Conservation Objectives and Management Advice for the Faroe-Shetland Sponge Belt Nature Conservation MPA UKNCMPA022

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JNCC

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What the conservation advice package includes

The information provided in this document sets out:

- The conservation objectives for the protected features of the site;
- The conservation benefits which the site can provide if managed effectively;
- JNCC's current view of protected feature condition; and
- The conservation measures that JNCC consider are required to support achievement of the site's conservation objectives.

This document forms part of JNCC's formal conservation advice package for the site and must be read in conjunction with:

- **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 it can be applied;
- **Supplementary Advice on Conservation Objectives** (SACO) providing more detailed and site-specific information on the conservation objectives of the protected features of the site; and
- **Advice on Operations** providing information on those human activities that, if taking place within or near to the site, could impact it and hinder the achievement of the conservation objectives stated for the site.

The most up-to-date conservation advice package for this site can be downloaded from the conservation advice section of the Site Information Centre on JNCC's website.

Conservation objectives

This site has been designated to protect deep-sea sponge aggregations, offshore subtidal sands and gravels and the low or limited mobility species ocean quahog aggregations. Additionally, the side has been designated for the large-scale feature: continental slope, and the geomorphological features: Quaternary of Scotland - continental slope channels; iceberg ploughmark fields, prograding wedges, Submarine Mass Movement - slide deposits and the marine geomorphology of the Scottish deep ocean seabed - sand wave fields, sediment wave fields.

The biodiversity features listed above are Priority Marine Features (PMFs) in Scotland's seas. Additionally, deep-sea sponge aggregations and ocean quahog are included on the OSPAR list of Threatened and/or Declining Habitats & Species across the North-east Atlantic.

The conservation objectives for the Faroe-Shetland Sponge Belt MPA are set out in the 2014 Designation Order and say that *the protected features*:

- *so far as already in favourable condition, remain in such condition; and*
- *so far as not already in favourable condition, be brought into such condition, and remain in such condition.*

*With respect to the **deep-sea sponge aggregations** and **offshore subtidal sands and gravels** within the site, this means that their:*

- *extent is stable or increasing; and*
- *structures and functions, quality, and the composition of characteristic biological communities (which includes a reference to the diversity and abundance of species of flora and fauna forming part of or inhabiting the habitats) are such as to ensure that they are in a condition which is healthy and not deteriorating.*

Any temporary deterioration in condition is to be disregarded if the habitats are sufficiently healthy and resilient to enable recovery from such deterioration.
Any alteration brought about entirely by natural processes is to be disregarded.

*With respect to the **ocean quahog aggregations** within the site, this means that:*

- *the quality and quantity of its habitat and the composition of its population in terms of number, age and sex ratio are such as to ensure that the population is maintained in numbers which enable them to thrive.*

Any temporary reduction of numbers is to be disregarded if the population is thriving and sufficiently resilient to enable recovery from such reduction. Any alteration brought about entirely by natural processes is to be disregarded.

*With respect to the **continental slope** within the site, this means that its:*

- *extent, distribution and structure is maintained;*
- *function is maintained so as to ensure that it continues to support its characteristic biological communities (including the diversity of any species associated with the feature) and their use of the site for, but not restricted to, feeding, courtship, spawning, or use as nursery grounds; and*
- *processes supporting the feature is maintained.*

Any alteration brought about entirely by natural processes is to be disregarded.

With respect to the ***Quaternary of Scotland - continental slope channels; iceberg ploughmark fields, prograding wedges, Submarine Mass Movement - slide deposits and the Marine Geomorphology of the Scottish deep ocean seabed - sand wave fields, sediment wave fields*** *within the site, this means that their:*

a) *extent, component elements and integrity are maintained;*
b) *structure and functioning are unimpaired; and*
c) *surface remains sufficiently unobscured for the purposes of determining whether the criteria in paragraphs (a) and (b) are satisfied.*

Any obscuring or alteration brought about entirely by natural processes is to be disregarded.

Conservation benefits

Conserving, or recovering, the protected features of the site at, or to, favourable condition 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;
- 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 II: Greater North Sea;
- Good Environmental Status under the UK Marine Strategy; and
- Target 3 of The Kunming-Montreal Global Biodiversity Framework, known as the 30by30 target is a global commitment to effectively conserve and manage by 2030 at least 30% of terrestrial and inland water areas, and of marine and coastal areas through an ecologically representative, well-connected and equitably governed systems of protected areas and other effective areas-based conservation measures.

Ecosystem services and natural capital

MPAs are typically designated for the conservation and/or recovery of specific habitats and/or species features. Through their effective management, features can function in such a way as to deliver wider benefits to the environment, society and the economy such as provisioning, cultural or regulation and maintenance services.

The uASM (universal Asset Service Matrix) is a tool that evidences the linkages between natural assets (habitats and species) and the ecosystem services they potentially provide. Examples of the broad categories of ecosystem services that could be provided by the designated features of Faroe Shetland Sponge Belt NCMPA are listed below with the full list of ecosystem services with a "high" or "medium" delivery supply score provided in **Annex 1**.

