



## MarinTrust Standard V2

### Whole fish Fishery Assessment

### *WF04 Sandeel in ICES Divisions 4a-c*

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**Table 1 Application details and summary of the assessment outcome**

Application details and summary of the assessment outcome			
Name(s): Marine Ingredients Denmark			
Country: Denmark			
Email address: sap@maring.org		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor Name	CB Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Sam Peacock	Tom Lopes Vieira	5	Re-approval
Assessment Period	March 2023 – March 2024		
Scope Details			
Management Authority (Country/State)		EU (Denmark); UK, Norway	
Main Species		Sandeel ( <i>Ammodytes marinus</i> )	
Fishery Location		FAO Area 27, ICES Divisions 4a-c	
Gear Type(s)		Pelagic trawl	
Outcome of Assessment			
Overall Outcome		PASS	
Clauses Failed		None	
CB Peer Review Evaluation		PASS	
Fishery Assessment Peer Review Group Evaluation		See report in <a href="#">appendix</a>	
Recommendation		PASS	

## Table 2. Assessment Determination

Assessment Determination
<p>This assessment covers the sandeel fishery in Sandeel Areas (SAs) 1r, 2r, 3r and 4, which are four of the seven SAs within the North Sea. Each area includes up to five sandeel species, but is assessed and managed as an assemblage. The main species of sandeel in terms of population and presence in the catch is lesser sandeel, <i>Ammodytes marinus</i>, which has been categorised as Least Concern by the IUCN Red List. All four of the other sandeel species have been categorised by the IUCN as either Least Concern or Data Deficient. The assessment also considers three Type 2 species: mackerel, whiting and herring, all of which have also been categorised as Least Concern. None of the species covered by this assessment is present in the CITES appendices.</p> <p>The sandeel fishery in SAs 1r, 2r and 4 occurs in EU and UK waters, and is managed under the EU CFP and UK Fisheries Act 2020. In SA3r, the majority of catch is taken by Norwegian vessels, and the stock is managed under two separate regimes (EU and Norway) which do not appear to coordinate quotas. Stock assessments and management advice are provided in all four SAs by ICES, and also by the Norwegian IMR in SA3r.</p> <p>Management, control and enforcement of the stock is robust, with a strong legal basis and no evidence of widespread non-compliance or IUU fishing. The fishery is believed to have minimal direct interactions with ETP species, and due to the pelagic gears used is unlikely to have any direct impact on seabed habitats.</p> <p>Sandeel stocks in all four areas are considered, in their 2023 stock assessments, to have a biomass above the limit reference point. SSB in SAs 1r and 3r is considered to also be above the target reference point. Stock assessments are supported by robust and extensive data collection efforts, and are believed by ICES to be reliable. The shift away from the previous combined assessment for all sandeel populations across the North Sea to the current SA approach is believed to have improved the stock assessment process considerably.</p> <p>All four SAs have recent and historical issues with catch exceeding the scientific advice, to varying degrees. This appears to be primarily a result of the ability of fishers to transfer quota between years, a process known as “quota flex”. This has led, in some cases, to catches being 3 or 4 times larger than the minimal research quota put in place due to biomass being below the limit reference point. The issue is particularly pronounced in SA1r and SA2r, where excessive catches have been taken both in recent years and longer ago. However, this is an issue which is recognised as not responsible by the Danish reduction industry, and discussions with the applicant revealed the efforts which they have taken to resolve the excess catch and prevent it from happening in the future. These include direct involvement with the ICES sandeel benchmarking process, whereby ICES will shortly provide advice on whether quota flex is precautionary. Due to the efforts made by industry, and the fact that substantial quotas have been recommended this year, the assessor has determined that the fishery meets the requirements of the relevant clauses; however, <b>it is important that surveillance assessments for this fishery ensure that efforts to tackle the issue continue and result in changes to either the ICES advice, or the management of the TAC.</b></p> <p>In SA3r, a relatively small proportion of the catch is taken by EU vessels, with the majority taken by Norway. The Norwegian TAC is set according to advice provided by the IMR, and is often substantially different to that recommended by ICES. However, as the TAC is set in line with scientific advice, and Norwegian vessels are not able to transfer quota in the way that EU vessels can, SA3r meets the requirements of all the clauses in Section A.</p> <p>The potential and actual impacts of the fishery on the ecosystem are considered in the management process, and the fishery is not thought to have significant negative impacts on the structure and function of the North Sea ecosystem as a whole. Sandeel is recognised as an important prey species and its role in the ecosystem is factored in when ICES produce catch recommendations.</p>
Fishery Assessment Peer Review Comments

As a brief overview, the whole fishery under assessment here is the lesser Sandeel (*Ammodytes marinus*) fishery, also targeting up to 4 other sandeel species; only one of which is categorised as Least Concern by IUCN. Depending on the stock/fishing area, vessels operating in the scope of the fishery are largely registered to Norway, with a minority registered to other EU countries such as Denmark, and non-EU countries such as the UK. *Ammodytes marinus*, as well as the remainder of the species, are managed by the Common Fisheries Policy (FCP) in EU waters, the Directorate of Fisheries under the Ministry of Trade, Industry and Fisheries in Norwegian waters, and DEFRA in UK waters. Under MT requirements, the lesser sandeel is scored as a Category A species. The fishery includes some additional species scored as Category C as they are managed relative to reference points in the assessment.

The fishery uses pelagic gears which infer little interaction to the physical marine environment/seabed, and little impacts to ETP, and the peer reviewer deems this is detailed sufficiently in Section F. The peer review determination is that all species scoring tables have been completed by the auditor with sufficient evidence presented to support their final determination.

I, the peer review supports the auditor’s recommendation to Pass this fishery under the Marin Trust IFFO RS v2.0 whole-fishery standard for the production of fishmeal and fish oil. Important to note that this determination was conducted after subsequent calls for additional information and a meeting with the client group, and in light of previous assessment stages failing to result in approval. The peer reviewer is confident that the context of the fishery, and the conduct of the assessor at this stage, are conducive to an approval under the MarinTrust fisheries standard.

The peer reviewer recommends that it is important for future surveillance assessments for the CAB & assessor to ensure progress the client group (and wider industry) had assured throughout communications is secure; elements discussed with the client were recorded and these will be rechecked. These include changes to ICES advice and TAC management.

**Notes for On-site Auditor**

## Table 3 General Results

General Clause	Outcome (Pass/Fail)
M1 - Management Framework	PASS
M2 - Surveillance, Control and Enforcement	PASS
F1 - Impacts on ETP Species	PASS
F2 - Impacts on Habitats	PASS
F3 - Ecosystem Impacts	PASS

## Table 4 Species- Specific Results

List all Category A and B species. List approximate total percentage (%) of landings which are Category C and D species; these do not need to be individually named here

Category	Species	% landings	Outcome (Pass/Fail)	
Category A	Sandeel in Sandeel Area 1r (ICES Divisions 4b, 4c)	97.7%	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
	Sandeel in Sandeel Area 2r (ICES Divisions 4b, 4c, and Subdivision 20)		A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
	Sandeel in Sandeel Area 3r (ICES Divisions 4a, 4b, and Subdivision 20)		A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
	Sandeel in Sandeel Area 4r (ICES Divisions 4a and 4b)		A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category B	No Category B Species			
Category C	Herring	<1%	PASS	
	Whiting	<1%	PASS	
	Mackerel	<1%	PASS	
Category D	No Category D Species			

Table 5 Species Categorisation Table

Common name	Latin name	Stock	IUCN Redlist Category <sup>1</sup>	% of landings	Management	Category
Lesser sandeel	<i>Ammodytes marinus</i>	Sandeel Area 1r (central and southern North Sea, Dogger Bank)	Least Concern <sup>2</sup>	97.7%	Yes	A
		Sandeel Area 2r (central and southern North Sea)			Yes	A
		Sandeel Area 3r (northern and central North Sea, Skagerrak)			Yes	A
		Sandeel Area 4 (northern and central North Sea)			Yes	A
Herring	<i>Clupea harengus</i>	ICES Division 4 and Subareas 3a and 7d	Least Concern <sup>3</sup>	0.38%	Yes	C
Whiting	<i>Merlangius merlangus</i>	ICES Division 4 and Subarea 7d	Least Concern <sup>4</sup>	0.40%	Yes	C
Mackerel	<i>Scomber scombrus</i>	ICES Divisions 1-8 and 14, and Subarea 9a	Least Concern <sup>5</sup>	0.86%	Yes	C

**Species categorisation rationale**

The Danish sandeel fishery utilises pelagic trawl gears and appears to be relatively clean. The assessor was able to find several different sources of catch composition data, summarised as follows:

**Original applicant submission**

This fishery, with the exception of Sandeel Area 4r, was previously assessed against the MT whole fish requirements in 2021. At the time of application to that assessment, the applicant submitted an estimate of catch composition as follows:

- Lesser sandeel (*Ammodytes marinus*) – 97.7%
- Herring (*Clupea harengus*) – 0.38%
- Whiting (*Merlangius merlangus*) – 0.40%
- Mackerel (*Scomber scombrus*) – 0.86%

**MSC Certification report, Denmark sandeel, 2017**

Components of the Danish sandeel fishery have previously held MSC certification, as detailed by a 2017 certification report by MRAG Americas<sup>6</sup>. This report includes landings statistics for the period 2010 – 2014, and places sandeel presence in the catch at 97.8-

<sup>1</sup> <https://www.iucnredlist.org/>

<sup>2</sup> <https://www.iucnredlist.org/species/18155957/44738265>

<sup>3</sup> <https://www.iucnredlist.org/species/155123/4717767>

<sup>4</sup> <https://www.iucnredlist.org/species/198585/45097610>

<sup>5</sup> <https://www.iucnredlist.org/species/170354/6764313>

<sup>6</sup> MSC Final Report & Determination for DFPO and DPPO North Sea, Skagerrak and Kattegat Sandeel, Norway Pout, and Sprat Fisheries. Feb 23, 2017. 389pp. <https://fisheries.msc.org/en/fisheries/dfpo-and-dppo-north-sea-skagerrak-and-kattegat-sandeel-sprat-and-norway-pout/@assessments>

99.3%. The composition of the remainder of the catch varies year-on-year, but the only species consistently present in proportions above 0.1% are herring and mackerel. Additional species which are sometimes but not always present in proportions above 0.1% include sprat, blue whiting, whiting, and gurnard.

#### **MSC Certification Report, Norway sandeel, 2018**

A similar sandeel fishery, conducted by Norwegian vessels, has also previously achieved MSC certification, as detailed by a 2018 certification report by DNV-GL<sup>7</sup>. This report indicates that catch in the sandeel pelagic trawl fishery in 2016 was 100% sandeel, with no other species caught.

#### **MSC Surveillance Report, Norway sandeel, 2019**

The MSC surveillance report<sup>8</sup> for the Norwegian sandeel certification contains an updated table providing a combined catch composition summary for both bottom trawl and pelagic trawl gears in 2016-2018. The data indicates that across both gear types, around 99% of catch is sandeel. No other species constitutes more than 0.1% of the catch in every year, but species which make up more than 0.1% in some years include whiting, mackerel, gurnard, herring, and blue whiting.

#### **Conclusions**

After review of the four data sources, it is clear that the only Type 1 species in the pelagic gear sandeel fishery is sandeel<sup>9</sup>. Sandeel in all four Sandeel Areas covered by this assessment is managed relative to reference points, and was therefore assessed under Category A.

There are a number of species which could potentially be included as Type 2 (herring, whiting, mackerel, sprat, blue whiting, and gurnard), depending on which source(s) are prioritised. Overall, the assessor concludes that none of the other sources provides a strong reason for rejecting the applicant's own characterisation of the catch, and that assessing herring, whiting and mackerel as Type 2 species remains the most appropriate methodology.

All three Type 2 species are managed relative to reference points in the area covered by this assessment, and have therefore been assessed as Category C species.

