

Habitats: Oceanic ridges with hydrothermal vents and fields

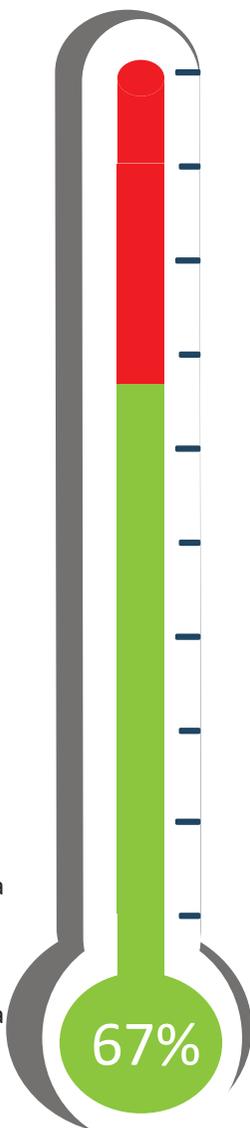
OSPAR Recommendation 2014/11:

Contracting Parties are required to report progress with implementation of recommendations every six years, with initial more frequent reporting until 2019.

Measures taken by Contracting Parties to protect Oceanic ridges with hydrothermal vents and fields include national legislation and scientific research

Description

Hydrothermal vents occur along spreading ridges (such as the mid-Atlantic ridge), fracture zones and back-arc basins. They are produced by seawater penetrating the upper levels of the Earth crust through channels formed in cooling lava flows, reacting chemically with hot basalt inside the crust and then rising back to the sea-bed to vent as superheated water containing compounds such as sulphides, metals, CO₂ and methane. Generally hydrothermal vent fields cover relatively small areas of the seabed in water depths of 850–4000 m. However shallower vents can occur between 100 and 500 metres as in Iceland or even as shallow as 20m in the Azores. The biological communities associated with hydrothermal vents are unusual as they are able to derive energy under conditions where photosynthesis is not possible. These habitats contain a huge diversity of chemo-autotrophic bacteria, which form the basis of the trophic structure around the vent. Characteristic species at the deep-sea Mid-Atlantic Ridge vents include the mussels, shrimps, crabs, polychaetes, amphipods and the limpets.



Action Highlights

Each Recommendation requires Contracting Parties to report on the methods used to implement the measures. The methods are Legislation, Administrative action and Negotiated agreement, or any combination of these. Recent examples include:

1. Norway is considering the implementation of legislation;
2. Norway is undertaking research to understand the risks of mineral extraction.

Engagement

The engagement index (left) measures how well Contracting Parties have engaged with the national measures in the Recommendation. The higher the score the greater the number of actions that Contracting Parties, which have reported, have taken to implement the measures in the Recommendation. [Click here for more information on the index.](#)

References:

Background Document for Oceanic ridges with hydrothermal vents and fields (OSPAR Publication 490)
OSPAR Recommendation 2014/11
OSPAR List of Threatened and/or Declining Species and Habitats (Agreement 2008-06)

Threats

Deep sea mining, research, bio-prospecting and tourism are the main threats to hydrothermal vents. This can be through substratum removal, visual disturbance, physical damage to species, displacement of species, removal of target and non-target species, changes in population or community structure, introduction of microbial pathogens or parasites. Unregulated scientific research around hydrothermal vents can cause physical damage to the habitats and associated organisms through sampling programmes, accidental damage and monitoring techniques.

