

The Rockall Bank - A Potential MPA

Location

The Rockall Bank is situated approximately 300km west of the Hebridean island of St Kilda.

Potential Reasons for Selection

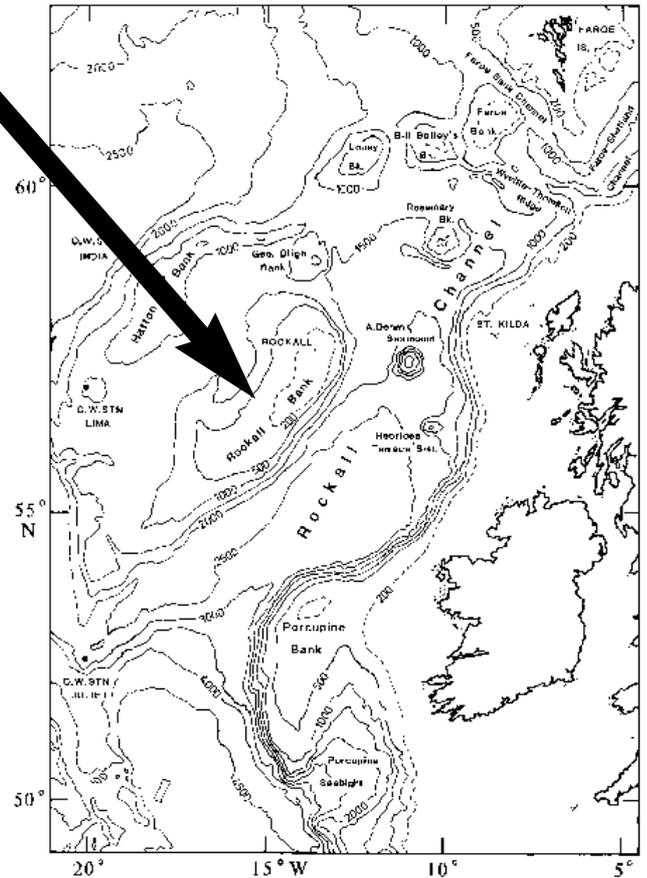
The Rockall Bank represents a distinct oceanographic feature. While data compiled from this site is far from comprehensive current research suggests it potentially contains a number of diverse ecosystems, typical of deepwater environments within the north-east Atlantic region. Human activities having a potential impact on the area include oil and gas exploration and fisheries. A strategy for managing the potential Rockall Bank MPA would include identifying and improving the understanding of and impacts on species, communities and ecosystems located within the area.

Site Description - Physical Characteristics

The Rockall Bank is a shallow bank situated beyond the continental shelf, and forming one of the western boundaries of the Rockall Trough. The Bank lies at depths ranging from 220m to 65m, though a small pinnacle of land – the island of Rockall – does actually break the sea surface toward the northern end of the Bank. The seabed of the Bank changes gradually, from low rock ridges and boulder fields covered in coarse sand to a virtually complete cover of fine sand.

Justification for the Potential Selection of the Rockall Bank as an Offshore Marine Protected Area

Hydrographically, the near bottom currents appear to circulate clockwise, but the surface currents circulate in an anti-clockwise direction. Hydrographical movement across the Bank has also been recorded.



Benthos

The island of Rockall – the only part of the bank to break the sea surface – possesses a small inter-tidal zone, which is very impoverished as a result of the isolated position and severe conditions of wave exposure. The kelp *Alaira esculenta* – seaweed that characterises high-energy water conditions – has colonised the island to a depth of approximately 30m.