#### **Sandeel Areas**

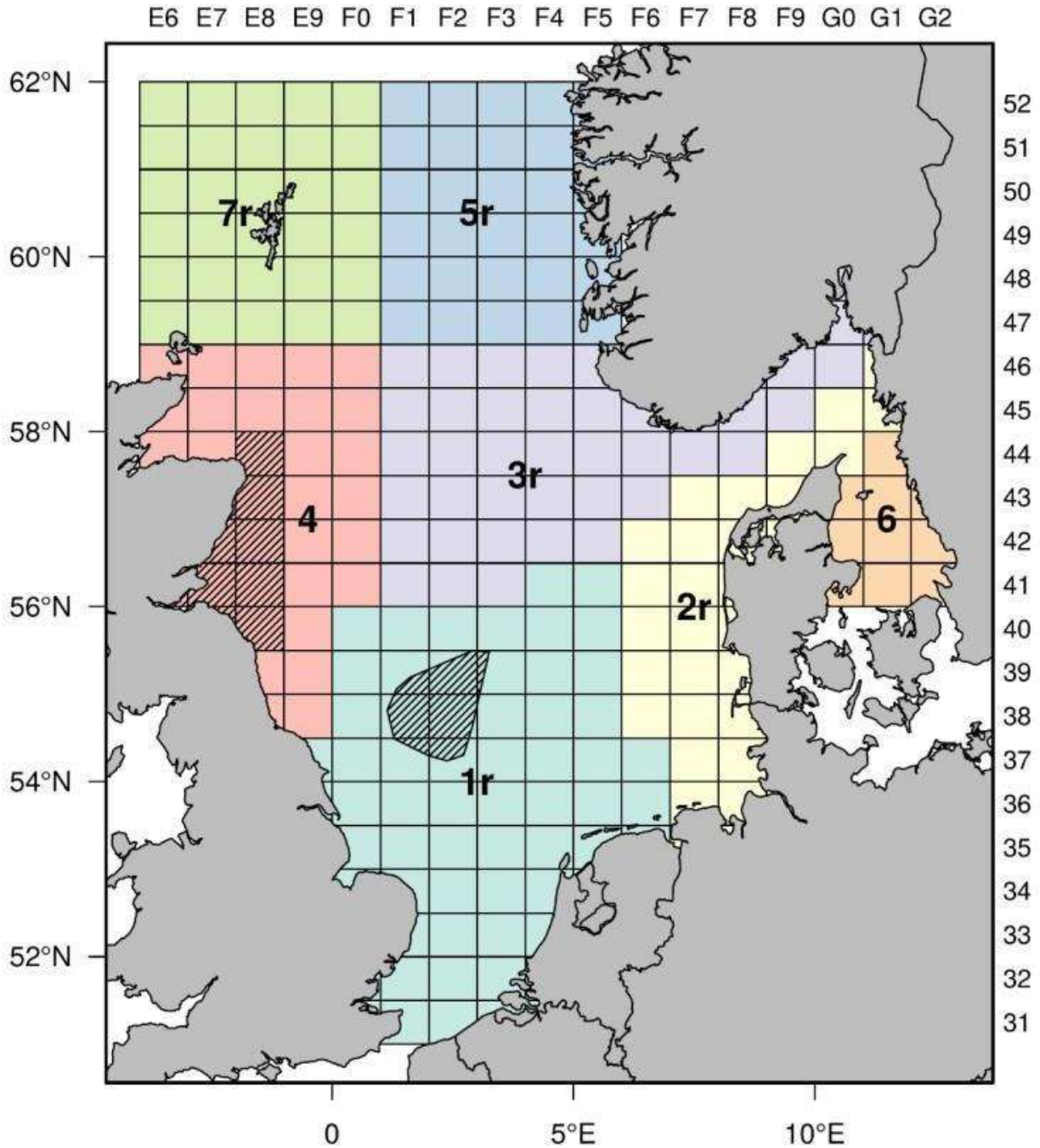
Sandeel in the North Sea and adjacent waters are managed by the EU and ICES using six Sandeel Areas. At the request of the applicant, this assessment report covers Sandeel Areas 1r, 2r, 3r and 4. Catches in the other three areas are currently negligible, but in any case are not covered by this assessment. Each area is subjected to a separate stock assessment and TAC, and as such is considered separately in Section A.

<sup>7</sup> Public Certification Report: Initial assessment of the Norway sandeel, pout and North Sea sprat fishery. Feb 2, 2018. 358pp. <https://fisheries.msc.org/en/fisheries/norway-sandeel-pout-and-north-sea-sprat/@assessments>

<sup>8</sup> Surveillance Audit No. 1: Report for the Norway sandeel, pout and North Sea sprat fishery. May 9, 2019. 51pp. <https://fisheries.msc.org/en/fisheries/norway-sandeel-pout-and-north-sea-sprat/@assessments>

<sup>9</sup> Important note: Although lesser sandeel, *A. marinus*, is the main sandeel species caught in the fishery, four others make up a varying proportion of the catch. These are the great sandeel, *Hyperoplus lanceolatus*; the small sandeel, *A. tobianus*; the smooth sandeel, *Gymnammodytes semisquamatus*; and the greater sandeel, *H. immaculatus*. It is difficult to distinguish between these species, and the majority require expert knowledge and microscopy to separate from *A. marinus*. Management of sandeel in the North Sea, and the science underpinning it, largely treats the sandeel assemblage as a single unit, applying the assumption that avoiding excess fishing pressure on *A. marinus* will protect the other species by default. This MT assessment report adopts a similar assumption, but discusses the other sandeel species where relevant as determined by the scientific documentation.





Sandeel Areas used to delineate the assessment and management of sandeel into the seven stocks recognised by the EU and ICES. Closed areas shown with hatched markings. This MT Whole Fish assessment covers SAs 1r, 2r, 3r and 4<sup>10</sup>.

<sup>10</sup> Sandeel (*Ammodytes* spp.) in divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea, Dogger Bank). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.1r, <https://doi.org/10.17895/ices.advice.21815148>



## MANAGEMENT

The two clauses in this section (M1, M2) relate to the general management regime applied to the fishery under assessment. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a pass or fail rating. A fishery must meet all the minimum requirements in every clause before it can be recommended for approval.

M1	Management Framework – Minimum Requirements		
	<b>M1.1</b>	There is an organisation responsible for managing the fishery.	PASS
	<b>M1.2</b>	There is an organisation responsible for collecting data and assessing the fishery.	PASS
	<b>M1.3</b>	Fishery management organisations are publicly committed to sustainability.	PASS
	<b>M1.4</b>	Fishery management organisations are legally empowered to take management actions.	PASS
	<b>M1.5</b>	There is a consultation process through which fishery stakeholders are engaged in decision-making.	PASS
	<b>M1.6</b>	The decision-making process is transparent, with processes and results publicly available.	PASS
<b>Clause outcome:</b>			PASS
<p><b>M1.1 There is an organisation responsible for managing the fishery.</b></p> <p>Sandeel in the North Sea and adjacent areas is primarily fished by Denmark and other EU countries. In some Sandeel Areas (SAs), particularly SA3r, catch is also taken by Norway. Finally, around 3% of sandeel catch is taken by UK vessels.</p> <p>Fisheries in the EU are managed according to the Common Fisheries Policy (CFP), which was most recently updated through Regulation (EU) No. 1380/2013. Individual member states generally incorporate the requirements of the CFP into their national legislation, and are individually responsible for its implementation. The CFP therefore sets out the policies and procedures by which member states manage their fisheries (EC 2018).</p> <p>Fisheries management in Norway is the responsibility of the Directorate of Fisheries under the Ministry of Trade, Industry and Fisheries. The Directorate is responsible for most day-to-day aspects of fisheries management, including tackling IUU fishing, regulating and licensing fishing activity, and negotiating quotas and other international agreements (Government.no 2023).</p> <p>Within the UK, fisheries management is a devolved issue. The body with over-arching responsibility for fisheries management policy is the Department for Environment and Rural Affairs (DEFRA), but the four individual nations also have their own management structures. In England, the Marine Management Organisation (MMO) has responsibility; in Scotland, Marine Scotland; in Northern Ireland, the Department for Agriculture, Environment and Rural Affairs; and in Wales the Welsh Government (APPG 2020).</p> <p>There are organisations responsible for managing the fishery, and M1.1 is met.</p> <p><b>M1.2 There is an organisation responsible for collecting data and assessing the fishery.</b></p> <p>The primary organisation responsible for coordinating and analysing the data relevant to the management of the sandeel fishery is the International Council for the Exploration of the Sea (ICES). ICES is an intergovernmental marine science organisation which provides frequent analytical and advisory services for the management of fisheries, primarily in the Atlantic but also in the Arctic, Mediterranean, Black Sea and North Pacific (ICES 2023a).</p> <p>ICES carries out annual stock assessments of sandeel in each of the SAs covered by this MT assessment, along with periodic benchmarking exercises to ensure the stock assessment process and its underpinning assumptions remain appropriate. As a key output of the stock assessment process, ICES produces a recommendation for the appropriate level of fishery removals in the coming fishing season.</p> <p>Within SA3, which is largely within Norwegian waters, the Norwegian Institute of Marine Research (IMR) is also relevant. The IMR is affiliated with the Ministry of Trade, Industry and Fisheries and works closely with many of the ICES Working Groups (IMR 2023). The IMR also conducts its own sandeel stock assessments applying a stock structure model different to that used by ICES and specific to SA3. This results in separate catch recommendations, which are used to inform the Norwegian TAC. This is discussed in more detail in the SA3 part of Section A.</p>			

There are organisations responsible for collecting data and assessing the fishery. Requirement M1.2 is met.

**M1.3 Fishery management organisations are publicly committed to sustainability.**

Objective 1 of the CFP, as set out in Regulation (EU) No. 1380/2013 is to “ensure that fishing and aquaculture activities are environmentally sustainable in the long-term and are managed in a way that is consistent with the objectives of achieving economic, social and employment benefits, and of contributing to the availability of food supplies”.

The Norwegian Directorate of Fisheries states that its main objective is to “promote profitable economic activity through sustainable and user-oriented management of marine resources and the marine environment” (DoF 2019). The UK Fisheries Act 2020 sets out 8 objectives for fisheries management in the UK. The first of these is the “sustainability objective”, which seeks to ensure that “fish and aquaculture activities are (i) environmentally sustainable in the long term, and (ii) managed so as to achieve economic, social and employment benefits and contribute to the availability of food supplies”, and also that “the fishing capacity of fleets is such that fleets are economically viable but do not overexploit marine stocks”.

Fishery management organisations are publicly committed to sustainability and M1.3 is met.

**M1.4 Fishery management organisations are legally empowered to take management actions.**

In EU member states fisheries management is generally carried out under the national legislation arising from the implementation and/or transposing of EU regulations, in particular but not limited to Regulation (EU) No 1380/2013. In Denmark the key legislation implementing the CFP and guiding fisheries management is the Fisheries Act (No. 978 of 2008, as amended). The primary legal instrument empowering fisheries management in Norway is the Marine Resources Act of 6 June 2008 (no. 37). In the UK the primary fisheries legislation is the Fisheries Act 2020; but also the Marine and Coastal Access Act 2009, and the regulations put in place by the devolved administrations.

Fishery management organisations are legally empowered to take management actions, and M1.4 is met.

**M1.5 There is a consultation process through which fishery stakeholders are engaged in decision-making.**

The main mechanism for the consultation of stakeholders within the EU is the North Sea Advisory Council (NSAC). The NSAC “is an interdisciplinary stakeholder-led organisation that takes a regional approach to provide the European Commission and EU countries...with recommendations...on the management of North Sea fish stocks on behalf of the fisheries sector, environmental and other stakeholders” (NSAC 2023). Of greatest importance to stakeholder engagement within the sandeel fishery is the Demersal working group, although the Skagerrak & Kattegat and Ecosystem working groups are also relevant.

Norwegian fisheries management engages with industry and other stakeholders via the Advisory Meeting for Fisheries Regulations. The Directorate of Fisheries proposes domestic regulations, and subsequently stakeholders such as fishermen’s associations, industry, trade unions, local authorities, environmental organisations and the Sami parliament are consulted during one or more Advisory Meetings (FAO 2023).

There is a stakeholder consultation process in place, and M1.5 is met.

**M1.6 The decision-making process is transparent, with processes and results publicly available.**

All of the information used to produce this MarinTrust assessment report was freely available online. The fisheries management decision-making process is primarily guided by the ICES advice, the basis for and outcomes of which are made available via the ICES website. Decisions and outcomes at the EU level are published on the EC website and elsewhere. Information regarding Norwegian fisheries management decisions is published on the Directorate of Fisheries website (DoF 2023).

The decision-making process is transparent, and M1.6 is met.

**References**

APPG (2020). Who’s who in UK fisheries management. <https://www.fisheriesappg.org/blog/2020/8/11/whos-who-in-uk-fisheries-management>

Danish Fisheries Act, 2008, amended to 2017. <https://faolex.fao.org/docs/pdf/den134943original.pdf>

Directorate of Fisheries (2015). The Marine Resources Act, English translation. <https://www.fiskeridir.no/English/Fisheries/Regulations/The-marine-resources-act>

Directorate of Fisheries (2019). Vision, objective, roles and areas of operation. <https://www.fiskeridir.no/English/About-the-directorate/Objective-and-roles>

Directorate of Fisheries (2023). Website root page. <https://www.fiskeridir.no/English/Fisheries>

EC (2018). Common Fisheries Policy. [https://ec.europa.eu/oceans-and-fisheries/policy/common-fisheries-policy-cfp\\_en](https://ec.europa.eu/oceans-and-fisheries/policy/common-fisheries-policy-cfp_en)

FAO 2023. Fishery and Aquaculture Country Profiles. Norway. Country Profile Fact Sheets. Fisheries and Aquaculture Division. <https://www.fao.org/fishery/en/facp/162?lang=en>

Fisheries Act (2020). <https://www.legislation.gov.uk/ukpga/2020/22/contents/enacted>

Government.no (2023). “Department for Fisheries” summary page, <https://www.regjeringen.no/en/dep/nfd/organisation/Departments/department-of-fisheries-and-aquaculture-/id706781/>

ICES (2023a). Who we are. <https://www.ices.dk/about-ICES/who-we-are/Pages/Who-we-are.aspx>

ICES (2023b). Latest Advice. <https://www.ices.dk/advice/Pages/Latest-Advice.aspx>

Institute of Marine Research (2023). Quota Advice. <https://www.hi.no/en/hi/radgivning/quota-advice-1>

Marine and Coastal Access Act (2009). <https://www.legislation.gov.uk/ukpga/2009/23/contents>

NSAC (2023). North Sea Advisory Council, “What We Do”. <https://www.nsrac.org/what-we-do/>

Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC. <https://www.legislation.gov.uk/eur/2013/1380/contents#>

Links	
<b>MarinTrust Standard clause</b>	1.3.1.1, 1.3.1.2
<b>FAO CCRF</b>	7.2, 7.3.1, 7.4.4, 12.3
<b>GSSI</b>	D.1.01, D.4.01, D2.01, D1.07, D1.04,

<b>M2</b>	<b>Surveillance, Control and Enforcement - Minimum Requirements</b>		
	<b>M2.1</b>	There is an organisation responsible for monitoring compliance with fishery laws and regulations.	PASS
	<b>M2.2</b>	There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.	PASS
	<b>M2.3</b>	There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.	PASS
	<b>M2.4</b>	Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.	PASS
<b>Clause outcome:</b>			PASS

**M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.**

Monitoring and enforcement of fisheries compliance in the EU is the responsibility of the individual member states. The agency responsible in Danish waters falls to the Danish Fisheries Agency (FA). The FA operates a small fleet of enforcement vessels and is responsible for regulating, monitoring and inspection of Danish fishing activities.

