Supplementary Advice on Conservation Objectives for Faroe-Shetland Sponge Belt Nature Conservation MPA UKNCMPA022

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The information provided in this document sets out JNCC's supplementary advice on the conservation objectives set for Faroe-Shetland Sponge Belt Nature Conservation MPA (NCMPA), hereafter referred to as 'the site'. This document 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 it can be applied;
- **Conservation Objectives and Management Advice** document setting out the broad ecological aims for the site and JNCC's advice on;
    - protected feature condition;
    - conservation benefits that the site can provide if managed effectively; and
    - conservation measures that JNCC consider are required to support achievement of the conservation objectives stated for the site.
- **Advice on Operations** providing information on those human activities that, if taking place within or near the site, can impact it and hinder the achievement of the conservation objectives stated for the site.

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

The advice presented here describes the ecological characteristics or 'attributes' of the site's protected features specified in the site's conservation objectives listed in the 2014 Designation Order:

- Deep sea sponge aggregations,
- Offshore subtidal sands and gravels; and
- Ocean quahog aggregations.

These attributes include extent and distribution, structure and function and supporting processes.

Based on the best available evidence, JNCC do not consider that the activities taking place, or that could conceivably take place, are capable of affecting the continental slope large scale features. Moreover, achievement of the conservation objectives for the ecological habitats protected within the site are expected to conserve the geological/geomorphological

features representative of the Quaternary of Scotland – continental slope channels, iceberg ploughmark fields, prograding wedges, Submarine Mass Movement – slide deposits, and Marine Geomorphology of the Scottish Deep Ocean Seabed – sand wave fields, sediment wave fields. Therefore, large-scale features and geological/geomorphological features are not considered further within the scope of this advice.

Figure 1 below illustrates the concept of how a protected feature's attributes are interlinked: with impacts on one potentially having knock-on effects on another e.g. the impairment of any of the supporting processes on which a feature relies can result in changes to its extent and distribution and structure and function.

Collectively, the attributes set out in **Table 1-3** below, along with the objectives set for each of them, describe the desired ecological condition (favourable) for the site's protected features. All attributes listed in **Table 1-3** must be taken into consideration when assessing impacts from an activity.

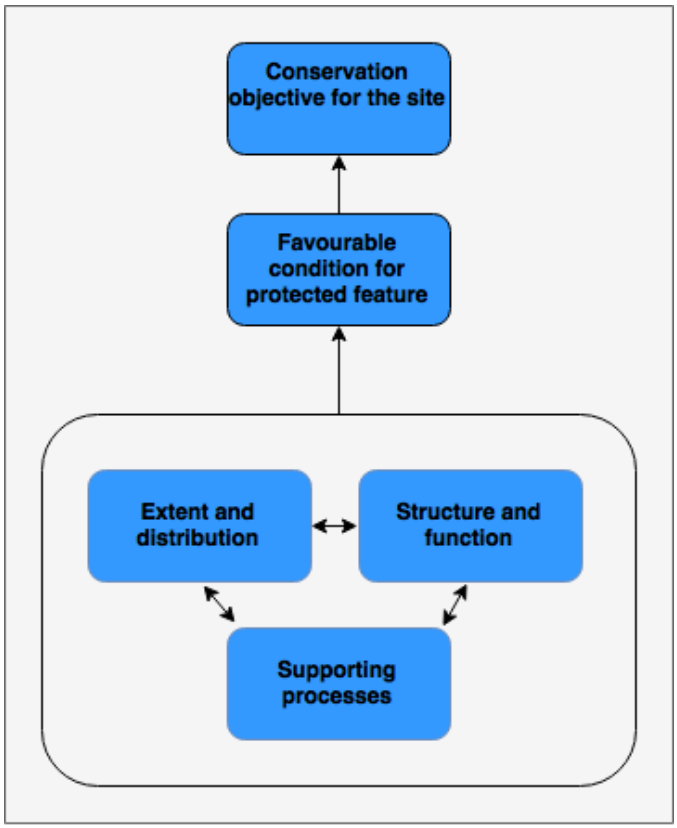

Figure 1. Conceptual diagram showing how feature attributes are interlinked and collectively describe favourable condition and contribute to the conservation objectives stated for the site.

