings of a previous committee, which summarised the knowledge on the distribution of plants and animals along the coast of Norway and drew up an overview of possible MPAs (DN Report No. 1995 - 3). Government White Paper No. 43 (1998 -1999), "Conservation and use of the coastal zone", gave guidance on the balance between conservation and use. The White Paper suggested

Figure 1: Geographical distribution of the 36 areas that have been proposed for inclusion in the marine conservation plan for the southern (A) and northern (B) parts of Norway.





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that conservation should not be stricter than necessary, and that a combination of conservation and use should be implemented whenever possible.

White Paper No. 12 (2001–2002), "Clean and Rich Sea", described the task of marine conservation. On the basis of the proposals submitted by the advisory committee, the Directorate for Nature Management, the Directorate of Fisheries and other government bodies will draw up concrete proposals for the conservation of the areas concerned. These proposals will be distributed nationally for comments, before any decisions regarding conservation are made. After this phase, which is expected to be completed in 2007, a second phase is planned, in which the overall need for conservation will be evaluated and the plan supplemented if needed.

BALANCED SELECTION

The advisory committee has suggested 36 areas for the first phase of the marine conservation plan, ranging from the County of Østfold in the south to Finnmark in the north, and from inner fjord areas to the outer shelf and the continental slope. Most of the areas lie within the coastal zone. The committee has characterised the proposal as a reasonably good and balanced selection of Norwegian underwater nature from the coastal and territorial waters. The selection process has emphasised the representativeness and special characteristics of the areas concerned.

PROBABLY MUCH UNDISCOVERED LIFE

The diversity of species in the Norwegian coastal zone and oceanic regions is only superficially surveyed and known. The conservation value of most of the proposed areas lies in the plant and animal life of the seabed, which constitutes a mosaic of habitats for sessile, digging, creeping and swimming forms of life. We know most of the common species that live on the seabed in large numbers and are capable of being collected and brought to the surface by means of grabs, trawls and similar types of gear. However, most of these forms of life have not been mapped in detail, and many less common species are probably still to be discovered. For this reason, the form and character

of the seabed have guided the committee's selection of sites. The purpose of conservation is to maintain the subsea landscape – or seascape – and the range of species that live on or associated with it.

COMBINATION OF CONSERVATION AND USE

In general terms, the advisory committee has proposed that the subsea landscape with its wide range of habitats should be conserved, at the same time as sustainable use of living resources using methods that do not harm the landscape should be permitted. Such a combination of conservation and use will depend on a system of monitoring and checks in order to ensure that the conservation value of the areas concerned is not reduced over time.

One of the purposes in designating conservation areas is that they should serve as reference sites for comparisons of status and development between areas in which activities such as seaweed harvesting are permitted and those where such activities are forbidden.

MONITORING CHANGES

Norwegian marine nature may well change a great deal in the coming decades. Climate change may alter the distribution of species and stocks, while new introduced species could induce further changes through biological impacts. New contaminants may appear that have biological and ecological consequences. The inner reaches of the coastal zone may be put under greater pressure, for example in connection with wind-mill farms in marine areas.

It will be a demanding task to distinguish between natural and human causes of change in the future. If we are to be able to do so, we will need a clear strategy that will include the use of reference areas. The advisory committee has proposed that six of the marine conservation areas should be used as general reference areas for long-term monitoring and research purposes. These areas form a representative selection, each of them containing a wide range of types of underwater nature from different parts of the coast.

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