National control and enforcement activities are supported by the European Fisheries Control Agency (EFCA). The EFCA aims to “promote the highest common standards for control, inspection and surveillance under the CFP” (EFCA 2023). The EFCA works

in conjunction with the European Border and Coast Guard Agency and the European Maritime Safety Agency to support the various national agencies carrying out coastguard functions.

There are organisations established with responsibility for monitoring compliance, and M2.1 is met.

**M2.2 There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.**

A framework of sanctions is in place as set out in the CFP legislation and transposed into Danish national law. Sanctions potentially include suspension of fishing licence, fines, confiscation of catch and/or equipment, and imprisonment. These are set out in Chapter 23 of the Fisheries Act 2008, as amended. Additionally, as noted in M2.3 below, the CFP establishes a points-based system for serious breaches of fishery regulations, which can ultimately lead to the disqualification of individuals from eligibility for subsidies and may affect licence conditions.

There is a framework of sanctions set out in the key fisheries legislation, and M2.2 is met.

**M2.3 There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.**

The most recent summary from the Danish Fisheries Agency covering control and enforcement, published in 2022 (FA 2022), reports that in 2021, 2,342 inspections were carried out on vessels or landings at ports, and 427 inspections were conducted on vessels at sea. This represented a return to relatively normal inspection rates after reduced coverage in 2020 due to Covid.

EU regulations state that serious violations of the CFP should lead to the accumulation of ‘points’ which, when collected in sufficient quantities, render the individual responsible unable to claim subsidies and may affect the terms of their fishing licence. The EU Commission has previously criticised Denmark for failing to apply the points rules correctly, in response to which the FA prepared a new administrative basis for the correct administration of the system. In 2021 a total of 427 cases were evaluated to determine whether points should be awarded, and in 15 of those cases this was found to be the appropriate course of action (FA 2022).

Throughout the compilation of this MT assessment report, no evidence was encountered suggesting widespread non-compliance in the fishery, and available evidence suggests a robust and focussed control and enforcement regime is in place. M2.3 is met.

**M2.4 Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.**

Compliance with laws and regulations is monitored through the use of at-sea and portside inspections, e-logbooks, landings certificates, sales notes, VMS, designated ports, and inspections throughout the supply chain. Control efforts are targeted using a risk-based model, which ensures that inspections and other enforcement activity is focussed in areas where low levels of compliance have been detected in the past. Control targets are set each year, expressed as a degree of regulatory compliance, and thus control is primarily considered a means to encourage fishers to change behaviour rather than an end in itself (FA 2022).

Some fisheries within the North Sea are covered by a Special Control and Inspection Programme (SCIP) which is partly funded by the European Maritime, Fisheries and Aquaculture Fund; however, it is not clear whether sandeel is one of these fisheries.

Compliance is actively monitored through a wide range of measures, and M2.4 is met.

**References**

Danish Fisheries Act, 2008, amended to 2017. <https://faolex.fao.org/docs/pdf/den134943original.pdf>

EFCA (2023). Mission and Strategy. <https://www.efca.europa.eu/en/content/objectives-and-strategy>

FA (2022). Om Fiskeristyrelsen Årsrapport (Danish Fisheries Agency annual report) 2021.

[https://fiskeristyrelsen.dk/fileadmin/user\\_upload/Fiskeristyrelsen/Erhvervsfiskeri/Kontrol/AArsrapport/AArsrapport\\_2021.pdf](https://fiskeristyrelsen.dk/fileadmin/user_upload/Fiskeristyrelsen/Erhvervsfiskeri/Kontrol/AArsrapport/AArsrapport_2021.pdf)

FA (2023). Control. <https://fiskeristyrelsen.dk/erhvervsfiskeri/kontrol>

**Links**

MarinTrust Standard clause	1.3.1.3
FAO CCRF	7.7.2
GSSI	D1.09

## CATEGORY A SPECIES

The four clauses in this section apply to Category A species. Clauses A1 - A4 should be completed for **each** Category A species. If there are no Category A species in the fishery under assessment, this section can be deleted. A Category A species must meet the minimum requirements of all four clauses before it can be recommended for approval. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a pass or fail rating. The species must achieve a pass rating against all requirements to be awarded a pass overall. **If the species fails any of these clauses it should be re-assessed as a Category B species.**

Species Name		Sandeel in Sandeel Area 1r																																																																																																					
A1	Data Collection - Minimum Requirements																																																																																																						
	A1.1	Landings data are collected such that the fishery-wide removals of this species are known.		PASS																																																																																																			
	A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.		PASS																																																																																																			
				Clause outcome: PASS																																																																																																			
<b>A1.1 Landings data are collected such that the fishery-wide removals of this species are known.</b>																																																																																																							
<p>Catch and landings data are collected for the entire sandeel fishery across all Sandeel Areas (SAs). Historically there has been misreporting between the SAs, but this was largely resolved in 2015 when Danish regulations prohibited fishing within multiple SAs on a single fishing trip (ICES 2023). Discards and bycatch of sandeel are thought to be negligible (ICES 2023a) and there is no recreational fishery for sandeel. Denmark contributes around 73% of sandeel landings across all SAs (ICES 2019), with the remainder caught by Norway, Sweden, Germany and the UK.</p> <p>Fishery-wide removals of sandeel are known, and A1.1 is met.</p>																																																																																																							
<table border="1"> <thead> <tr> <th>Year</th> <th>Area 1r</th> <th>Area 2r</th> <th>Area 3r</th> <th>Area 4</th> <th>Area 5r</th> <th>Area 6</th> <th>Area 7r</th> <th>All</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>214787</td> <td>48172</td> <td>9838</td> <td>5119</td> <td>0</td> <td>72</td> <td>0</td> <td>277989</td> </tr> <tr> <td>2014</td> <td>99059</td> <td>64707</td> <td>95426</td> <td>4505</td> <td>0</td> <td>65</td> <td>0</td> <td>263762</td> </tr> <tr> <td>2015</td> <td>162861</td> <td>39492</td> <td>104607</td> <td>4736</td> <td>0</td> <td>198</td> <td>0</td> <td>311894</td> </tr> <tr> <td>2016</td> <td>15407</td> <td>9569</td> <td>44074</td> <td>6232</td> <td>0</td> <td>123</td> <td>0</td> <td>75405</td> </tr> <tr> <td>2017</td> <td>242069</td> <td>141314</td> <td>115642</td> <td>18474</td> <td>0</td> <td>0</td> <td>0</td> <td>517499</td> </tr> <tr> <td>2018</td> <td>131898</td> <td>20240</td> <td>75143</td> <td>42298</td> <td>0</td> <td>0</td> <td>0</td> <td>269579</td> </tr> <tr> <td>2019</td> <td>86723</td> <td>5151</td> <td>136901</td> <td>6666</td> <td>0</td> <td>96</td> <td>0</td> <td>235537</td> </tr> <tr> <td>2020</td> <td>108944</td> <td>70198</td> <td>247411</td> <td>20116</td> <td>0</td> <td>97</td> <td>0</td> <td>446765</td> </tr> <tr> <td>2021</td> <td>17082</td> <td>4146</td> <td>157524</td> <td>53765</td> <td>0</td> <td>93</td> <td>0</td> <td>232610</td> </tr> <tr> <td>2022</td> <td>5156</td> <td>71569</td> <td>83964</td> <td>5507</td> <td>0</td> <td>42</td> <td>0</td> <td>166238</td> </tr> </tbody> </table>					Year	Area 1r	Area 2r	Area 3r	Area 4	Area 5r	Area 6	Area 7r	All	2013	214787	48172	9838	5119	0	72	0	277989	2014	99059	64707	95426	4505	0	65	0	263762	2015	162861	39492	104607	4736	0	198	0	311894	2016	15407	9569	44074	6232	0	123	0	75405	2017	242069	141314	115642	18474	0	0	0	517499	2018	131898	20240	75143	42298	0	0	0	269579	2019	86723	5151	136901	6666	0	96	0	235537	2020	108944	70198	247411	20116	0	97	0	446765	2021	17082	4146	157524	53765	0	93	0	232610	2022	5156	71569	83964	5507	0	42	0	166238
Year	Area 1r	Area 2r	Area 3r	Area 4	Area 5r	Area 6	Area 7r	All																																																																																															
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<p style="text-align: center;">Sandeel landings by Sandeel Area, 2013 – 2022. All weights in tonnes (ICES 2023)</p>																																																																																																							
<b>A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.</b>																																																																																																							
<p>A range of additional data are collected to support the stock assessment and fishery management processes. Catch data is broken down by SA, as demonstrated in the table above, but also by numbers-at-age and weight-at-age. CPUE estimates are also available. Catch sampling is conducted by scientists, but also by vessels (ICES 2019). Denmark conducts an annual dredge survey in December, the results of which are used to estimate, abundance, maturity-at-age, and natural mortality rates. The ICES Working Group responsible for the assessment of the stock (the Herring Assessment Working Group, HAWG) reports on the quality of the stock assessment, and has not raised any concerns over the completeness of data; in fact, the most recent</p>																																																																																																							



HAWG report notes that “the quality of the present assessment has improved compared to the combined assessment for the whole of the North Sea previously presented by ICES before 2010” (ICES 2023).

Sufficient additional information is collected to enable a reliable estimate of the status of the stock to be generated, and A1.2 is met.

**References**

ICES (2019). Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 1 (SA1). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623159.v1>

ICES (2023). Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 5:23. <https://doi.org/10.17895/ices.pub.22182034>

ICES (2023a). Sandeel (*Ammodytes* spp.) in divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea, Dogger Bank). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.1r, <https://doi.org/10.17895/ices.advice.21815148>

**Links**

<b>MarinTrust Standard clause</b>	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
<b>FAO CCRF</b>	7.3.1, 12.3
<b>GSSI</b>	D.4.01, D.5.01, D.6.02, D.3.14

<b>A2 Stock Assessment - Minimum Requirements</b>		
<b>A2.1</b>	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	PASS
<b>A2.2</b>	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	PASS
<b>A2.3</b>	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	PASS
<b>A2.4</b>	The assessment is subject to internal or external peer review.	PASS
<b>A2.5</b>	The assessment is made publicly available.	PASS
<b>Clause outcome:</b>		PASS

**[SA1r]**

**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.**

Sandeel in SA1r is subject to an annual stock assessment conducted by the ICES HAWG. The most recent assessment was carried out in 2022, with the results and resulting catch advice published in February 2023 (ICES 2023). The assessment was an age-structured model with half-yearly time-steps, incorporating the December dredge survey carried out by Denmark; commercial catch rates; total international catch and fishing effort; annual natural mortality estimates; maturity-at-age estimated from surveys; and age frequency estimates from catch sampling. Discards and bycatch are considered negligible, and there is no recreational fishery (ICES 2023). The assessment takes into account the biological characteristics of the species, as demonstrated by the stock annex which describes the life history and ecological role of sandeel in detail (ICES 2019).

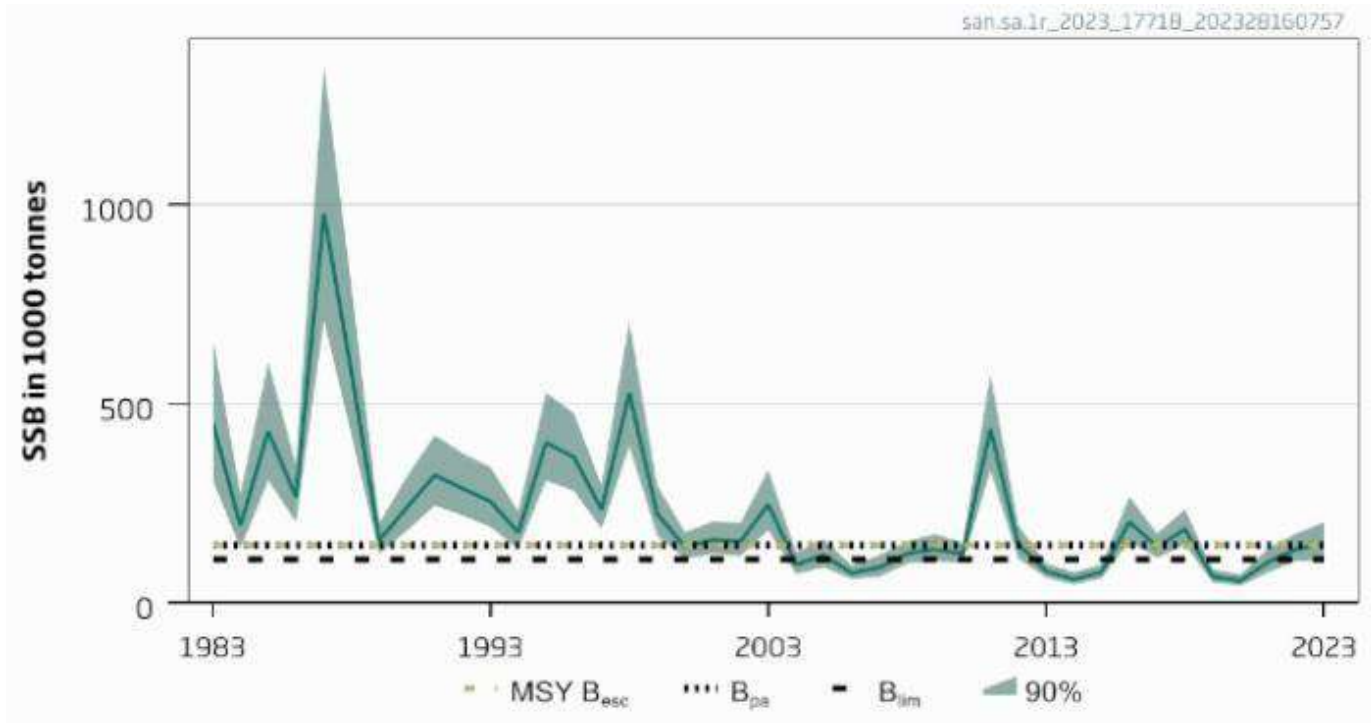
An annual stock assessment is conducted and considers all fishery removals and the biological characteristics of the species, and A2.1 is met.