In Table 1-3 below, the attributes for the deep-sea sponge aggregations, offshore subtidal sands and gravels and ocean quahog aggregations are listed respectively. An objective of recover or conserve is set for each protected feature attribute, reflecting our current understanding of available evidence e.g. whether it indicates some of a protected feature's extent is lost and needs to be recovered or that extent is not lost and needs to be conserved to ensure the protected feature is in overall favourable condition. Where a recover objective is advised and there is considerable uncertainty as to whether recovery is possible, this will be noted alongside the objective.

The rationale for setting an objective is provided in the summary of evidence column and supporting references listed in the reference section at the end of this document.

Note: also that when a conserve objective is set, this does not preclude the need for management, now or in the future to ensure a protected feature remains in favourable condition.

Table 1: Supplementary Advice on Conservation Objectives for deep sea sponge aggregations protected feature of the site

In summary, the deep-sea sponge aggregations protected feature of the site is considered to be in unfavourable condition. This conclusion is based on exposure of the feature to pressures associated with ongoing mobile bottom-contacting fishing gear use and oil and gas extraction activities. These activities are considered to be impacting upon the extent and distribution, and structure and function, of the protected feature. Fisheries management measures were bought into force in October 2025, prohibiting fishing activity across the majority of the known extent of the protected feature within the site. However, recovery is expected to occur over a relatively long time period and there is continued risk from exposure to pressures associated with oil and gas extraction.

Please see the Conservation Objectives and Management Advice document available in the conservation advice section of the SIC for JNCC's advice on the management of activities which JNCC consider is needed to recover the deep sea sponge aggregations protected feature of the site. Further information on activities capable of affecting the protected features of the site can be found in the Advice on Operations workbook available also in the conservation advice section of the SIC.

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
Extent and distribution	Deep-sea sponge aggregations (DSSA) are known to have a naturally patchy distribution, influenced by suitable habitat type and wider environmental conditions. The extent of the feature will therefore consider the known locations of the DSSA within a site and the known extent of suitable habitat type. Within the Faroe-Shetland Sponge Belt, boreal ostur DSSA are often associated with the geomorphological feature; iceberg ploughmark fields. The iceberg ploughmark fields were made by the action of icebergs moving along the seabed during the last ice age, leaving ridges of boulders and cobbles with areas of finer gravel in between (Bett, 2001 and Irving, 2009). The majority of survey records have identified DSSA within areas of iceberg ploughmarks between 400m and 600m	Unfavourable - needs to be recovered	Low. JNCC has a baseline understanding of the extent and distribution of deep-sea sponge aggregations that is informed by the 1996 AFEN/DTI SEA4 survey (Henry and Roberts, 2014), 2006 SEA/SAC survey (Howell et. al, 2007), 2012 JNCC/MSS survey (Morris et. al 2014), MoreDeep 2014 (Kazanidis et al, 2019 and JNCC/MD 2021 surveys (Boa and Albrecht, in press). Evidence for impact is indirect, based on our understanding of the sensitivity of DSSA and their associated biological communities to pressures associated with human activities known to be

