

The Faroe Bank - A Potential MPA

Location

The Faroe Bank is one of a series of banks on the Faroe-Rockall Plateau, located approximately 40 nm South-West of the Faroe Islands at 60.97 °N and 8.61 °W.

Potential Reasons for Selection

The Faroe Bank is the largest topographically distinct feature within the Faroese EEZ (Exclusive Economic Zone) besides the Faroe plateau itself. Its geographic and hydrographic characteristics demarcate an isolated and self-contained ecosystem with a high biodiversity compared to the surrounding waters. The species assemblage on the bank includes species not found on the shelf and several fish species like cod are represented by independent stocks on the bank. The cod on the bank is the fastest growing one world-wide and differs genetically from other cod stocks.

Next to its ecological peculiarity, the bank is an important fishing ground for the Faroe Islands. The fishery is managed to a certain extent to prevent overexploitation of the important fish species, which is mainly cod, while management to prevent physical damage to the bank and the benthic ecosystem below the 200 m depth contour has a lower priority.

Based on the declared fishing rules, the designation of the bank as MPA under OSPAR could provide a conceptual framework to manage activities in the area of the bank in a way that will ensure a sustainable use of its

resources while protecting its unique ecosystem as an entity. Further investigations to delimit and characterize the present communities and their vulnerability to human disturbance could be promoted respectively.

Site Description

The Faroe Bank is regularly shaped, 100 km long and 44.5 km wide. The shallowest sections on top of the bank are less than 100 m deep.

The bank resembles a seamount as it is separated from the Faroe shelf by the Faroe Bank Channel, which is 20 km wide and 850 m deep.

For information, contact:

Stephan Lutter
 WWF North-East Atlantic Programme
 Am Gütpohl 11 · D-28757 Bremen · Germany
 Tel: +49 421 65846-22 · Fax: +49 421 65846-12
 E-mail: lutter@wwfneap.org

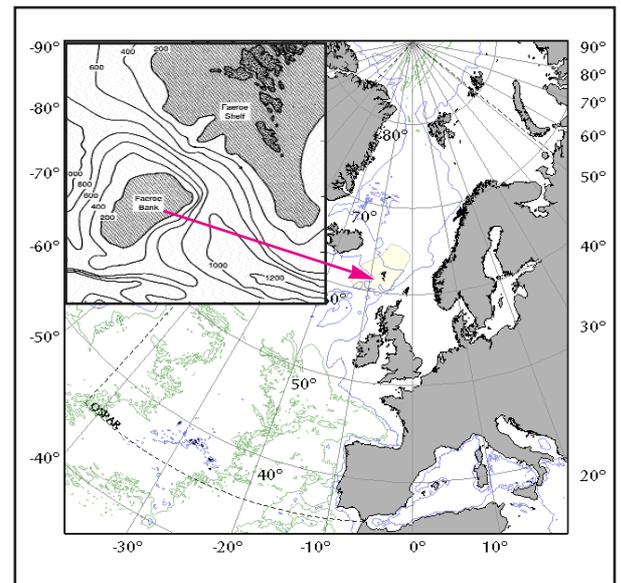


Fig. 1: Location of Faroe Bank (after Johnson & Sanford 1991)

The hydrography is complicated, especially at depths beyond 500 m. The water masses in the area of the bank comprise both cold and dense bottom water from the Norwegian Sea flowing Northwest-wards on the Eastern flank of the bank through the Faroe Bank Channel into the North Atlantic, and warmer Atlantic water on the Southern side of the bank. The surface water of the bank is solely of Atlantic origin and flows in an anticyclonic circulation above the bank creating a retention area whereof the degree of isolation varies with time. The sediment of the bank mainly consists of shell and gravel sand with spots of seabed and stone rock and larger areas of soft bottom on the Southern margin of the bank.

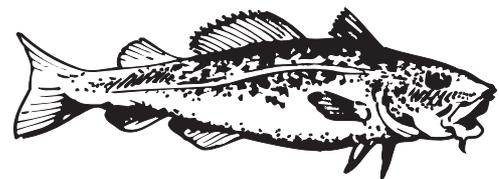


Fig. 2: Gadus morhua

Biological Features

The bank supports a very rich fauna compared to the surrounding waters. There're species whose distribution range within the Faroe area is limited to the bank and others who have been classified as threatened for other regions of the North-East Atlantic. About 60 fish and squid species are recorded in the area. Next to Boreal species, Arctic and Mediterranean species are abundant due to the complex hydrographic settings.

The cod stock on the bank is regarded as an independent stock and this might be true for other fish species like haddock, lemon sole and poor cod as well.

**The Faroe Bank -
 a Showcase Example
 for the OSPAR System
 of Marine Protected
 Areas**

Between 200 and 500 m the reef-forming coral *Lophelia pertusa* is present all around the slope of the bank. *Lophelia* formations themselves host about 300 associated taxa and they may function as a nursery and recruitment area within the more barren surroundings.

Large sponge accumulations are found on the North-Eastern and on the South-Eastern slope of the bank. The sponge accumulations are called "ostur" (cheese-bottom) referring to shape and consistency of the sponges and to the smell of broken specimens. Up to 50 different large sponge species have been recorded from Faroese ostur areas whereas four species of the family *Geodiidae* and the stellettid *Stryphnus ponderosus* are dominating these assemblages. Some of these sponges can get quite large reaching sizes of about 80 cm and a weight of about 25 kg. Like the *Lophelia* banks, the ostur increases the number of available microhabitats for other species. Up to 242 different species, especially filter -and suspension feeders have been found in association with the ostur and it is quite likely that they provide an important recruitment area for different fish species like the redfish *Sebastes spp.*

The sandy bottom on top of the bank is relatively poor in macrofauna but very rich in meiofauna including a new tantulocaridan genus and species, *Tantulacus hoegi*.