**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

Target and limit reference points have been formally established for sandeel in SA 1r. The target reference points  $MSY B_{escapement}$  and  $B_{pa}$  have been set at 145,000t. The limit reference point  $B_{lim}$  is set at 110,000t. The 2023 stock assessment produced an

estimated SSB for 2023 of 146,825t, just above the target reference point. The catch advice also states that “spawning-stock size is above MSY  $B_{escapement}$ ,  $B_{pa}$ , and  $B_{lim}$ ” (ICES 2023).

The stock assessment provides a clear indication of the status of the stock relative to target and limit reference points and A2.2 is met.



Spawning Stock Biomass (SSB) of sandeel in SA1r relative to current reference points. Green area represents the 90% Confidence Interval (ICES 2023).

**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**

The annual ICES catch advice clearly sets out a specific recommendation for the maximum appropriate catch in the following year. The 2023 advice states that “when the MSY approach is applied, catches should be no more than 120,428 tonnes in 2023” (ICES 2023). The catch advice also provides alternative catch scenarios to project the likely impacts of other levels of total catch in the coming year, as shown on the table below.

The assessment provides a clear indication of the volume of fishery removals which is appropriate for the current stock status, and A2.3 is met.

Sandeel in SA 1r, annual catch scenarios. All weights in tonnes (ICES 2023).

Basis	Total catch (2023)	$F_{total}$ (2023)	SSB (2024)	% SSB change *	% TAC change **	% advice change ***
<b>ICES advice basis</b>						
$SSB(2024) \geq MSY B_{escapement} = B_{pa}$	120 428	0.42	145 000	-1	2309	-
<b>Other scenarios</b>						
$F = 0$	0	0	217 821	48	-100	-
$B_{lim}$	180 743	0.74	110 000	-25	3515	-
$F = F_{2022}$	8827	0.025	212 382	45	77	-

\*  $SSB_{2024}$  relative to  $SSB_{2023}$ .

\*\* Catch scenario for 2023 relative to TAC in 2022 (5000 t).

\*\*\* Advice value 2023 relative to advice value 2022 (0 t).

**A2.4 The assessment is subject to internal or external peer review.**

ICES advice is produced according to ten Advice Principles. Principle 7 is that “To ensure that the best available, credible science has been used and to confirm that the analysis provides a sound basis for advice, all analyses and methods are peer reviewed by at least two independent reviewers. For recurrent advice, the review is conducted through a benchmark process; for special requests through one-off reviews” (ICES 2023a). In practice, this means that individual ICES documents are subjected to peer review, but also that recurrent advice, such as the stock assessments and catch recommendations for sandeel, are subjected to periodic benchmarking to ensure the methodologies underpinning them remain appropriate. The stock assessments for all four Sandeel Areas covered by this report were most recently benchmarked in 2016 (ICES 2017).

The stock assessment is subject to peer review, and A2.4 is met.

**A2.5 The assessment is made publicly available.**

Details of the stock assessment process, the data used to carry it out, and the results of the stock assessment are all made publicly available on the ICES website. All documentation used to complete this MT assessment report was sourced online without needing to be requested. A2.5 is met.

**References**

ICES (2017). Report of the Benchmark Workshop on Sandeel (WKSand). ICES Expert Group reports (until 2018). Report. <https://doi.org/10.17895/ices.pub.7718>

ICES (2019). Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 1 (SA1). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623159.v1>

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea, Dogger Bank). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.1r, <https://doi.org/10.17895/ices.advice.21815148>

ICES (2023a). Guide to ICES advisory framework and principles. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, section 1.1. <https://doi.org/10.17895/ices.advice.22116890>

**Links**

<b>MarinTrust Standard clause</b>	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
<b>FAO CCRF</b>	12.3
<b>GSSI</b>	D.5.01, D.6.02, D.3.14

<b>A3</b>	<b>Harvest Strategy - Minimum Requirements</b>		
	<b>A3.1</b>	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
	<b>A3.2</b>	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	PASS
	<b>A3.3</b>	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	PASS
		<b>Clause outcome:</b>	PASS

**[SA1r]**

**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**

Sandeel in the North Sea are subject to Sandeel-Area-specific Total Annual Catch (TAC) limits. Total international TACs and are set via negotiation between delegations from the fishery management administrations managing the fishery. The EU share of the 2023 sandeel TAC in SA1r has been agreed with the UK to be 97.03% of the total SA1r TAC of 116,815t (UK Gov 2023). The EU share is further subdivided between member states via Council Regulation. At the time of writing has not been agreed for the 2023 season; however for the 2022 fishing season, the sandeel TAC for Sandeel Area 1r was set at 5,000t, of which 4,678t was allocated to Denmark (Council Regulation (EU) 2022/515).

In the EU, TACs are monitored and enforced by the fishery management administrations of member states, supported by the reporting requirements and landings obligation set out in A1.1.

An important aspect of the sandeel TAC is that up to 10% of the annual quota for a given Sandeel Area can be 'banked' and used the following year, within the same Area. On occasions where one year has a substantially lower quota than the previous (as occurred in 2020/2021) this can lead to substantially higher landings than have been deemed by ICES to be appropriate.

Overall, although the TAC transfer allowance can cause issues in specific years, the assessor considers this to be covered by clause A3.2 and A3.3, and therefore that the existence and enforcement of the TAC means A3.1 is met.

**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**

Note that in terms of the status of the stock relative to the limit reference point, it is not appropriate to interpret the requirements of this clause literally. This is because ICES makes catch recommendations based not only on current stock status, but also on estimated recruitment, natural mortality, and other factors. In practice this means that ICES sometimes recommends a substantial fishery at a time when the biomass is below the limit reference point, and conversely sometimes the catch recommendation is zero in years where biomass is above the target reference point. Therefore, the ICES recommendation is more relevant when determining the appropriate scale of the fishery than simple consideration of stock status.

Total fishery removals of this species do sometimes exceed the ICES advice. Since 2018, TACs have been set in line with or below the advice; however in 2021 and 2022, landings exceeded the TAC. In 2021, landings were roughly triple the level advised by ICES. This has also been an issue historically, with landings exceeding ICES advice and/or TAC by more than 10% in 2012, 2014, and 2016. These excess landings reflect the "quota flex", with quota holders able to transfer up to 10% of their quota between years. Thus the excess landings do not represent a breach of regulations; however, they have led to catches sometimes being considerably in excess of the ICES recommendation.

ICES notes that "The management strategy evaluation (MSE) conducted for this stock has not accounted for any interannual quota transfer arrangements for this fishery; such a practice may, therefore, not be precautionary" (ICES 2023). A sandeel benchmarking workshop held in 2022 was intended to tackle this issue, at the request of the Danish reduction industry, by determining whether the quota flex is precautionary. Direct communications with the client have revealed that the industry has been campaigning to implement measures to prevent excess catch being taken in years when ICES recommends no fishery except a monitoring quota.

Although the catch has not "regularly" exceeded the scientific advice in recent years, there is currently a high likelihood of excess catch occurring again in the future. However, the reduction industry is taking active steps to ensure an ICES review of the situation. As ICES has recommended a substantial TAC for 2023, the excess catch issue is unlikely to arise this year. Overall the assessor considers the fishery to meet the requirements of this clause; however, future assessments should make sure to investigate progress towards resolving the quota flex issue, particularly if the ICES catch recommendation is low or zero.



Sandeel in SA1r, history of ICES advice, agreed TAC, and ICES estimates of catch since 2018. All weights in tonnes (ICES 2023).

Year	ICES advice	Catch corresponding to advice	TAC	ICES catch SA 1	ICES catch SA 1r	Total ICES catch (SAs 1r–7r)
2018 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 134461	134461		131898	269579
2019 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 91916	91916		86723	235537
2020 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 113987	113987		108944	446765
2021 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 5464	5351		16615	232610
2022 <sup>^</sup>	MSY approach: zero catch	0	5000		5156 <sup>***</sup>	166238 <sup>***</sup>
2023 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 120428				

\* Advice for Subarea 4, excluding the Shetland area.

\*\* Set for EU waters of divisions 2.a and 3.a and Subarea 4.

\*\*\* Preliminary.

<sup>^</sup> ICES statistical rectangles included in this sandeel area changed with the 2017 assessment and advice.

**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

In 2016, ICES recommended that the sandeel fishery in Sandeel Area 1r should be closed except for a 5,000t sampling quota (ICES, 2023). This recommendation was not adopted, and the TAC was set at 13,000t. Additionally, TACs are frequently exceeded due to the ability of participants in the fishery to transfer quota between years (as described above), meaning that at present it is likely that a similar issue could arise the next time ICES recommend a small or zero TAC. However, as described in A3.2, the reduction industry is taking steps to prevent this excess catch from occurring in the future and it will not be an issue in the 2023 season. Due to the pro-active measures taken by the industry, the assessor considers the fishery to meet the requirements of this clause; however, future assessments should review progress in tackling the issue, particularly in years where the recommended catch is low.

**References**

Council Regulation (EU) 2022/515 of 31 March 2022, amending Regulation (EU) 2022/109 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters.

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea, Dogger Bank). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.1r, <https://doi.org/10.17895/ices.advice.21815148>

UK Government (2023). Written record of fisheries consultations from 9 to 13 March 2023 between the United Kingdom and the European Union about sandeels in 2023. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1143911/Written\\_Record\\_of\\_fisheries\\_consultations\\_from\\_9\\_to\\_13\\_March\\_2023\\_between\\_the\\_United\\_Kingdom\\_and\\_the\\_European\\_Union\\_about\\_sandeels\\_in\\_2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1143911/Written_Record_of_fisheries_consultations_from_9_to_13_March_2023_between_the_United_Kingdom_and_the_European_Union_about_sandeels_in_2023.pdf)

Standard clause 1.3.2.1.3

**Links**

<b>MarinTrust Standard clause</b>	1.3.2.1.3, 1.3.2.1.4
<b>FAO CCRF</b>	7.2.1, 7.22 (e), 7.5.3

GSSI	D3.04, D6.01
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A4 Stock Status – Minimum Requirements							
<b>A4.1</b>	<p>The stock is at or above the target reference point, OR IF NOT:</p> <p>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p>						
<b>Clause outcome:</b>							
PASS							
<p><b>A4.1 The stock is at or above the target reference point, OR IF NOT:</b></p> <p><b>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</b></p> <p><b>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</b></p> <p>As noted in A2, the most recent ICES catch advice report includes the statement that “spawning-stock size is above MSY B<sub>escapement</sub>, B<sub>pa</sub>, and B<sub>lim</sub>” (ICES 2023). The fishery therefore passes the first component of this clause, and A4.1 is met.</p>							
<p><b>References</b></p> <p>ICES (2023). Sandeel (<i>Ammodytes</i> spp.) in divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea, Dogger Bank). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.1r, <a href="https://doi.org/10.17895/ices.advice.21815148">https://doi.org/10.17895/ices.advice.21815148</a></p>							
<p><b>Links</b></p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;"><b>MarinTrust Standard clause</b></td> <td><b>1.3.2.1.4</b></td> </tr> <tr> <td><b>FAO CCRF</b></td> <td><b>7.2.1, 7.2.2 (e)</b></td> </tr> <tr> <td><b>GSSI</b></td> <td><b>D6 01</b></td> </tr> </table>		<b>MarinTrust Standard clause</b>	<b>1.3.2.1.4</b>	<b>FAO CCRF</b>	<b>7.2.1, 7.2.2 (e)</b>	<b>GSSI</b>	<b>D6 01</b>
<b>MarinTrust Standard clause</b>	<b>1.3.2.1.4</b>						
<b>FAO CCRF</b>	<b>7.2.1, 7.2.2 (e)</b>						
<b>GSSI</b>	<b>D6 01</b>						