The ecosystem services that available evidence more reliably shows could be delivered by the deep-sea sponge aggregations and offshore subtidal sands and gravels designated features are:

- **Provisioning services** such as the provision of ‘Wild animals (aquatic) for nutrition, materials or energy’ and ‘Mineral substances used for nutrition materials or energy’.

- **Regulation and maintenance services** include ‘Reduction of nutrient loads and mediation of wastes or toxic substances of anthropogenic origin by living processes’ and ‘Regulation of physical, chemical, biological conditions’.

There are also **cultural services** provided by these habitats and ocean quahog aggregations, such as ‘Intellectual and representative interactions with natural environment in relation to researching nature, collections’ and ‘Spiritual, symbolic and other cultural interactions with the natural environment in relation to conserving endangered habitats and species’

Managing activities to restore the designated features to favourable condition can support the provision of ecosystem services, which provide wider benefits to the environment, society and the economy and will help fulfil the policy and legal obligations listed above.

Protected Feature Condition

Table 1 below sets out JNCC's view on the condition of the site's protected features. This view is based on JNCC's assessment of protected feature condition using best available information at the time of writing and which is summarised in the SACO available from the conservation advice section of the Site Information Centre on JNCC's website. The SACO sets out our understanding of the condition of a feature's attributes as listed in the conservation objective for the site; extent and distribution, structure and function and supporting processes.

In summary, a protected feature is in unfavourable condition where evidence indicates one or more of its attributes need to be recovered. Conversely, a protected feature is in favourable condition where evidence indicates none of the attributes are being adversely affected.

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

Protected feature	**View of condition and protected feature objective**
Deep sea sponge aggregations	Unfavourable, recover to favourable condition
Offshore subtidal sands and gravels	Unfavourable, recover to favourable condition
Ocean quahog aggregations	Unfavourable, recover to favourable condition
Continental slope	Favourable, conserve at favourable condition
Quaternary of Scotland – Continental slope channels; iceberg ploughmark fields, prograding wedges	Favourable, conserve at favourable condition
Submarine Mass Movement – Slide deposits	Favourable, conserve at favourable condition
Marine Geomorphology of the Scottish Deep Ocean Seabed – sand wave fields, sediment wave fields	Favourable, conserve at favourable condition

The conservation measures listed below set out JNCC's advice regarding management, which should be implemented to recover the protected features of the site to favourable condition and to conserve at favourable condition.

Conservation measures

Based on JNCC's understanding of the pressures associated with human activities taking place within, or in close proximity to the site, and the sensitivity of the protected features to those pressures, we conclude that deep-sea sponge aggregations, offshore subtidal sands and gravels, and ocean quahog aggregations need to be recovered to favourable condition.

JNCC advise the following conservation measures are adopted to support protected feature recovery to favourable condition, conservation of the protected feature at favourable condition and reduce the risk of the site not achieving its conservation objectives to the lowest possible level:

- **No new licensable activities** capable of impacting (either directly or indirectly) the protected features; deep-sea sponge aggregations, offshore subtidal sands and gravels, and ocean quahog aggregations, or hindering their recovery, **should be permitted**.

- To avoid hindering the recovery of deep-sea sponge aggregations and offshore subtidal sands and gravels protected features, **variations to existing licenced activities** must seek, as far as is practicable to do so, **to avoid the introduction of additional hard substrata or subsea deposits** in areas where deep-sea sponge aggregations and offshore subtidal sands and gravels protected features are recorded within the site. The impact of variations to existing consented activities are to be considered on a case-by-case basis in consultation with JNCC.

- JNCC recognise that Marine Directorate have brought into force management to protect the biodiversity protected features of the site; deep sea sponge aggregations, offshore subtidal sands and gravels and ocean quahog aggregations. The management prohibits demersal mobile gear from one zoned area, and demersal mobile gear and demersal static gear are prohibited in a second zoned area. Compliance with the fisheries management measures should support the recovery of the biodiversity protected features within the site from impacts associated with these gear types. **Demersal mobile gear and demersal static gear effort within the site should be monitored to ensure compliance. For the zoned management areas, JNCC advises that demersal mobile gear and demersal static gear effort within the site is monitored and the effects of ongoing use on the conservation status of the protected features is kept under review.**

- Under normal operations, **pelagic gears** are not expected to interact with the protected features and therefore should not present a risk to the achievement of the conservation objectives of the site. **Therefore no additional management of this gear type is advised**.
- **Any new activities** whether located within or outwith the site, must look to avoid, or, as far as is practicable to do so, **minimise the introduction of contaminants to ensure compliance with sedimentary and water Environmental Quality Standards** within the site.

Based on JNCC's understanding of the pressures associated with human activities taking place within, or in close proximity to the site and the sensitivity of the large scale, geomorphological and geological protected features to those pressures, we conclude that continental slope, Quaternary of Scotland – continental slope channels, iceberg ploughmark fields, prograding wedges, Submarine Mass Movement –slide deposits and Marine Geomorphology of the Scottish Deep Ocean Bed – sand wave fields and sediment wave fields scour moat need to be conserved in favourable condition.