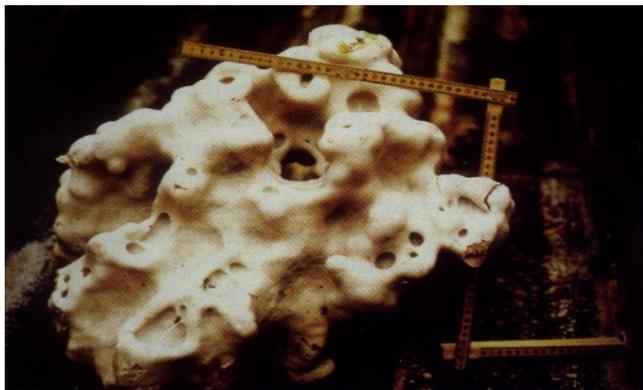


Fig. 3: *Geodia barretti* (© photo Ole S. Tendal)

Human Impacts

The Faroe Bank is an important fishing ground to the Faroese fishery accounting for approximately 10 % of the total annual catch within the Faroese EEZ.

Main target species are saithe, cod, haddock, ling and tusk which are caught in a mixed fishery. Most fishing is done by the Faroe Islands themselves while some Scottish and Norwegian vessels are also permitted within the area. The fishery on the bank operates via longliners and trawlers. Trawling is prohibited within the 200 m depth contour and longlining is regulated by individual day quotas. The stocks development is monitored through indicators of stock biomass as obtained by the Faroese Fishery Laboratory and through catch/effort data from the commercial fishery. Both the shelf area and the bank are fished in one-day trips which means that landing estimates from the Faroe Bank are uncertain.

The bank might be of potential value in terms of oil exploration. Methane seeps that have been found close to the bank might indicate minerals including hydrocarbons being abundant. In case these would be proven to appear in exploitable quantities, drilling on the bank could be attractive due to its relative shallowness compared to surrounding waters.

Existing/Proposed Protection

Besides the restrictions in context with the fishery, there are no other regulations for the Faroe bank at present. The bank supports an unique ecosystem of ecological and economical importance. Many of the species like the corals and sponges are very sensitive to physical damage and disturbance, as it is often caused by activities like trawling without a proper management.

WWF proposes the Faroe Bank and its slopes to be designated as MPA by the Regional Government of the Faroe Islands, to ensure the persistence of its biological features and its sustainable use as a natural resource following the existing measures for the fishery. There is a need to extend the prohibition of trawling to the slopes of the bank below 200 m depth and to differentiate the management system for the different cod stocks and potentially other species to improve monitoring of the condition of the individual stocks. The Faroe Bank should become an integral part of a future OSPAR network of MPAs.

Text prepared by

Stefanie Fine Schmidt & Ole S. Tendal & Eydfinn Magnussen

References/Further Reading

- Bruntse, G. & Tendal, O. S. (2001): Marine biological investigations and assemblages of benthic invertebrates from the Faroe Islands. Kaldbak Marine Biological Laboratory, The Faroe Islands, 80 pp.
- FAO Fish. Dep. (1999): The Faeroe Islands. Fishery Country Profile
- Frederiksen, R., A. Jensen & H. Westerberg, 1992: The distribution of the scleractinian coral *Lophelia pertusa* around the Faroe Islands and the relation to intertidal mixing. *Sarsia* 77: 157-171
- Gubbay, S. (1999): Offshore Directory- Review of a selection of habitats, communities and species of the North-East Atlantic. WWF-UK.
- Huys, R., Andersen, P. F. & Kristensen, R. M (1992): *Tantulacus hoegi* gen. et sp. nov. (Tantulocarida: Deoterthridae) from the meiobenthos of the Faroe Bank, North Atlantic. *Sarsia* 76: 287-297
- ICES Rep. for the Nordic Council of Ministers (2000): The Status of Fisheries and Related Environment of Northern Seas: 58 -60
- ICES Coop. Res. Rep. No. 246 (ACFM Rep. 2001): 153-179
- Jensen A. & Frederiksen R. (1992): The fauna associated with the bank-forming deepwater coral *Lophelia pertusa* (Scleractinaria) on the Faroe Shelf. *Sarsia* 77: 53-69
- Johnson, G. C. & Sanford, T. B. (1992): Secondary Circulation in the Faroe Bank Channel Outflow. *J. of Phys. Oceanography* 22: 927-932
- Klitgaard, A.B., 1995: The fauna associated with outer shelf and upper slope sponges (Porifera, Demospongiae) at the Faroe Islands, Northeastern Atlantic. *Sarsia* 80: 1-22
- Klitgaard, A. B., Tendal, O. S. & Westerberg, H. (1995): Mass occurrences of large sponges (Porifera) in Faroe Island (NE Atlantic) shelf and slope areas: characteristics, distribution and possible causes. Proc. of the 30th Europ. Mar. Biol. Symp., Southampton, UK, Sept. 1995: 129- 141
- Magnussen, E. (2002): The demersal fish assemblages of the Faroe Bank; Species composition, distribution, biomass spectrum and species diversity. *Marine Ecology Progress Series* (In press)
- Tendal, O. S. (1992): The North Atlantic distribution of the octocoral *Paragorgia arborea* (L., 1758) (Cnidaria, Anthozoa). *Sarsia* 77: 213-217
- WWF (2001): Implementation of the EU Habitats Directive: Offshore SACs for Reefs and Sandbanks. A report by WWF UK