Species Name		Sandeel in Sandeel Area 2r																																																																																																					
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<p>Catch and landings data are collected for the entire sandeel fishery across all Sandeel Areas (SAs). Historically there has been misreporting between the SAs, but this was largely resolved in 2015 when Danish regulations prohibited fishing within multiple SAs on a single fishing trip (ICES 2023). Discards and bycatch of sandeel are thought to be negligible (ICES 2023a) and there is no recreational fishery for sandeel. Denmark contributes around 73% of sandeel landings across all SAs (ICES 2019), with the remainder caught by Norway, Sweden, Germany and the UK.</p> <p>Fishery-wide removals of sandeel are known, and A1.1 is met.</p>																																																																																																							
<table border="1"> <thead> <tr> <th>Year</th> <th>Area 1r</th> <th>Area 2r</th> <th>Area 3r</th> <th>Area 4</th> <th>Area 5r</th> <th>Area 6</th> <th>Area 7r</th> <th>All</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>214787</td> <td>48172</td> <td>9838</td> <td>5119</td> <td>0</td> <td>72</td> <td>0</td> <td>277989</td> </tr> <tr> <td>2014</td> <td>99059</td> <td>64707</td> <td>95426</td> <td>4505</td> <td>0</td> <td>65</td> <td>0</td> <td>263762</td> </tr> <tr> <td>2015</td> <td>162861</td> <td>39492</td> <td>104607</td> <td>4736</td> <td>0</td> <td>198</td> <td>0</td> <td>311894</td> </tr> <tr> <td>2016</td> <td>15407</td> <td>9569</td> <td>44074</td> <td>6232</td> <td>0</td> <td>123</td> <td>0</td> <td>75405</td> </tr> <tr> <td>2017</td> <td>242069</td> <td>141314</td> <td>115642</td> <td>18474</td> <td>0</td> <td>0</td> <td>0</td> <td>517499</td> </tr> <tr> <td>2018</td> <td>131898</td> <td>20240</td> <td>75143</td> <td>42298</td> <td>0</td> <td>0</td> <td>0</td> <td>269579</td> </tr> <tr> <td>2019</td> <td>86723</td> <td>5151</td> <td>136901</td> <td>6666</td> <td>0</td> <td>96</td> <td>0</td> <td>235537</td> </tr> <tr> <td>2020</td> <td>108944</td> <td>70198</td> <td>247411</td> <td>20116</td> <td>0</td> <td>97</td> <td>0</td> <td>446765</td> </tr> <tr> <td>2021</td> <td>17082</td> <td>4146</td> <td>157524</td> <td>53765</td> <td>0</td> <td>93</td> <td>0</td> <td>232610</td> </tr> <tr> <td>2022</td> <td>5156</td> <td>71569</td> <td>83964</td> <td>5507</td> <td>0</td> <td>42</td> <td>0</td> <td>166238</td> </tr> </tbody> </table>					Year	Area 1r	Area 2r	Area 3r	Area 4	Area 5r	Area 6	Area 7r	All	2013	214787	48172	9838	5119	0	72	0	277989	2014	99059	64707	95426	4505	0	65	0	263762	2015	162861	39492	104607	4736	0	198	0	311894	2016	15407	9569	44074	6232	0	123	0	75405	2017	242069	141314	115642	18474	0	0	0	517499	2018	131898	20240	75143	42298	0	0	0	269579	2019	86723	5151	136901	6666	0	96	0	235537	2020	108944	70198	247411	20116	0	97	0	446765	2021	17082	4146	157524	53765	0	93	0	232610	2022	5156	71569	83964	5507	0	42	0	166238
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<b>A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.</b>																																																																																																							
<p>A range of additional data are collected to support the stock assessment and fishery management processes. Catch data is broken down by SA, as demonstrated in the table above, but also by numbers-at-age and weight-at-age. CPUE estimates are also available. Catch sampling is conducted by scientists, but also by vessels (ICES 2019). Historically the number of samples taken in SA2r has sometimes been insufficient for research purposes, but this has not been the case since 2010 (ICES 2019). Denmark conducts an annual dredge survey in December, the results of which are used to estimate, abundance, maturity-at-age, and natural mortality rates. The ICES Working Group responsible for the assessment of the stock (the Herring Assessment Working Group, HAWG) reports on the quality of the stock assessment, and has not raised any concerns over the completeness of data; in fact, the most recent HAWG report notes that “the quality of the present assessment has improved compared to the combined assessment for the whole of the North Sea previously presented by ICES before 2010” (ICES 2023).</p> <p>Sufficient additional information is collected to enable a reliable estimate of the status of the stock to be generated, and A1.2 is met.</p>																																																																																																							
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ICES (2019). Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 2 (SA2). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623165.v1>

ICES (2023). Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 5:23. <https://doi.org/10.17895/ices.pub.22182034>

ICES (2023a). Sandeel (*Ammodytes* spp.) in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.2r, <https://doi.org/10.17895/ices.advice.21815175>

**Links**

A2 Stock Assessment - Minimum Requirements		
<b>A2.1</b>	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	PASS
<b>A2.2</b>	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	PASS
<b>A2.3</b>	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	PASS
<b>A2.4</b>	The assessment is subject to internal or external peer review.	PASS
<b>A2.5</b>	The assessment is made publicly available.	PASS
<b>Clause outcome:</b>		PASS

**[SA2r]**

**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.**

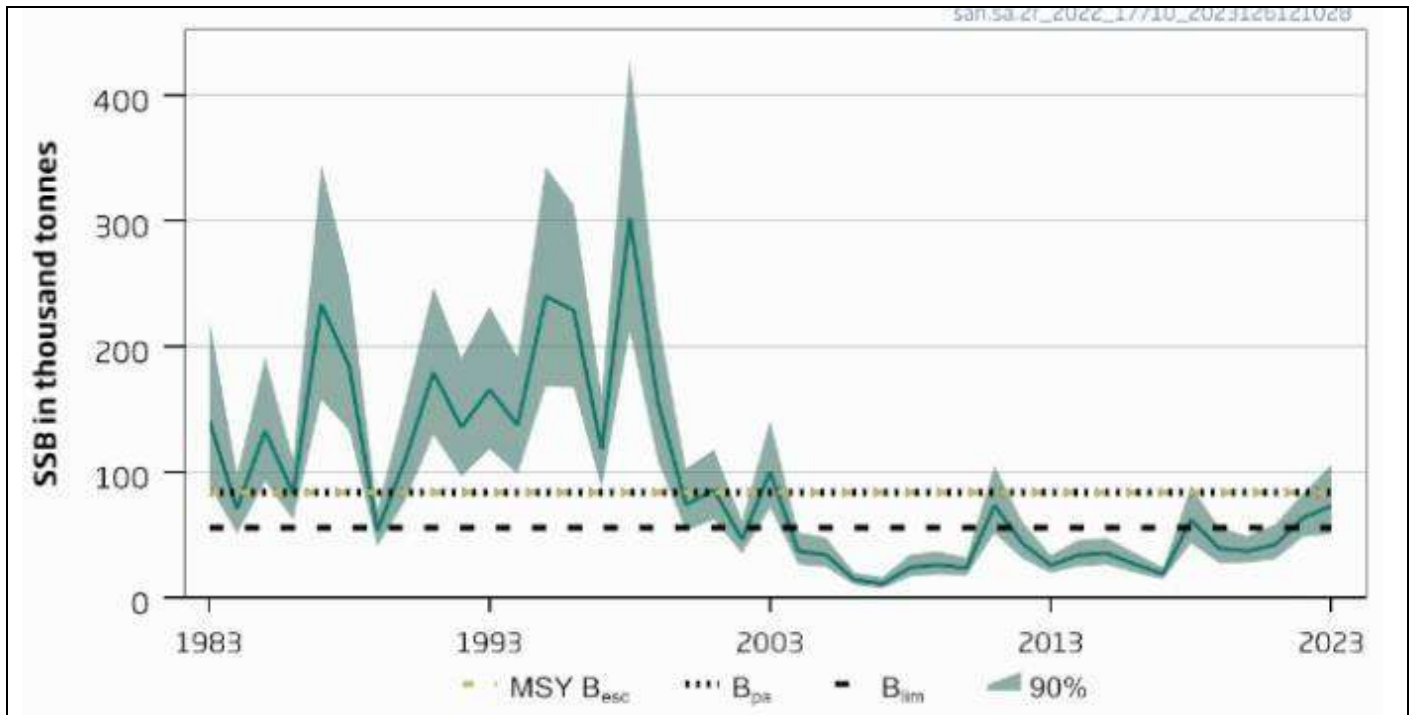
Sandeel in SA2r is subject to an annual stock assessment conducted by the ICES HAWG. The most recent assessment was carried out in 2022/23, with the results and resulting catch advice published in February 2023 (ICES 2023). The assessment was an analytical age-based model with half-yearly time-steps, incorporating the December dredge survey carried out by Denmark; total international catch and fishing effort; annual natural mortality estimates; maturity-at-age estimated from surveys; and age frequency estimates from catch sampling. Discards and bycatch are considered negligible, and there is no recreational fishery (ICES 2023). The assessment takes into account the biological characteristics of the species, as demonstrated by the stock annex which describes the life history and ecological role of sandeel in detail (ICES 2019).

An annual stock assessment is conducted and considers all fishery removals and the biological characteristics of the species, and A2.1 is met.

**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

Target and limit reference points have been formally established for sandeel in SA 2r. The target reference points  $MSY_{B_{escapement}}$  and  $B_{pa}$  have been set at 84,000t. The limit reference point  $B_{lim}$  is set at 56,000t. The 2023 stock assessment produced an estimated SSB for 2023 of 73,350t, between the target and limit reference points. The catch advice also states that “spawning-stock size is below  $MSY_{B_{escapement}}$  and between  $B_{pa}$ , and  $B_{lim}$ ” (ICES 2023).

The stock assessment provides a clear indication of the status of the stock relative to target and limit reference points and A2.2 is met.



Spawning Stock Biomass (SSB) of sandeel in SA2r relative to current reference points. Green area represents the 90% Confidence Interval (ICES 2023).

**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**

The annual ICES catch advice clearly sets out a specific recommendation for the maximum appropriate catch in the following year. The 2023 advice states that “when the MSY approach is applied, catches in 2023 should be no more than 40,997 tonnes” (ICES 2023). The catch advice also provides alternative catch scenarios to project the likely impacts of other levels of total catch in the coming year, as shown on the table below.

The assessment provides a clear indication of the volume of fishery removals which is appropriate for the current stock status, and A2.3 is met.

Sandeel in SA 2r, annual catch scenarios. All weights in tonnes (ICES 2023).

Basis	Total catch (2023)	F <sub>total</sub> (2023)	SSB (2024)	% SSB change *	% TAC change **	% advice change ***
<b>ICES advice basis</b>						
SSB <sub>2024</sub> ≥ MSY B <sub>escapement</sub> = B <sub>pa</sub>	40 997	0.29	84 000	15	-43	-43
<b>Other scenarios</b>						
F = 0	0	0	110 821	51	-100	-100
B <sub>lim</sub>	85 165	0.73	56 000	-24	19	19
F = F <sub>2022</sub>	81 334	0.68	58 379	-20	13	13

\* SSB<sub>2024</sub> relative to SSB<sub>2023</sub>.

\*\* Catch scenario for 2023 relative to TAC in 2022 (71 859 t).

\*\*\* Advice value 2023 relative to advice value 2022 (71 859 t).

**A2.4 The assessment is subject to internal or external peer review.**

ICES advice is produced according to ten Advice Principles. Principle 7 is that “To ensure that the best available, credible science has been used and to confirm that the analysis provides a sound basis for advice, all analyses and methods are peer reviewed by at least two independent reviewers. For recurrent advice, the review is conducted through a benchmark process; for special requests through one-off reviews” (ICES 2023a). In practice, this means that individual ICES documents are subjected to peer

review, but also that recurrent advice, such as the stock assessments and catch recommendations for sandeel, are subjected to periodic benchmarking to ensure the methodologies underpinning them remain appropriate. The stock assessments for all four Sandeel Areas covered by this report were most recently benchmarked in 2016 (ICES 2017).

The stock assessment is subject to peer review, and A2.4 is met.

**A2.5 The assessment is made publicly available.**

Details of the stock assessment process, the data used to carry it out, and the results of the stock assessment are all made publicly available on the ICES website. All documentation used to complete this MT assessment report was sourced online without needing to be requested. A2.5 is met.

**References**

ICES (2017). Report of the Benchmark Workshop on Sandeel (WKSand). ICES Expert Group reports (until 2018). Report. <https://doi.org/10.17895/ices.pub.7718>

ICES (2019). Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 2 (SA2). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623165.v1>

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.2r, <https://doi.org/10.17895/ices.advice.21815175>

ICES (2023a). Guide to ICES advisory framework and principles. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, section 1.1. <https://doi.org/10.17895/ices.advice.22116890>

**Links**

A3 Harvest Strategy - Minimum Requirements		
<b>A3.1</b>	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
<b>A3.2</b>	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	PASS
<b>A3.3</b>	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	PASS
<b>Clause outcome:</b>		PASS

**[SA2r]**

**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**

Sandeel in the North Sea are subject to Sandeel-Area-specific Total Annual Catch (TAC) limits. Total international TACs and are set via negotiation between delegations from the fishery management administrations managing the fishery. The EU share of the 2023 sandeel TAC in SA2r has been agreed with the UK to be 97.03% of the total SA2r TAC of 40,997t (UK Gov 2023). The EU share is further subdivided between member states via Council Regulation. At the time of writing has not been agreed for the 2023 season; however for the 2022 fishing season, the sandeel TAC for Sandeel Area 2r was set at 71,859t, of which 67,232t was allocated to Denmark (Council Regulation (EU) 2022/515).

In the EU, TACs are monitored and enforced by the fishery management administrations of member states, supported by the reporting requirements and landings obligation set out in A1.1.

An important aspect of the sandeel TAC is that up to 10% of the annual quota for a given Sandeel Area can be ‘banked’ and used the following year, within the same Area. On occasions where one year has a substantially lower quota than the previous (as occurred in 2017/18) this can lead to substantially higher landings than have been deemed by ICES to be appropriate.

Overall, although the TAC transfer allowance can cause issues in specific years, the assessor considers this to be covered by clause A3.2 and A3.3, and therefore that the existence and enforcement of the TAC means A3.1 is met.

**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**

Note that in terms of the status of the stock relative to the limit reference point, it is not appropriate to interpret the requirements of this clause literally. This is because ICES makes catch recommendations based not only on current stock status, but also on estimated recruitment, natural mortality, and other factors. In practice this means that ICES sometimes recommends a substantial fishery at a time when the biomass is below the limit reference point, and conversely sometimes the catch recommendation is zero in years where biomass is above the target reference point. Therefore, the ICES recommendation is more relevant when determining the appropriate scale of the fishery than simple consideration of stock status.

Total fishery removals of this species do sometimes exceed the ICES advice. Since 2018, TACs have been set in line with or below the advice; however in 2018, 2019 and 2020, landings exceeded the TAC. In 2018, landings were roughly four times the level advised by ICES. This has also been an issue historically, with landings exceeding ICES advice and/or TAC by more than 10% in 2012, 2013, 2014 and 2016. These excess landings reflect the “quota flex”, with quota holders able to transfer up to 10% of their quota between years. Thus the excess landings do not represent a breach of regulations; however, they have led to catches sometimes being considerably in excess of the ICES recommendation.

