Statements on conservation benefits, condition & conservation measures for Darwin Mounds Special Area of Conservation

December 2020

JNCC

jncc.gov.uk

What the conservation advice package includes

The information provided in this document sets out JNCC's current view of the site's condition, the conservation benefits which the site can provide and the measures required to support achievement of the site's conservation objectives. This forms part of JNCC's formal conservation advice package for the site and must be read in conjunction with all parts of the package as listed below:

- Background Document explaining where to find the advice package, JNCC's role in the provision of conservation advice, how the advice has been prepared, when to refer to it and how to apply it;
- Conservation Objectives setting out the broad ecological aims for the site;
- Statements on:
    - the site's qualifying features condition;
    - conservation benefits that the site can provide; and
    - conservation measures needed to support achievement of the conservation objectives set for the site (this document);
- Supplementary Advice on Conservation Objectives (SACO) providing more detailed and site-specific information on the conservation objectives; and
- Advice on Operations providing information on those human activities that, if taking place within or near the site, can affect it and present a risk to the achievement of the conservation objectives.

The most up-to-date conservation advice for this site can be downloaded from the conservation advice tab in the Site Information Centre (SIC) on JNCC's website.

Conservation benefits

By maintaining or achieving favourable condition for the protected features, the site will contribute to delivering:

- Strategic objectives and policies within Scotland's National Marine Plan, particularly 5 (climate change) and 9 (natural heritage);
- Scottish Biodiversity Strategy's Big Step 6 (Marine and coastal ecosystems restored) Priority Project 12 (Increase environmental status of our seas);

- A network of MPAs around the UK, as outlined under the UK Marine & Coastal Access Act (2009) (Section 123) of relevance to Scotland;
- Favourable Conservation Status of Annex I Reefs in the Atlantic North-West approaches, Rockall Trough and Faroe-Shetland Channel.
    - Favourable Conservation Status of habitats of European importance, including Reefs, is one of the aims of the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (Habitats Directive) as transposed into the Conservation of Offshore Marine Habitats and Species Regulations 2017);
- An ecological network of areas of special conservation interest under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). An ecologically coherent network of MPAs which are well managed under the Convention for the Protection of the Marine Environment of the North-east Atlantic (OSPAR Convention); specifically OSPAR region: V Wider Atlantic;
- Good Environmental Status under the UK Marine Strategy; and
- Resilience of the UK's network of marine protected areas and wider marine biodiversity to impacts of climate change (2013 EU Guidance[1]).

This site has been designated because it affords protection to Annex I Reefs, specifically the subtype biogenic reef formed by cold-water corals (*Lophelia pertusa* and *Madrepora oculata*). The Darwin Mounds are considered to be an unusual example of cold-water coral reefs in the UK due to their presence on sandy mounds as opposed to harder substrates. Although the reef habitat on top of the mounds is formed primarily from the cold-water coral species, *Lophelia pertusa*, although the species *Madrepora oculata* is also present. The faunal communities associated with the reefs are representative of those present on cold-water coral reefs elsewhere in the UK, including xenophyophores, sponges and starfish. The mounds also support populations of xenophyophores, the world's largest single celled organism, found only in the deep-sea.

This site provides conservation benefits to the wider marine environment and society by affording protection to a range of seabed habitat types and their associated species, and consequently the provision of the following ecosystem services:

[1] 2013 EU Guidelines on Climate Change and Natura 2000. Dealing with the impact of climate change on the management of the Natura 2000 Network of areas of high biodiversity value. Available here: http://ec.europa.eu/environment/nature/climatechange/pdf/Guidance%20document.pdf

- Nutrition: Coral habitats are potentially an important link in the flow of carbon between the pelagic and benthic environment. Cold-water coral species secrete mucus which becomes a source of dissolved and particulate organic matter for the ecosystem. Sponge species can feed on this and it is incorporated into sponge detritus, which is then consumed by higher trophic levels. This may serve to increase the availability of prey species to predators through enhancement of biological diversity, potentially providing refugia from predators, locations to lay eggs or nurseries for fish species. There is some evidence that the abundance of certain commercial fish species is higher within coral habitats compared to non-coral habitats;
- Climate regulation: Dead coral skeletons are a long-term store of carbon, although the coral calcification process emits carbon dioxide. Ocean acidification is expected to corrode the skeletons of dead deep-water scleractinian corals although cold-water coral reefs shallower than ~ 150 m, are not expected to be subject to corrosion as they will remain above the aragonite saturation horizon;
- Provision of recruits: The larvae of corals have a planktonic phase giving the potential for long distance dispersal. A coral habitat can create a supply of recruits to establish new or help maintain existing coral habitats elsewhere; and
- Provision of biochemical and biotechnological products: Chemicals extracted from corals have been shown to have applications in the pharmaceutical industry.

Managing activities that affect the qualifying features of the site to maintain them at or restore them to, favourable condition, will support the site's provision of the benefits and delivery of obligations listed above.

Site Condition

Table 1 below sets out JNCC's view on the overall condition of the site's qualifying features based on our understanding of the feature. Please contact JNCC for further information if required. In summary, a feature is in unfavourable condition either where evidence indicates it needs to be restored or where restoration is not considered to be possible through human intervention. Conversely, a feature is in favourable condition where evidence indicates it is not being adversely affected.

Table 1. JNCC's view on the condition of the qualifying features in the site.

Protected feature	View of condition
Annex I Reefs	Unfavourable

The conservation measures listed below set out JNCC's view as to which, if any, human activities require management to maintain or restore the features within the site.

Conservation measures

As set out in Table 1 above, the Annex I Reefs need to be restored to favourable condition. Using evidence available about the site and information contained within the Advice on Operations for this site (hyperlink is provided in the box at the top of this document), we consider that there are no human activities currently occurring which require additional management in order to restore the Annex I Reefs to favourable condition. The full extent of Darwin Mounds SAC is already closed to bottom fisheries under the EU Common Fisheries Policy. Under Council Regulation (EC) No. 602/2004, the use of bottom-trawl or similar towed nets has been prohibited for use within Darwin Mounds SAC since 2004. We are not aware of any other human activities occurring in or near the site which could impact the Annex I Reefs feature and impede its restoration.

Management of the site should be informed by the sensitivity of protected features to pressures associated with human activities. The Advice on Operations provides an initial assessment of whether a proposed plan or project (or ongoing activity) may have an impact on a protected feature in the site. The Advice on Operations identifies pressures associated with the most commonly occurring marine activities, and provides a detailed assessment of feature sensitivity to these pressures. A human activity is considered capable of affecting a feature where the feature is known to be sensitive to associated pressures. The sensitivity assessments provided in the Advice on Operations workbook and the guidance within, should be used at an early stage of a plan or project when considering potential impacts of an activity.

The simple presence of such human activities would not necessarily significantly affect the site were they to occur. Advice on Operations should be used in conjunction with the specific details of a proposed plan or project (e.g. indirect and/or additive impacts, activity duration, time of year, scale etc.) and the Supplementary Advice on Conservation Objectives (SACO)

to develop assessments of impacts to features within the site. You may also find the information available in the Activities and Management tab of the site's Site Information Centre useful.