The seabed of the Rockall Bank has been observed to be colonised by discrete patches of the ahermatypic coral *Lophelia pertusa*, which appears to be fairly common at depths ranging from 130 to 400m (Wilson, 1979a). The coral is in greatest abundance between 220 and 350m, and this is believed to coincide with the occurrence of iceberg plough marks upon the Bank, dating from the Pleistocene period (Wilson, 1979a). The coral itself is considered to be relatively slow growing and long lived. Various estimates have placed the growth rate of *Lophelia* as being between 6 and 15mm per year, which indicate that some of the larger coral colonies may be several hundred years old (Wilson, 1979b). Generally, *Lophelia pertusa* is known to provide an ideal habitat for a number of marine species, and a colony may often have a diverse community associated with it. The Faroe Islands is a further area colonised by *Lophelia pertusa*.

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In his investigations of *Lophelia pertusa* on the Rockall Bank, Wilson (1979b) observed that mature colonies supported fauna including:

Sponges, anemones & bryozoans

Pyrupora catenularia
Porella compressa
Porella laevis
Palmicellaria lorea
Sertella beaniana
Diplosolen obelium
Hornera lichenoides
Domopora truncata

Calcareous polychaete worms

Serpula vermicularis
Hydroides sp.
Filograna sp.

Brachiopods

Crania anomala
Terebratula retusa
Macandrevia cranium

Echinoids

Cidaris cidaris
Echinus sp.

Asteroides

Pseudoarchaster parelii
Porania puvillus
Stichastrella rosea

Bivalves

Hiatella sp.

Recent research from the Faroe Islands site provides an example of the fauna associated with *Lophelia*. Some 298 species were observed to live in, on or in association with *Lophelia* colonies. These colonies were therefore described as having a highly diverse and rich, but facultative, fauna associated with them (Jensen & Frederiksen, 1992).

Fish

More than 80 species of fish have been recorded within the area of the Bank and its slopes, including haddock, cod, saithe, ling, monkfish, and lesser silver smelt. Large concentrations of blue whiting occur over the Bank in early spring, and use the area as a spawning ground.



Blue whiting

Existing/Proposed Protection

There is currently no existing or proposed specific environmental protection for the Rockall Bank.

Likely Management Issues

The main issues that are likely to affect the area of the Rockall Bank are related to the potential exploitation of fish stocks and hydrocarbon resources within the area. As traditional fish stocks on the continental shelf either approach or exceed sustainable levels of exploitation, attention is likely to turn to 'deep' water fish populations, as has been the case elsewhere in the world. Within the UK, licensing of 'frontier' areas of the Atlantic for hydrocarbon exploitation is already well advanced, including some areas on the periphery of the Rockall Bank. This may potentially result in impacts akin to those already observed in areas of the European continental shelf already subject to such exploitation. Recent proposals to dispose of redundant offshore installations, such as the Brent Spar oil platform, in deep water areas may also be a potential impact on the Rockall Bank.

References/Further Reading

This document is substantially based upon: Gubbay, S. (1996) The Potential for Marine Protected Areas in UK Offshore Waters. WWF-UK Report. 11.

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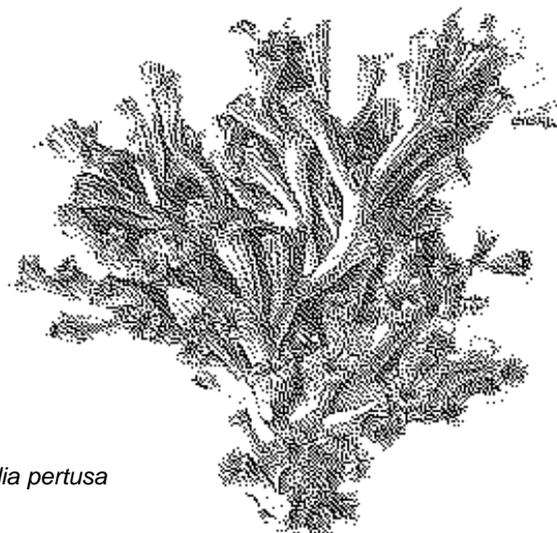
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Text prepared by Chris Berry and Sarah Jones



Lophelia pertusa