ICES notes that “The management strategy evaluation (MSE) conducted for this stock has not accounted for any interannual quota transfer arrangements for this fishery; such a practice may, therefore, not be precautionary” (ICES 2023). A sandeel benchmarking workshop held in 2022 was intended to tackle this issue, at the request of the Danish reduction industry, by determining whether the quota flex is precautionary. Direct communications with the client have revealed that the industry has been campaigning to implement measures to prevent excess catch being taken in years when ICES recommends no fishery except a monitoring quota.

Although the catch has not “regularly” exceeded the scientific advice in recent years, there is currently a high likelihood of excess catch occurring again in the future. However, the reduction industry is taking active steps to ensure an ICES review of the situation. As ICES has recommended a substantial TAC for 2023, the excess catch issue is unlikely to arise this year. Overall the assessor considers the fishery to meet the requirements of this clause; however, future assessments should make sure to investigate progress towards resolving the quota flex issue, particularly if the ICES catch recommendation is low or zero.



Sandeel in SA2r, history of ICES advice, agreed TAC, and ICES estimates of catch since 2018. All weights in tonnes (ICES 2023).

Year	ICES advice	Catch corresponding to advice	TAC	ICES catch SA 2	ICES catch SA 2r	Total ICES catch (SAs 1r–7r)
2018 <sup>^</sup>	Catches for monitoring purposes should not exceed 5000 t	≤ 5000	5000		20240	269579
2019 <sup>^</sup>	Catches for monitoring purposes should not exceed 5000 t	≤ 5000	5000		5151	235537
2020 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 62658	62658		70198	446765
2021 <sup>^</sup>	MSY approach: zero catch. Monitoring TAC should not exceed 5000 t.	≤ 5000	5000		4146	232610
2022 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 71859	71859		71569***	166238***
2023 <sup>^</sup>		≤ 40997				

<sup>\*</sup> Advice for Subarea 4, excluding the Shetland area.

<sup>\*\*</sup> Set for EU waters of divisions 2.a and 3.a and Subarea 4.

<sup>\*\*\*</sup> Preliminary.

<sup>^</sup> ICES statistical rectangles included in this sandeel area changed with the 2017 assessment and advice.

**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

In 2018 and 2019, ICES recommended that the sandeel fishery in Sandeel Area 2r should be closed except for a 5,000t sampling quota (ICES, 2023). Although this advice was implemented by fishery managers, in practice the fishery was not limited to only the sampling quota (due, presumably, to the ability to transfer quota between years), and in 2018 four times this amount was landed. However, as described in A3.2, the reduction industry is taking steps to prevent this excess catch from occurring in the future and it will not be an issue in the 2023 season. Due to the pro-active measures taken by the industry, the assessor considers the fishery to meet the requirements of this clause; however, future assessments should review progress in tackling the issue, particularly in years where the recommended catch is low.

**References**

Council Regulation (EU) 2022/515 of 31 March 2022, amending Regulation (EU) 2022/109 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters.

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.2r, <https://doi.org/10.17895/ices.advice.21815175>

UK Government (2023). Written record of fisheries consultations from 9 to 13 March 2023 between the United Kingdom and the European Union about sandeels in 2023. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1143911/Written Record of fisheries consultations from 9 to 13 March 2023 between the United Kingdom and the European Union about sandeels in 2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1143911/Written_Record_of_fisheries_consultations_from_9_to_13_March_2023_between_the_United_Kingdom_and_the_European_Union_about_sandeels_in_2023.pdf)

Standard clause 1.3.2.1.3

A4	Stock Status – Minimum Requirements	
	A4.1	The stock is at or above the target reference point, OR IF NOT:
		PASS



	<p>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p>							
		<b>Clause outcome:</b> PASS						
<p><b>[SA2r]</b></p> <p><b>A4.1 The stock is at or above the target reference point, OR IF NOT:</b></p> <p><b>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</b></p> <p><b>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</b></p> <p>As noted in A2, the most recent ICES catch advice report includes the statement that “spawning-stock size is below MSY <math>B_{escapement}</math>, and between <math>B_{pa}</math>, and <math>B_{lim}</math>” (ICES 2023). The fishery therefore does not meet the first component of this clause.</p> <p>As the stock is above the limit reference or proxy, the second statement is applicable. There is evidence that a fall below the limit reference point would lead to an ICES catch recommendation of 5,000t for research purposes only. As discussed in A3.4, when this recommendation has been made in the past, it has not always been adhered to due to the quota flex. However, for the reasons also listed in A3.4, the assessor believes that this issue is recognised by the applicant who is making efforts to ensure closures are followed in the future, and therefore A4.1 is met. As noted above, future assessors should ensure that progress is made, and that excess catch is not taken in years with small or no TACs.</p>								
<p><b>References</b></p> <p>ICES (2023). Sandeel (<i>Ammodytes</i> spp.) in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.2r, <a href="https://doi.org/10.17895/ices.advice.21815175">https://doi.org/10.17895/ices.advice.21815175</a></p>								
<p><b>Links</b></p> <table border="1"> <tr> <td><b>MarinTrust Standard clause</b></td> <td><b>1.3.2.1.4</b></td> </tr> <tr> <td><b>FAO CCRF</b></td> <td><b>7.2.1, 7.2.2 (e)</b></td> </tr> <tr> <td><b>GSSI</b></td> <td><b>D6 01</b></td> </tr> </table>			<b>MarinTrust Standard clause</b>	<b>1.3.2.1.4</b>	<b>FAO CCRF</b>	<b>7.2.1, 7.2.2 (e)</b>	<b>GSSI</b>	<b>D6 01</b>
<b>MarinTrust Standard clause</b>	<b>1.3.2.1.4</b>							
<b>FAO CCRF</b>	<b>7.2.1, 7.2.2 (e)</b>							
<b>GSSI</b>	<b>D6 01</b>							

Species Name		Sandeel in Sandeel Area 3r																																																																																																					
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<p>Catch and landings data are collected for the entire sandeel fishery across all Sandeel Areas (SAs). Historically there has been misreporting between the SAs, but this was largely resolved in 2015 when Danish regulations prohibited fishing within multiple SAs on a single fishing trip (ICES 2023). Discards and bycatch of sandeel are thought to be negligible (ICES 2023a) and there is no recreational fishery for sandeel. Sandeel catch in SA3r is taken by Norway, Denmark, Sweden, Germany and the UK, with Norway the main contributor (ICES 2017).</p> <p>Fishery-wide removals of sandeel are known, and A1.1 is met.</p>																																																																																																							
<table border="1"> <thead> <tr> <th>Year</th> <th>Area 1r</th> <th>Area 2r</th> <th>Area 3r</th> <th>Area 4</th> <th>Area 5r</th> <th>Area 6</th> <th>Area 7r</th> <th>All</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>214787</td> <td>48172</td> <td>9838</td> <td>5119</td> <td>0</td> <td>72</td> <td>0</td> <td>277989</td> </tr> <tr> <td>2014</td> <td>99059</td> <td>64707</td> <td>95426</td> <td>4505</td> <td>0</td> <td>65</td> <td>0</td> <td>263762</td> </tr> <tr> <td>2015</td> <td>162861</td> <td>39492</td> <td>104607</td> <td>4736</td> <td>0</td> <td>198</td> <td>0</td> <td>311894</td> </tr> <tr> <td>2016</td> <td>15407</td> <td>9569</td> <td>44074</td> <td>6232</td> <td>0</td> <td>123</td> <td>0</td> <td>75405</td> </tr> <tr> <td>2017</td> <td>242069</td> <td>141314</td> <td>115642</td> <td>18474</td> <td>0</td> <td>0</td> <td>0</td> <td>517499</td> </tr> <tr> <td>2018</td> <td>131898</td> <td>20240</td> <td>75143</td> <td>42298</td> <td>0</td> <td>0</td> <td>0</td> <td>269579</td> </tr> <tr> <td>2019</td> <td>86723</td> <td>5151</td> <td>136901</td> <td>6666</td> <td>0</td> <td>96</td> <td>0</td> <td>235537</td> </tr> <tr> <td>2020</td> <td>108944</td> <td>70198</td> <td>247411</td> <td>20116</td> <td>0</td> <td>97</td> <td>0</td> <td>446765</td> </tr> <tr> <td>2021</td> <td>17082</td> <td>4146</td> <td>157524</td> <td>53765</td> <td>0</td> <td>93</td> <td>0</td> <td>232610</td> </tr> <tr> <td>2022</td> <td>5156</td> <td>71569</td> <td>83964</td> <td>5507</td> <td>0</td> <td>42</td> <td>0</td> <td>166238</td> </tr> </tbody> </table>					Year	Area 1r	Area 2r	Area 3r	Area 4	Area 5r	Area 6	Area 7r	All	2013	214787	48172	9838	5119	0	72	0	277989	2014	99059	64707	95426	4505	0	65	0	263762	2015	162861	39492	104607	4736	0	198	0	311894	2016	15407	9569	44074	6232	0	123	0	75405	2017	242069	141314	115642	18474	0	0	0	517499	2018	131898	20240	75143	42298	0	0	0	269579	2019	86723	5151	136901	6666	0	96	0	235537	2020	108944	70198	247411	20116	0	97	0	446765	2021	17082	4146	157524	53765	0	93	0	232610	2022	5156	71569	83964	5507	0	42	0	166238
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Sandeel landings by Sandeel Area, 2013 – 2022. All weights in tonnes (ICES 2023)																																																																																																							
<b>A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.</b>																																																																																																							
<p>A range of additional data are collected to support the stock assessment and fishery management processes. Catch data is broken down by SA, as demonstrated in the table above, but also by numbers-at-age and weight-at-age. CPUE estimates are also available. Catch sampling is conducted by scientists, but also by vessels (ICES 2017). Denmark conducts an annual dredge survey in December, the results of which are used to estimate, abundance, maturity-at-age, and natural mortality rates. In SA3r Norway also conducts an annual acoustic survey which provides abundance estimates for each of the Norwegian management areas (ICES 2017). The ICES Working Group responsible for the ICES assessment of the stock (the Herring Assessment Working Group, HAWG) reports on the quality of the stock assessment, and has not raised any concerns over the completeness of data; in fact, the most recent HAWG report notes that “the quality of the present assessment has improved compared to the combined assessment for the whole of the North Sea previously presented by ICES before 2010” (ICES 2023). The Norwegian management areas are also assessed by the Norwegian Institute for Marine Research (IMR).</p> <p>Sufficient additional information is collected to enable a reliable estimate of the status of the stock to be generated, and A1.2 is met.</p>																																																																																																							
<b>References</b>																																																																																																							

ICES (2017) Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 3 (SA3). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623171.v1>

ICES (2023). Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 5:23. <https://doi.org/10.17895/ices.pub.22182034>

ICES (2023a). Sandeel (*Ammodytes* spp.) in divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.3r, <https://doi.org/10.17895/ices.advice.21815184>

Links

A2 Stock Assessment - Minimum Requirements		
A2.1	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	PASS
A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	PASS
A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	PASS
A2.4	The assessment is subject to internal or external peer review.	PASS
A2.5	The assessment is made publicly available.	PASS
<b>Clause outcome:</b>		PASS

[SA3r]

**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.**

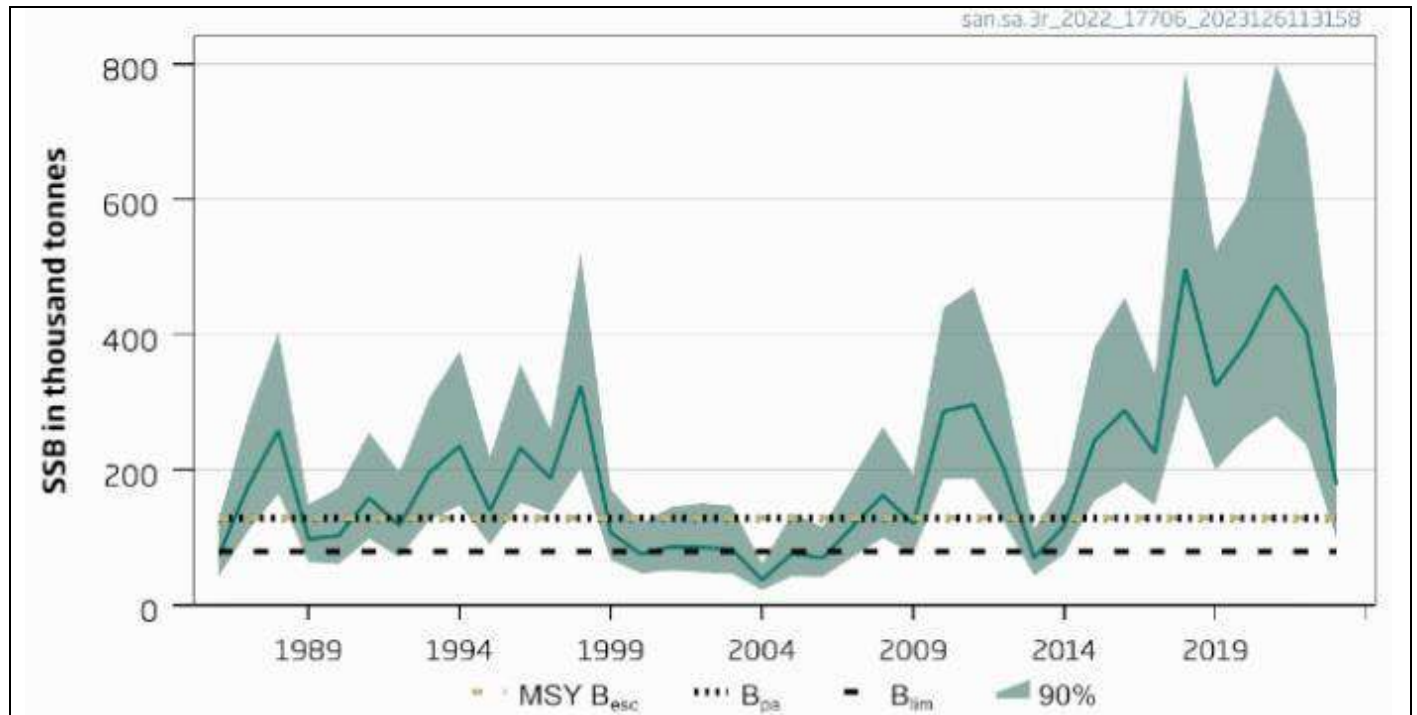
Sandeel in SA3r is subject to an annual stock assessment conducted by the ICES HAWG. The most recent assessment was carried out in 2022/23, with the results and resulting catch advice published in February 2023 (ICES 2023). The assessment was an analytical age-based model with half-yearly time-steps, incorporating the acoustic survey index; the December dredge survey carried out by Denmark; total international catch and fishing effort; annual natural mortality estimates; maturity-at-age estimated from surveys; and age frequency estimates from catch sampling. Discards and bycatch are considered negligible, and there is no recreational fishery (ICES 2023). The assessment takes into account the biological characteristics of the species, as demonstrated by the stock annex which describes the life history and ecological role of sandeel in detail (ICES 2017).