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	depth in the central and eastern areas of the site (GeMS (V10i27); Henry and Roberts, 2014; Howell et. al, 2007; Morris et al 2014; Kazanidis et al, 2019, VME, 2024; and Boa and Albrecht, in press). However, iceberg ploughmark fields and individual sponges have been recorded outwith this depth zone, indicating the extent of DSSA could extend beyond these areas (Boa and Albrecht, in press). Oil and gas extraction is occurring within the western, central, and south-eastern areas of the site and consists of wells, pipelines and related subsea infrastructure, including mattressing and rock dumping. Research undertaken from within the site indicates that sponge abundance is reduced in areas around wells where there are patches of drill cuttings visible on the sea-bed, possibly as a result of smothering (Jones *et al.,* 2006) and has had longer-term effects on sponge abundances (Jones *et al.*, 2012). Vessel Monitoring System (VMS) data from 2009-2021 shows the main fishing gear types deployed within the site are demersal trawls and demersal static gear (anchored nets/lines), with a small amount of demersal seining activity. Demersal trawls have operated at low levels across the central area of the site, and occasionally at moderate levels in the south-west. Demersal static gear has occurred at the southern edge of the site. The pressures associated with demersal fishing (abrasion, penetration, and removal of non-target species) and oil and gas activities (abrasion, penetration, physical change (to another seabed or sediment type) and localised		taking place in the site; in this case bottom-contacting fishing gear and oil and gas activities (Tyler-Walters et al., 2023, and JNCC, 2018). Our information about activities within the site is incomplete e.g. our best available evidence for fishing activities only goes up to 2021.

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	smothering and siltation (light)) are considered to be impacting the extent and distribution of DSSA within the site. Fisheries management measures were brought into force in October 2025 (Marine Scotland, 2025). The management is zonal, with demersal mobile gear prohibited from the northern zone and demersal gear (mobile and static) prohibited from the southern zone. The majority of known DSSA is now protected from damaging fishing activities; however, recovery is expected to occur over a long timeframe. DSSA extent and distribution is still being impacted by oil and gas activities within the site. JNCC therefore conclude that the extent and distribution of DSSA is still being impacted within the site and has not had the chance to fully recover, and advise a recover objective.		
Structure and function	The structure for DSSAs is defined by sponge composition, sponge abundance, the presence of spicule mats and the characteristic communities present. Within the site, the boreal ostur aggregation is formed by massive sponges including, *Geodia barretti, G. macandrewi, G. atlantica* and *G. phlegraei* (Henry and Roberts, 2014). The flabellate chalice sponge (*Phakellia ventilabrum)* was also observed during the survey. Other erect sponges, and yellow and white encrusting sponges, are also present in the aggregation (Howell *et al.,* 2010).	Unfavourable - needs to be recovered	Low. Based on the same description provided under extent and distribution.

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	As identified under extent and distribution, oil and gas extraction and bottom contacting fishing gear (demersal trawling and demersal static fishing) occur in parts of the site where DSSA occur. The species composition, size and morphology of the sponges can be affected by pressures exerted by these activities including abrasion, penetration, and removal of non-target species, physical change (to another seabed or sediment type) and localised smothering and siltation (light)). Fisheries management measures were brought into force in October 2025 (Marine Scotland, 2025). The management is zonal, with demersal mobile gear prohibited from the northern zone and demersal gear (mobile and static) prohibited from the southern zone. The majority of known DSSA are now protected from damaging fishing activities; however, recovery is expected to occur over a long timeframe. DSSA structure and function is still being impacted by oil and gas activities within the site. JNCC therefore conclude that the structure and function of DSSA is still being impacted within the site and has not had the chance to fully recover, and advise a recover objective.		
Supporting processes	Supporting processes with respect to DSSA include hydrodynamic regime, supporting habitat, water and sediment quality.	Favourable - needs to be maintained	Low. The evidence-base supporting JNCC's assessment against this attribute draws upon data from the Greater North Sea region (OSPAR Region II) (Larsen et

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	There is no evidence to suggest that human activities are having an adverse impact on the typical hydrodynamic regime to which the site is exposed. The site is located in the Greater North Sea OSPAR region (Region II), in the Northern North Sea sub-region, and is assessed to have a good sediment contaminant status (Larsen et al., 2022). The supporting habitat for DSSA within the site is formed by the geomorphological feature; iceberg plough marks. This feature is currently considered to be in favourable condition. Overall, there is no evidence to suggest that supporting processes that operate at this site are being impeded with respect to supporting the conservation status of DSSA. JNCC therefore advises a conserve objective on this basis.		al., 2022) rather than any evidence available from within, or in close proximity to, the site itself. This lack of data pertaining to water and sediment quality within the site limits our assessment. Moreover, there is a lack of time series data about water quality and on how human activities may have impacted this.

