The Røst Reef - A Potential MPA

briefing

Location

The Røst Reef is located west of the Røst Island in the Lofoten Archipelago, Northern Norway. The reef is approximately 40 km long and 2-3 km wide (see map). It covers an area of approximately 100 km² (10 times larger than the Sula Reef). The reef lies within Norway's Exclusive Economic Zone (EEZ). The reef is found within the following coordinates:

A: 67°35,5' N 9°31,1' E
B: 67°33,0' N 9°38,2' E
C: 67°19,4' N 9°02,7' E
D: 67°22,3' N 8°55,4' E

Potential Reasons for Selection

The Røst Reef is the world's largest known cold water (*Lophelia pertusa*) reef. As such, WWF recognises the Røst Reef as a global natural heritage that merits protection through MPA status. Norwegian scientists estimate that between 30 and 50 % of all *Lophelia* reefs in Norwegian waters are damaged or impacted as a result of bottom-trawling. Video observations of the Røst Reef have shown particularly large and dense *Lophelia* colonies, and the reef appears to be largely intact. These factors all contribute to the importance of protecting the Røst Reef for the future.

Site Description

Although the continental break off Røst was known by fishermen to house corals, the discovery of a continuous reef of this size came as a big surprise. The reef was discovered during a routine survey 13-26 May 2002, where a new methodology for coral reef detection was employed. The reef grows above and under the edge of quarternary landslide, at depths between 300 and 400 m. A second survey of the reef was conducted in October 2002. A detailed map of the reef was produced by means of multibeam echosounding.

The Røst Reef - a Showcase Example for the OSPAR System of Marine Protected Areas

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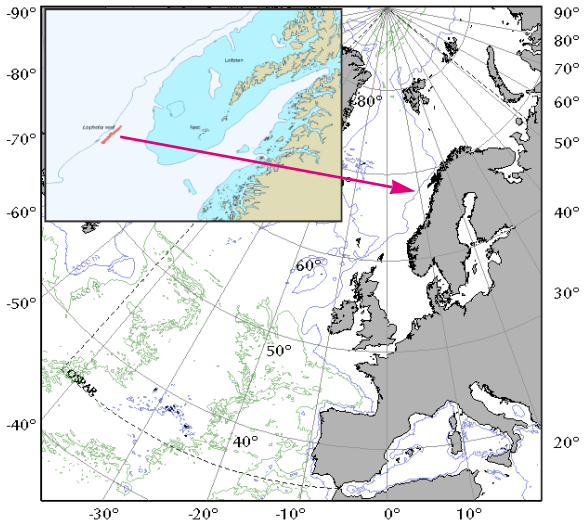

Fig. 1: The location of the Røst Reef west of the Røst Island in the Lofoten Archipelago (Northern Norway) is indicated in red on the inserted map.

Biological Features

So far, no ecological studies have been performed on the Røst Reef, but the reef is expected to play the same ecological role as other *Lophelia pertusa* reefs. Studies performed by the Institute of Marine Research at Storegga, Norway, have shown a significantly higher density of redfish (*Sebastes marinus*) in *Lophelia* areas (up to six times higher densities) as compared to the surrounding seabed. Catches of ling (*Molva molva*) and tusk (*Brosme brosme*) were also higher in *Lophelia* areas than outside, although these differences were not statistically significant. *Lophelia* reefs are known as biodiversity hotspots of the deep seas. More than 750 species have been registered in North-East Atlantic *Lophelia* reefs.

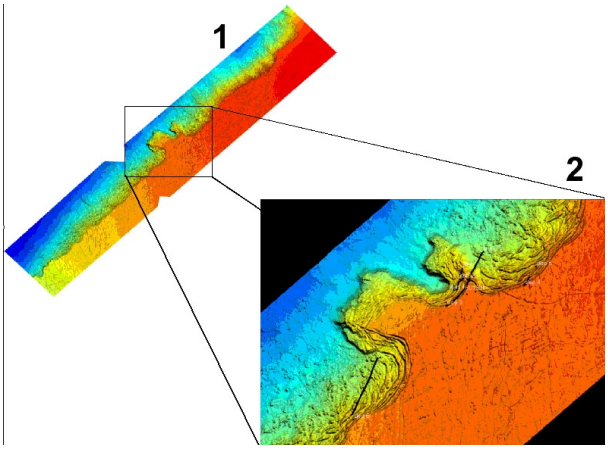

Fig. 2: Echosound images of the continental break off Røst. Image 1 shows the entire length of the reef area. Image 2 shows details of the landslide terrain. Black lines in image 2 represent sections covered by video inspections. Dense *Lophelia* colonies grow on the ridges below the break edge. © Institute of Marine Research, Bergen, Norway.

Human Impacts

Only a very small portion of the Røst Reef has been inspected by video. The observations indicate that the reef is largely intact. However, a significant number of entangled lines and nets were observed on the reef during video inspection (Fosså, pers.comm.).

According to information from the Norwegian Directorate of Fisheries, net and line are the most common fishing equipment used on and around the Røst Reef. Trawling activities take place both in the northern and southern parts of the coral area, and to a lesser extent east of the coral area.

Fig. 3: Røst Reef - Impression of the reef environment. Various species of corals form substantial thickets. © Institute for Marine Research, Bergen, Norway

A potential threat towards the Røst Reef is future oil and gas development in the vicinity of the reef. The Røst Reef lies within the so-called "Nordland VI" petroleum block, which is regarded as a promising field by oil and gas companies. No licences were granted in this block during the latest licensing round as the Norwegian Ministry of Oil and Energy felt a need for more information before allowing further petroleum activities in this sensitive area, including possible measures to protect coral reefs (letter to WWF-Norway, 10 May 2002).

In general, little is known about the impacts of oil and gas exploration on *Lophelia* colonies. Infrastructure development may lead to physical destruction of reefs and stress due to increased sedimentation. Discharges related to drilling and production (drilling muds and produced water) contain substances known to affect other marine organisms negatively. Until the long-term impacts of these discharges on *Lophelia* have been determined, no such discharges should be allowed near the Røst Reef.

Existing/Proposed Protection

To protect the Røst Reef from damaging fisheries activities, a proposal to amend the 1999 Coral Regulation is being considered by the Norwegian Ministry of Fisheries. With this amendment, the Røst Reef and a 5 km buffer zone on all sides will be protected from all fisheries with equipment that may touch the bottom.

While this is certainly a wise and valuable step towards the protection of this unique natural feature, the reef is still unprotected from the potential impacts of petroleum activities. WWF therefore proposes the establishment of a no-go zone for petroleum activities in the Røst area. This zone should encompass the reef, the important seabird colonies at Røst Island and their feeding ground as well as the important fish spawning grounds between Røst Island and the reef.

The Norwegian Nature Conservation Act does not apply beyond territorial waters. It is not possible, therefore, to protect the Røst Reef as a nature reserve. This is a weakness that should be improved in the ongoing process of developing a new Norwegian biodiversity act.

Action to be taken

Norway may want to nominate the Røst Reef as a potential OSPAR MPA. Even though OSPAR has not decided on implementation mechanisms for MPAs yet, this will signal the importance of the Røst Reef for regional nature conservation with the intention to ultimately include it in a network of marine protected areas in the North-East Atlantic.

Text prepared by Andreas Tveteraas

References/Further Reading

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http://www.panda.org/about_wwf/where_we_work/europe/where/ne_atlantic/corals.cfm

Fig. 4: Røst Reef - Bushes of coral provide ample niches for invertebrate and vertebrate associated fauna. © Institute for Marine Research, Bergen, Norway