JNCC advise the following conservation measures are adopted to support conservation of these protected features in favourable condition and reduce the risk of the site not achieving its conservation objectives to the lowest possible level:

- **No new licensable activities** capable of obscuring these large scale, geomorphological and geological features or significantly impacting their extent and physical structure, **should be permitted**. An impact's significance should consider the spatial scale, duration and the relative geological importance of the area impacted, to the protected feature. Impacts, for example, which are long-lasting or result in loss of the protected feature within the site should be considered significant.

- Fishing activities are not considered capable of impacting the conservation status of the large-scale, geomorphological and geological protected features, with the exception of iceberg ploughmarks which are a component of the Quaternary of Scotland geodiversity feature. However, as the majority of the iceberg ploughmark fields geographically overlap with the deep-sea sponge aggregations feature within the MPA, it is considered that the zoned management measures in place for the biodiversity features will also provide protection to the geological and geomorphological features. As above, **JNCC advises that demersal mobile gear**

and demersal static gear effort within the site is monitored and the effects of ongoing use on the conservation status of the iceberg ploughmarks is kept under review.

More information about how activities can impact the protected features of the site can be found in the Advice on Operations which is accessible via the conservation advice section of the Site Information Centre. It provides information on the sensitivity of the protected features of the site to pressures associated with activities that JNCC consider may conceivably take place within, or in close proximity to, the site. This should be used when undertaking an initial assessment of whether a proposed plan or project (or ongoing activity) may have an impact on the protected features of the site alongside JNCC's Supplementary Advice on Conservation Objectives also available from the conservation advice section of the Site Information Centre.

JNCC can provide additional assistance through our discretionary advice service with assessing the impact of proposed operations on the protected features. For queries regarding this service, please contact OIA@jncc.gov.uk.

Annex 1

The uASM (universal Asset Service Matrix) provides a qualitative rating system to assess the level of service provided by a habitat or species and can be used to indicate the wider benefits to the environment, society and the economy that marine protected areas (MPAs) provide. The uASM is a tool, and like all tools, the outputs are only as useful as the evidence and data that is input. Some linkages of ecosystem services and assets, while known in the wider literature, may not yet been included in the tool. There are also geographically specific sources of information that can provide MPA-specific context and evidence for ES.
The tool does not take into consideration the condition of an assets; instead it estimates level of service delivery assuming an asset is in broadly good condition. Therefore, the information should be used in conjunction with MPA-specific evidence to provide a rounded view and bespoke advice.

Table 2 provides the asset ecosystem service linkages for the component habitats for deep-sea sponge aggregations and offshore subtidal sands and gravels features. To note ocean quahog aggregations are not included as there are no services that currently have sufficient evidence and confidence in the uASM. The JNCC Level of Ecosystem Service (ES) Supply is a qualitative rating system to assess the level of service provided by a specific asset. The generated score is unitless and provides a relative comparison only and so cannot be used to quantitatively compare different assets on their ability to provide an ecosystem service. Rather, it is a tool to rapidly identify key linkages between assets and ecosystem services for further investigation. Confidence scores help users to make quick and informed decisions about the available data. The score describes the level of confidence the author has in the asset-to-ecosystem service link. In the tables below only the ecosystem services in which we have relatively higher confidence (i.e. medium to high supply level and medium to high confidence) are presented, at CICES level 3.

Table 2: Bespoke ASM for habitats in Faroe-Shetland Sponge Belt

Data extracted from the universal Asset Service Matrix (uASM) (Cordingley et al. 2023, Tempera *et al*., 2016, Rees *et al*., 2022, Potts *et al*., 2014, Teixeira *et al*., 2019, Scottish Natural Heritage). White boxes are present in the table when the score was low, negligible or data deficient for ecosystem service supply or confidence.

Colour scheme key:

Confidence	ES Delivery	
	High	Medium
High		
Medium		

Ecosystem service			Faroe-Shetland Sponge Belt NCMPA (habitat sub-features)	
			Deep-sea sponge aggregations	Offshore subtidal sands and gravels
1.x.x.x - Provisioning (Biotic/Biophysical)	1.1.x.x - Biomass	1.1.6.x - Wild animals (aquatic) for nutrition, materials or energy		
	1.2.x.x - Genetic material from all biota (including seed, spore or gamete production)	1.2.2.x – Genetic material from animals		
2.x.x.x - Regulation & Maintenance (Biotic/Biophysical)	2.1.x.x - Transformation of biochemical or physical inputs to ecosystems	2.1.1.x – Reduction of nutrient loads and mediation of wastes or toxic substances of anthropogenic origin by living processes		
	2.3.x.x - Regulation of physical, chemical, biological conditions	2.3.2.x – Lifecycle maintenance, habitat and gene pool protection		
		2.3.4 – Regulation of soil (sediment) quality		
		2.3.5 – Water conditions		
		2.3.6 – Atmospheric composition and conditions		
5.x.x.x - Regulation & Maintenance (Abiotic/Geophysical)	5.2.x.x - Regulation and maintenance of geophysical	5.2.1 – regulation of baseline flows and extreme events		