Table 2: Supplementary Advice on Conservation Objectives for offshore subtidal sands and gravels protected feature of the site

In summary, the offshore subtidal sands and gravels protected feature of the site is considered to be in unfavourable condition. This conclusion is based on exposure of the feature to pressures associated with ongoing mobile bottom-contacting fishing gear use and oil and gas extraction activities. These activities are considered to be impacting the extent and distribution, and structure and function, of the protected feature. Fisheries management measures were bought into force in October 2025, prohibiting fishing activity across the majority of the known extent of the protected feature within the site. However, there is continued risk from exposure to fishing pressures in the areas outwith the zonal fisheries management closures and to pressures associated with oil and gas extraction.

Please see the Conservation Objectives and Management Advice document available in the conservation advice section of the SIC for JNCC's advice on the management of activities which JNCC consider is needed to recover the offshore sands and gravels protected feature of the site. Further information on activities capable of affecting the protected features of the site can be found in the Advice on Operations workbook available also in the conservation advice section of the SIC.

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
Extent and distribution	The extent and distribution of offshore subtidal sands and gravels is defined by its sediment composition and biological assemblages. Any changes to sediment composition and/or biological assemblages brought about by human activities may impact the conservation status of the feature. The offshore subtidal sands and gravels feature extent covers the majority of the site (GeMS (V10i27); Bett, 2012; Howell et. al, 2007 and Morris et. al 2014) and the predictive UKSeaMap (2025). Oil and gas extraction is occurring within the western, central, and south-eastern areas of the site and consists of wells, pipelines and related subsea infrastructure, including mattressing and rock dumping.	Unfavourable - needs to be recovered	Low. JNCC has a baseline understanding of the extent and distribution of offshore subtidal sands and gravels within the site, which is derived from grab and image samples from GeMS database, with records from 1996 and 1998 AFEN SEA4 and 2000 DECC surveys (Bett, 2012), 2006 SEA/SAC survey (Howell et. al, 2007), 2012 JNCC/MSS survey (Morris et. al 2014) and UKSeaMap 2025v2 Predictive Map. Evidence for impact is indirect, based on our understanding of the sensitivity of offshore subtidal sands and gravels and their associated biological communities to pressures associated

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	VMS data from 2009-2021 shows the main fishing gear types deployed within the site are demersal trawls and demersal static gear (anchored nets/lines), with a small amount of demersal seining activity. Demersal trawls have operated at low levels across the central area of the site, and occasionally at moderate levels in the south-west. Demersal static gear has occurred at the southern edge of the site. The pressures associated with demersal fishing (abrasion, penetration, and removal of non-target species) and oil and gas activities (abrasion, penetration, physical change (to another seabed or sediment type) and localised smothering and siltation (light)) may have impacted the extent and distribution of offshore subtidal sands and gravels. Fisheries management measures were brought into force in October 2025 (Marine Scotland, 2025). The management is zonal, with demersal mobile gear prohibited from the northern zone and demersal gear (mobile and static) prohibited from the southern zone. However, this still allows fishing activities to occur in some areas of the site. JNCC conclude that the extent and distribution of offshore subtidal sands and gravels may be impacted by mobile bottom contact gear use and oil and gas activities within this site. Therefore, JNCC advises a recover objective on this basis.		with human activities known to be taking place in the site; in this case bottom-contacting fishing gear and oil and gas activities (Tyler-Walters et al., 2023 and JNCC, 2018).