An annual stock assessment is conducted and considers all fishery removals and the biological characteristics of the species, and A2.1 is met.

**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

Target and limit reference points have been formally established by ICES for sandeel in SA 3r. The target reference points  $MSY_{B_{escapement}}$  and  $B_{pa}$  have been set at 129,000t. The limit reference point  $B_{lim}$  is set at 80,000t. The 2023 stock assessment produced an estimated SSB for 2023 of 178,439t, above both the target and limit reference points. The catch advice also states that “spawning-stock size is above  $MSY_{B_{escapement}}$ ,  $B_{pa}$ , and  $B_{lim}$ ” (ICES 2023).

The stock assessment provides a clear indication of the status of the stock relative to target and limit reference points and A2.2 is met.



Spawning Stock Biomass (SSB) of sandeel in SA3r relative to current reference points. Green area represents the 90% Confidence Interval (ICES 2023).

**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**

The annual ICES catch advice clearly sets out a specific recommendation for the maximum appropriate catch in the following year. The 2023 advice states that “when the MSY approach is applied, catches in 2023 should be no more than 30,570 tonnes” (ICES 2023). The catch advice also provides alternative catch scenarios to project the likely impacts of other levels of total catch in the coming year, as shown on the table below.

The assessment provides a clear indication of the volume of fishery removals which is appropriate for the current stock status, and A2.3 is met.

Sandeel in SA 3r, annual catch scenarios. All weights in tonnes (ICES 2023).

Basis	Total catch (2023)	F <sub>total</sub> (2023)	SSB (2024)	% SSB change *	% TAC change **	% advice change ***
<b>ICES advice basis</b>						
SSB <sub>2024</sub> ≥ MSY B <sub>escapement</sub> = B <sub>pa</sub>	30 570	0.133	129 000	-28	-70	-64
<b>Other scenarios</b>						
F = 0	0	0	146 667	-18	-100	-100
SSB <sub>2024</sub> = B <sub>lim</sub>	118 388	0.65	80 000	-55	16	38
F = F <sub>2022</sub>	68 521	0.33	107 456	-40	-33	-20

\* SSB<sub>2024</sub> relative to SSB<sub>2023</sub>.

\*\* Catch scenario for 2023 relative to the TAC in 2022 (101 845 t = the sum of the Norwegian [95 000 t], EU-UK TAC [6845 t]).

\*\*\* Advice value 2023 relative to advice value 2022 (85 559 t).

**A2.4 The assessment is subject to internal or external peer review.**

ICES advice is produced according to ten Advice Principles. Principle 7 is that “To ensure that the best available, credible science has been used and to confirm that the analysis provides a sound basis for advice, all analyses and methods are peer reviewed by at least two independent reviewers. For recurrent advice, the review is conducted through a benchmark process; for special requests through one-off reviews” (ICES 2023a). In practice, this means that individual ICES documents are subjected to peer

review, but also that recurrent advice, such as the stock assessments and catch recommendations for sandeel, are subjected to periodic benchmarking to ensure the methodologies underpinning them remain appropriate. The stock assessments for all four Sandeel Areas covered by this report were most recently benchmarked in 2016 (ICES 2017a), although SA3 was also subject to an “inter-benchmarking” in 2020 (ICES 2023).

The stock assessment is subject to peer review, and A2.4 is met.

**A2.5 The assessment is made publicly available.**

Details of the stock assessment process, the data used to carry it out, and the results of the stock assessment are all made publicly available on the ICES website. All documentation used to complete this MT assessment report was sourced online without needing to be requested. A2.5 is met.

**References**

ICES (2017) Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 3 (SA3). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623171.v1>

ICES (2017a). Report of the Benchmark Workshop on Sandeel (WKSand). ICES Expert Group reports (until 2018). Report. <https://doi.org/10.17895/ices.pub.7718>

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.3r, <https://doi.org/10.17895/ices.advice.21815184>

ICES (2023a). Guide to ICES advisory framework and principles. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, section 1.1. <https://doi.org/10.17895/ices.advice.22116890>

**Links**

A3 Harvest Strategy - Minimum Requirements		
<b>A3.1</b>	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
<b>A3.2</b>	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	PASS
<b>A3.3</b>	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	PASS
<b>Clause outcome:</b>		PASS

**[SA3r]**

**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**

Sandeel in the North Sea are subject to Sandeel-Area-specific Total Annual Catch (TAC) limits. Total international TACs and are set via negotiation between delegations from the fishery management administrations managing the fishery. The EU share of the 2023 sandeel TAC in SA3r has been agreed with the UK to be 97.03% of the total SA3r TAC (excluding Norway) of 2,446t (UK Gov 2023). The EU share is further subdivided between member states via Council Regulation. At the time of writing has not been agreed for the 2023 season; however, for the 2022 fishing season, the EU sandeel TAC for Sandeel Area 3r was set at 6,845t, of which 6,404t was allocated to Denmark (Council Regulation (EU) 2022/515). The Norwegian TAC, set separately according to advice provided by the Norwegian IMR, was 95,000t.

In the EU, TACs are monitored and enforced by the fishery management administrations of member states, supported by the reporting requirements and landings obligation set out in A1.1.



An important aspect of the sandeel TAC is that within the EU component of the fishery, up to 10% of the annual quota for a given Sandeel Area can be ‘banked’ and used the following year, within the same Area. On occasions where one year has a substantially lower quota than the previous this can lead to substantially higher landings than have been deemed by ICES to be appropriate. However, this is less of an issue in SA3r than the other SAs because the EU component of the fishery is relatively small compared to the Norwegian catch, which is not transferable between years.

Overall the assessor considers this to be covered by clause A3.2 and A3.3, and therefore that the existence and enforcement of quotas in EU, UK and Norwegian waters means A3.1 is met.

**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**

Total fishery removals of this species do sometimes exceed the ICES advice; however, as there are two organisations (ICES and IMR) providing catch advice on separate bases the situation is more complex than in the other SAs. Total international landings exceeded the ICES advice in 2017, 2019, and 2020; in 2017 and 2020 the advice was exceeded by more than 10%. However, the Norwegian component of the quota is set in line with advice provided by the IMR, based on a preliminary, conservative quota updated mid-season as a result of the annual in-year sandeel research cruise (see, eg, Fishing Daily 2022).

It can therefore be argued that a more appropriate recommendation against which to compare the total catch is the Norwegian advice. By this standard the catch exceeded the recommendation in 2018, 2019 and 2021. In none of these years was the advice exceeded by more than 10%, and at all times the sandeel biomass in SA3r was estimated to be above the target reference point (ICES 2023).

Catch has not exceeded the scientific advice by more than 10% in recent years, and biomass has remained above the target reference point for an extended period. For these reasons, A3.2 is met

Sandeel in SA3r, history of ICES advice, agreed TAC, and ICES estimates of catch since 2017. All weights in tonnes (ICES 2023).

Year	ICES advice	Catch corresponding to advice	EU zone & UK TAC	Norwegian zone TAC	ICES catch SA 3	ICES catch SA 3r	Total ICES catch (SAs 1r–7r)
2017 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 74176	0	120000		115642	517499
2018 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 108365	8669	70000		75143	269579
2019 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 133610	10689	125000		136901	235537
2020 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 155072	12406	250000		247411	446765
2021 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 161335	12907	145000		157524	232610
2022 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 85559	6845	95000		83964 <sup>^^</sup>	166238 <sup>^^</sup>
2023 <sup>^</sup>	MSY approach: allow for sufficient stock (MSY B <sub>escapement</sub> ) to remain for successful recruitment	≤ 30570					

\* Advice for Subarea 4, excluding the Shetland area.

\*\* Set for EU waters of divisions 2.a and 3.a, and Subarea 4.

\*\*\* TAC for EU fisheries set at 10 000 t; seasonal effort limitations set for Norwegian fisheries.

<sup>^</sup> ICES statistical rectangles included in this sandeel area have changed with the 2017 assessment and advice.

<sup>^^</sup> Preliminary.



**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

Neither ICES nor the IMR has recommended the fishery be entirely closed in recent years. Quota recommendations produced by both organisations have fluctuated according to the status of the stock, and both the EU TAC and Norwegian TAC has been set broadly in line with one of the two recommendations. The quota transfer rule – allowing 10% of EU quota to be carried over from one season to next – has the potential to cause the same issues as have been identified in the other sandeel management areas; however, it would be expected to cause less of an issue in SA3r, where the EU component of the catch is relatively small compared to Norway.

As there is currently no evidence that the fishery in this Sandeel Area would not be closed, the fishery is considered to Pass this clause A3.3. Future assessments should examine the response of managers should the stock ever fall below the limit reference point.

**References**

Council Regulation (EU) 2022/515 of 31 March 2022, amending Regulation (EU) 2022/109 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters.

Fishing Daily (2022). Norwegian sandeel quota for 2022 finalised at 95,000t. May 16, 2022. <https://thefishingdaily.com/latest-news/norwegian-sandeel-quota-for-2022-finalised-at-95000-tonnes/>

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.3r, <https://doi.org/10.17895/ices.advice.21815184>

UK Government (2023). Written record of fisheries consultations from 9 to 13 March 2023 between the United Kingdom and the European Union about sandeels in 2023. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1143911/Written Record of fisheries consultations from 9 to 13 March 2023 between the United Kingdom and the European Union about sandeels in 2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1143911/Written_Record_of_fisheries_consultations_from_9_to_13_March_2023_between_the_United_Kingdom_and_the_European_Union_about_sandeels_in_2023.pdf)

Standard clause 1.3.2.1.3

A4 Stock Status – Minimum Requirements	
A4.1	<p>The stock is at or above the target reference point, OR IF NOT:</p> <p>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p>
<b>Clause outcome:</b>	
PASS	
<b>[SA3r]</b>	
<b>A4.1 The stock is at or above the target reference point, OR IF NOT:</b>	
<b>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</b>	
<b>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</b>	
As noted in A2, the most recent ICES catch advice report includes the statement that “spawning-stock size is above MSY Bescapement, B <sub>pa</sub> , and B <sub>lim</sub> ” (ICES 2023). The fishery therefore meets the first component of this clause and A4.1 is met.	

**References**

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.3r, <https://doi.org/10.17895/ices.advice.21815184>

**Links**

<b>MarinTrust Standard clause</b>	<b>1.3.2.1.4</b>
<b>FAO CCRF</b>	<b>7.2.1, 7.2.2 (e)</b>
<b>GSSI</b>	<b>D6 01</b>