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
Structure and function	The structure and function of offshore subtidal sands and gravels refers to the physical structure itself (finer scale topography and sediment composition) and its biological structure (the presence of key and influential species and characteristic communities). Offshore subtidal sands and gravels within the site have been subjected to activities, as identified and described under extent and distribution, that may have resulted in a change to the structure and function of the protected feature, specifically the characteristic communities and consequently function. Fisheries management measures were brought into force in October 2025 (Marine Scotland, 2025). The management is zonal, with demersal mobile gear prohibited from the northern zone and demersal gear (mobile and static) prohibited from the southern zone. However, this still allows fishing activities to occur in some areas of the site. JNCC conclude that the structure and function of offshore subtidal sands and gravels may be impacted by mobile bottom contact gear use and oil and gas activities within this site. Therefore, JNCC advises a recover objective on this basis.	Unfavourable - needs to be recovered	Low. Based on the same description provided under extent and distribution.
Supporting processes	Supporting processes with respect to offshore subtidal sands and gravels include hydrodynamic regime, water and sediment quality.	Favourable – needs to be conserved	Low. The evidence-base supporting JNCC's assessment against this attribute draws upon data from the Greater North Sea region (OSPAR Region II) (Larsen et

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	There is no evidence to suggest that human activities are having an adverse impact on the typical hydrodynamic regime to which the site is exposed. The site is located in the Greater North Sea OSPAR region (Region II), in the Northern North Sea sub-region, and is assessed to have a good sediment contaminant status (Larsen et al., 2022). Overall, there is no evidence to suggest that supporting processes that operate at this site are being impeded with respect to supporting the conservation status of offshore subtidal sands and gravels. JNCC advises a conserve objective on this basis.		al., 2022) rather than any evidence available from within, or in close proximity to, the site itself. This lack of data pertaining to water and sediment quality within the site limits our assessment. Moreover, there is a lack of time series data about water quality and on how human activities may have impacted this.

Table 3: Supplementary Advice on Conservation Objectives for ocean quahog aggregations protected feature of the site

In summary, the ocean quahog aggregations protected feature of the site is considered to be in unfavourable condition. This conclusion is based on exposure of the feature to pressures associated with ongoing mobile bottom-contacting fishing gear use and oil and gas extraction activities. These activities are considered to be impacting the extent and distribution, structure and function, and supporting processes of the protected feature. Fisheries management measures were bought into force in October 2025, prohibiting fishing activity across the majority of the known extent of the supporting habitat (offshore subtidal sands and gravels) of the protected feature within the site. However, understanding of recovery is uncertain and expected to occur over a relatively long time period, and there is continued risk from exposure to pressures associated with oil and gas extraction.

Please see the Conservation Objectives and Management Advice document available in the conservation advice section of the SIC for JNCC's advice on the management of activities which JNCC consider is needed to recover the ocean quahog aggregations protected feature of the site. Further information on activities capable of affecting the protected features of the site can be found in the Advice on Operations workbook available also in the conservation advice section of the SIC.

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
Extent and distribution	Ocean quahog aggregations have been found in the west of the site in the Foinaven and Schiehallion fields in 1998,1999 and 2000 (Defra, 2010), and are associated with coarser sediment types such as sand and mixed sediments in which they burrow. Recruitment of individuals to the site, and UK waters more broadly, is thought to depend on spawning populations from Icelandic waters (Witbaard and Bergman, 2003). Ocean quahog recovery is likely to be a very slow process, owing to its life-history characteristics (long-lived, sporadic recruitment episodes and the vulnerable nature of the species itself to physical pressures). Within the site itself there are activities taking place that are known to impact ocean quahog aggregations and affect the availability of supporting habitat.	Unfavourable - needs to be recovered Note: uncertainty over recoverability, acknowledging the uncertainty which the influence of climate-change related pressures and the dependence on larval source populations from outwith UK waters can have on ocean quahog aggregation recovery	Low. JNCC have limited evidence of the extent and distribution of ocean quahog aggregations within the site, with the majority of data derived from oil and gas surveys that took place between 1998 and 2000 (Defra, 2010). However, there is suitable habitat and conditions within the site for ocean quahog aggregations to settle. Evidence for impact is indirect, based on our understanding of the sensitivity ocean quahog and the supporting habitat of offshore subtidal sands and gravels to pressures associated with human activities known to be taking

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	Oil and gas extraction is occurring within the western, central, and south-eastern areas of the site and consists of wells, pipelines and related subsea infrastructure, including mattressing and rock dumping. VMS data from 2009-2021 shows the main fishing gear types deployed within the site, are demersal trawls and demersal static gear (anchored nets/lines), with a small amount of demersal seining activity. Demersal trawls have operated at low levels across the central area of the site, and occasionally at moderate levels in the south-west. Demersal static gear has occurred at the southern edge of the site. The pressures associated with demersal fishing (abrasion, penetration, and removal of non-target species) and oil and gas activities (abrasion, penetration and physical change (to another seabed or sediment type) are considered to impact the extent and distribution of ocean quahog aggregations. Fisheries management measures were brought into force in October 2025 (Marine Scotland, 2025). The management is zonal, with demersal mobile gear prohibited from the northern zone and demersal gear (mobile and static) prohibited from the southern zone. However, this still allows fishing activities to occur in some areas of the site. JNCC therefore conclude that the extent and distribution of ocean quahog aggregations is being impacted within the		place in the site; in this case bottom-contacting fishing gear and oil and gas activities (Tyler-Walters et al., 2023 and JNCC, 2018). Our information on human activities taking place is incomplete (e.g. our best available evidence for fishing activities only goes up to 2021).

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	site and has not had the chance to fully recover, and advise a recover objective.		
Structure and function	Structure and function with respect to ocean quahog aggregations refers to the densities and age classes of individuals from a population found within a site. There is no information available on the numbers and ages of the individuals found. As a result, it is not possible to determine density of the species or any changes in abundance over time. The age structure, growth rates and reproductive viability of the population located within the site are also currently unknown. Ocean quahog aggregations have been subjected to activities, as identified in extent and distribution, that may have resulted in a change to the structure and function; specifically bottom-contacting fishing gear and oil and gas activities. Some types of demersal trawling have been shown to cause varying rates of damage and mortality to ocean quahog based on the size of the individuals, potentially resulting in a skewed impact on the population and therefore structure (Witbaard and Klein 1994). JNCC conclude that the structure and function of ocean quahog aggregations may have been adversely affected by fishing activities within the site and advise a recover objective.	Unfavourable - needs to be recovered; Note: uncertainty over recoverability, acknowledging the uncertainty which the influence of climate-change related pressures and the dependence on larval source populations from outwith UK waters can have on ocean quahog aggregations recovery	Low. JNCC have a limited understanding of the structure and function of ocean quahog aggregations within the site. The age structure, growth rates and reproductive viability of the population located within the site are also currently unknown. Evidence for impact is indirect, based on our understanding of the sensitivity ocean quahog and the supporting habitat of offshore subtidal sands and gravels to pressures associated with human activities known to be taking place in the site; in this case bottom-contacting fishing gear (Tyler-Walters et al., 2023 and JNCC, 2018). Our information on human activities taking place is incomplete (e.g. our best available evidence for fishing activities only goes up to 2021).
Supporting processes	Supporting processes with respect to ocean quahog aggregations includes hydrodynamic regime, supporting habitat, water and sediment quality. These environmental	Unfavourable – needs to be recovered	Low. The evidence-base supporting JNCC's assessment against this attribute draws upon data from the Greater North Sea

Attribute	Summary of evidence	View of attribute condition & objective	Confidence in attribute condition
	conditions can affect species persistence, growth, and recruitment. There is no evidence to suggest that human activities are having an adverse impact on the typical hydrodynamic regime to which the site is exposed. The site is located in the Greater North Sea OSPAR region (Region II), in the Northern North Sea subregion, and is assessed to have a good sediment contaminant status (Larsen et al., 2022). Offshore subtidal sands and gravels provide the supporting habitat to ocean quahog, and as shown in Table 2, it is in unfavourable condition for extent and distribution and structure and function. Therefore, as one aspect of the supporting processes (supporting habitat) is in unfavourable condition, JNCC advise a recover objective.		region (OSPAR Region II) (Larsen et al., 2022) rather than any evidence available from within, or in close proximity to, the site itself. This lack of data pertaining to water and sediment quality within the site limits our assessment. Moreover, there is a lack of time series data about water quality and on how human activities may have impacted this.

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