Species Name		Sandeel in Sandeel Area 4																																																																																																				
A1	Data Collection - Minimum Requirements																																																																																																					
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	A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.	PASS																																																																																																			
Clause outcome:			PASS																																																																																																			
<p><b>A1.1 Landings data are collected such that the fishery-wide removals of this species are known.</b></p> <p>Catch and landings data are collected for the entire sandeel fishery across all Sandeel Areas (SAs). Historically there has been misreporting between the SAs, but this was largely resolved in 2015 when Danish regulations prohibited fishing within multiple SAs on a single fishing trip (ICES 2023). Discards and bycatch of sandeel are thought to be negligible (ICES 2023a) and there is no recreational fishery for sandeel. Denmark contributes around 73% of sandeel landings across all SAs (ICES 2017), with the remainder caught by Norway, Sweden, Germany and the UK.</p> <p>Fishery-wide removals of sandeel are known, and A1.1 is met.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area 1r</th> <th>Area 2r</th> <th>Area 3r</th> <th>Area 4</th> <th>Area 5r</th> <th>Area 6</th> <th>Area 7r</th> <th>All</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>214787</td> <td>48172</td> <td>9838</td> <td>5119</td> <td>0</td> <td>72</td> <td>0</td> <td>277989</td> </tr> <tr> <td>2014</td> <td>99059</td> <td>64707</td> <td>95426</td> <td>4505</td> <td>0</td> <td>65</td> <td>0</td> <td>263762</td> </tr> <tr> <td>2015</td> <td>162861</td> <td>39492</td> <td>104607</td> <td>4736</td> <td>0</td> <td>198</td> <td>0</td> <td>311894</td> </tr> <tr> <td>2016</td> <td>15407</td> <td>9569</td> <td>44074</td> <td>6232</td> <td>0</td> <td>123</td> <td>0</td> <td>75405</td> </tr> <tr> <td>2017</td> <td>242069</td> <td>141314</td> <td>115642</td> <td>18474</td> <td>0</td> <td>0</td> <td>0</td> <td>517499</td> </tr> <tr> <td>2018</td> <td>131898</td> <td>20240</td> <td>75143</td> <td>42298</td> <td>0</td> <td>0</td> <td>0</td> <td>269579</td> </tr> <tr> <td>2019</td> <td>86723</td> <td>5151</td> <td>136901</td> <td>6666</td> <td>0</td> <td>96</td> <td>0</td> <td>235537</td> </tr> <tr> <td>2020</td> <td>108944</td> <td>70198</td> <td>247411</td> <td>20116</td> <td>0</td> <td>97</td> <td>0</td> <td>446765</td> </tr> <tr> <td>2021</td> <td>17082</td> <td>4146</td> <td>157524</td> <td>53765</td> <td>0</td> <td>93</td> <td>0</td> <td>232610</td> </tr> <tr> <td>2022</td> <td>5156</td> <td>71569</td> <td>83964</td> <td>5507</td> <td>0</td> <td>42</td> <td>0</td> <td>166238</td> </tr> </tbody> </table> <p>Sandeel landings by Sandeel Area, 2013 – 2022. All weights in tonnes (ICES 2023)</p> <p><b>A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.</b></p> <p>A range of additional data are collected to support the stock assessment and fishery management processes. Catch data is broken down by SA, as demonstrated in the table above, but also by numbers-at-age and weight-at-age. CPUE estimates are also available. Catch sampling is conducted by scientists, but also by vessels (ICES 2017). Denmark conducts an annual dredge survey in December, the results of which are used to estimate, abundance, maturity-at-age, and natural mortality rates. The ICES Working Group responsible for the assessment of the stock (the Herring Assessment Working Group, HAWG) reports on the quality of the stock assessment, and has not raised any concerns over the completeness of data; in fact, the most recent HAWG report notes that “the quality of the present assessment has improved compared to the combined assessment for the whole of the North Sea previously presented by ICES before 2010” (ICES 2023).</p> <p>Sufficient additional information is collected to enable a reliable estimate of the status of the stock to be generated, and A1.2 is met.</p> <p><b>References</b></p> <p>ICES (2017). Stock Annex: Sandeel (<i>Ammodytes</i> spp.) in divisions 4.a and 4.b, Sandeel Area 4 (northern and central North Sea). ICES Stock Annexes. Report. <a href="https://doi.org/10.17895/ices.pub.18623186.v1">https://doi.org/10.17895/ices.pub.18623186.v1</a></p>				Year	Area 1r	Area 2r	Area 3r	Area 4	Area 5r	Area 6	Area 7r	All	2013	214787	48172	9838	5119	0	72	0	277989	2014	99059	64707	95426	4505	0	65	0	263762	2015	162861	39492	104607	4736	0	198	0	311894	2016	15407	9569	44074	6232	0	123	0	75405	2017	242069	141314	115642	18474	0	0	0	517499	2018	131898	20240	75143	42298	0	0	0	269579	2019	86723	5151	136901	6666	0	96	0	235537	2020	108944	70198	247411	20116	0	97	0	446765	2021	17082	4146	157524	53765	0	93	0	232610	2022	5156	71569	83964	5507	0	42	0	166238
Year	Area 1r	Area 2r	Area 3r	Area 4	Area 5r	Area 6	Area 7r	All																																																																																														
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ICES (2023). Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 5:23.  
<https://doi.org/10.17895/ices.pub.22182034>

ICES (2023a). Sandeel (*Ammodytes* spp.) in divisions 4.a–b, Sandeel Area 4 (northern and central North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.4, <https://doi.org/10.17895/ices.advice.21815193>

**Links**

A2 Stock Assessment - Minimum Requirements		
A2.1	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	PASS
A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	PASS
A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	PASS
A2.4	The assessment is subject to internal or external peer review.	PASS
A2.5	The assessment is made publicly available.	PASS
<b>Clause outcome:</b>		PASS

**[SA4]**

**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.**

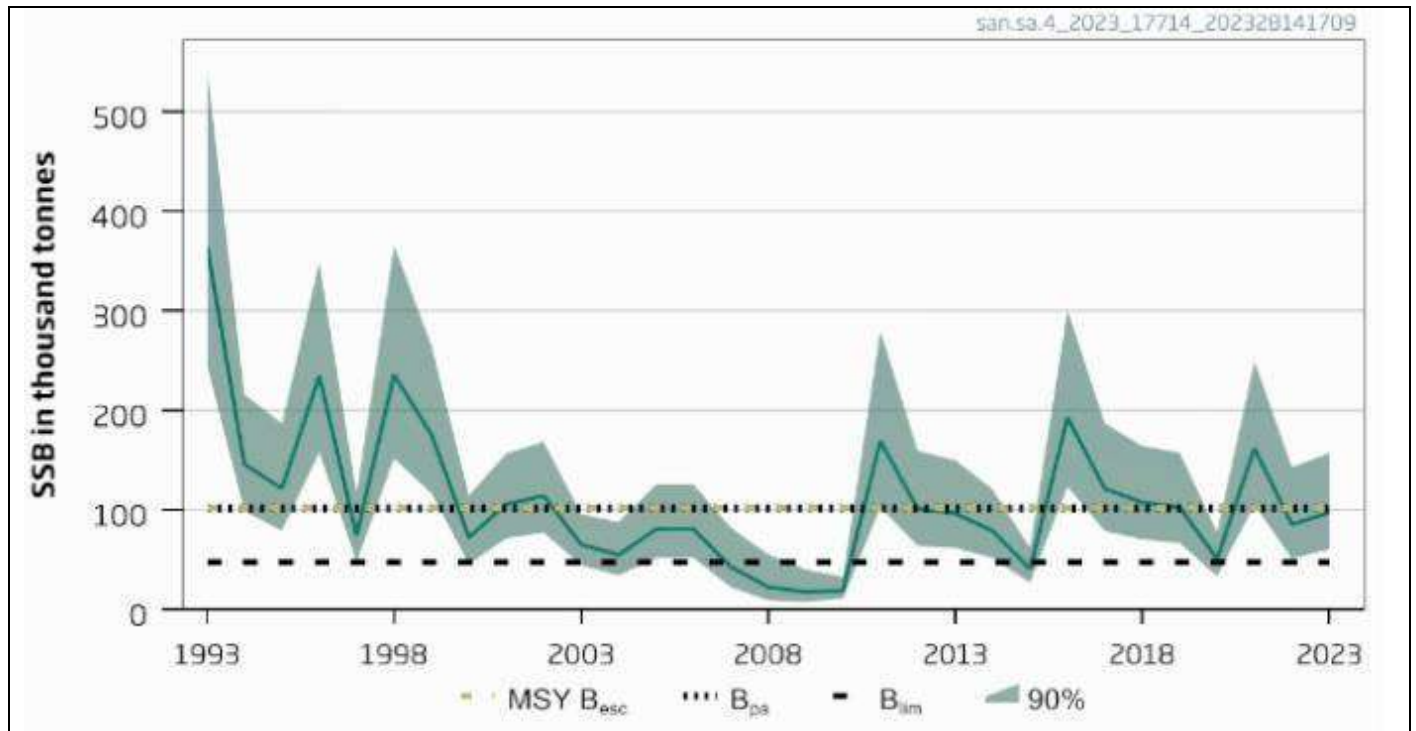
Sandeel in SA4 is subject to an annual stock assessment conducted by the ICES HAWG. The most recent assessment was carried out in 2022/23, with the results and resulting catch advice published in February 2023 (ICES 2023). The assessment was an analytical age-based model with half-yearly time-steps, incorporating the Danish dredge survey; total international catch and fishing effort; annual natural mortality estimates; maturity-at-age estimated from surveys; and age frequency estimates from catch sampling. Discards and bycatch are considered negligible, and there is no recreational fishery (ICES 2023). The assessment takes into account the biological characteristics of the species, as demonstrated by the stock annex which describes the life history and ecological role of sandeel in detail (ICES 2017).

An annual stock assessment is conducted and considers all fishery removals and the biological characteristics of the species, and A2.1 is met.

**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

Target and limit reference points have been formally established by ICES for sandeel in SA4. The target reference points  $MSY_{B_{escapement}}$  and  $B_{pa}$  have been set at 102,000t. The limit reference point  $B_{lim}$  is set at 48,000t. The 2023 stock assessment produced an estimated SSB for 2023 of 97,538t, between the target and limit reference points. The catch advice also states that “spawning-stock size is below  $MSY_{B_{escapement}}$  and between  $B_{pa}$  and  $B_{lim}$ ” (ICES 2023).

The stock assessment provides a clear indication of the status of the stock relative to target and limit reference points and A2.2 is met.



Spawning Stock Biomass (SSB) of sandeel in SA4 relative to current reference points. Green area represents the 90% Confidence Interval (ICES 2023).

**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**

The annual ICES catch advice clearly sets out a specific recommendation for the maximum appropriate catch in the following year. The 2023 advice states that “when the MSY approach is applied, catches in 2023 should be no more than 35,020 tonnes” (ICES 2023). The catch advice also provides alternative catch scenarios to project the likely impacts of other levels of total catch in the coming year, as shown on the table below.

The assessment provides a clear indication of the volume of fishery removals which is appropriate for the current stock status, and A2.3 is met.

Sandeel in SA4, annual catch scenarios. All weights in tonnes (ICES 2023).

Basis	Total catch (2023)	F <sub>total</sub> (2023)	SSB (2024)	% SSB change *	% TAC change **	% advice change ***
<b>ICES advice basis</b>						
SSB(2024) ≥ MSY B <sub>escapement</sub> with F <sub>cap</sub>	35 020	0.15	114 743	18	538	-
<b>Other scenarios</b>						
F = 0	0	0	133 616	37	-100	-
SSB(2024) = MSY B <sub>escapement</sub> = B <sub>pa</sub>	59 252	0.27	102 000	5	979	-
SSB(2024) = B <sub>lim</sub>	170 570	1.10	48 000	-51	3007	-
F = F <sub>2022</sub>	8947	0.036	128 747	32	32	-

\* SSB<sub>2024</sub> relative to SSB<sub>2023</sub>.

\*\* Catch scenario for 2023 relative to the TAC in 2022 (5000 t).

\*\*\* Advice value 2023 relative to advice value 2022 (0 t).

**A2.4 The assessment is subject to internal or external peer review.**

ICES advice is produced according to ten Advice Principles. Principle 7 is that “To ensure that the best available, credible science has been used and to confirm that the analysis provides a sound basis for advice, all analyses and methods are peer reviewed



by at least two independent reviewers. For recurrent advice, the review is conducted through a benchmark process; for special requests through one-off reviews” (ICES 2023a). In practice, this means that individual ICES documents are subjected to peer review, but also that recurrent advice, such as the stock assessments and catch recommendations for sandeel, are subjected to periodic benchmarking to ensure the methodologies underpinning them remain appropriate. The stock assessments for all four Sandeel Areas covered by this report were most recently benchmarked in 2016 (ICES 2017a).

The stock assessment is subject to peer review, and A2.4 is met.

**A2.5 The assessment is made publicly available.**

Details of the stock assessment process, the data used to carry it out, and the results of the stock assessment are all made publicly available on the ICES website. All documentation used to complete this MT assessment report was sourced online without needing to be requested. A2.5 is met.

**References**

ICES (2017). Stock Annex: Sandeel (*Ammodytes* spp.) in divisions 4.a and 4.b, Sandeel Area 4 (northern and central North Sea). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623186.v1>

ICES (2017a). Report of the Benchmark Workshop on Sandeel (WKSand). ICES Expert Group reports (until 2018). Report. <https://doi.org/10.17895/ices.pub.7718>

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.a–b, Sandeel Area 4 (northern and central North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.4, <https://doi.org/10.17895/ices.advice.21815193>

ICES (2023a). Guide to ICES advisory framework and principles. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, section 1.1. <https://doi.org/10.17895/ices.advice.22116890>

**Links**

<b>A3</b>	<b>Harvest Strategy - Minimum Requirements</b>		
	<b>A3.1</b>	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
	<b>A3.2</b>	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	PASS
	<b>A3.3</b>	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	PASS
<b>Clause outcome:</b>			PASS

**[SA4]**

**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**

Sandeel in the North Sea are subject to Sandeel-Area-specific Total Annual Catch (TAC) limits. Total international TACs and are set via negotiation between delegations from the fishery management administrations managing the fishery. The EU share of the 2023 sandeel TAC in SA4 has been agreed with the UK to be 97.03% of the total SA4 TAC of 33,696t (UK Gov 2023). The EU share is further subdivided between member states via Council Regulation. At the time of writing has not been agreed for the 2023 season.

In the EU, TACs are monitored and enforced by the fishery management administrations of member states, supported by the reporting requirements and landings obligation set out in A1.1.

An important aspect of the sandeel TAC is that up to 10% of the annual quota for a given Sandeel Area can be ‘banked’ and used the following year, within the same Area. On occasions where one year has a substantially lower quota than the previous this

can lead to substantially higher landings than have been deemed by ICES to be appropriate; however, catch records appear to indicate this has been less of an issue in SA4 than the other SAs.

Overall, although the TAC transfer allowance can cause issues in specific years in some SAs, the assessor considers this to be covered by clause A3.2 and A3.3, and therefore that the existence and enforcement of the TAC means A3.1 is met.

**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**

Total fishery removals of this species do sometimes exceed the ICES advice. Since 2018, TACs have been set in line with or below the advice; however in 2019, landings exceeded the TAC by substantially more than 10% (6,666t against a TAC of 5,000t) and in 2022 landings are preliminarily estimated to have exceeded the TAC by almost exactly 10%. Excess catch has been less of an issue historically in SA4 than in other SAs; prior to 2018, the advice was only exceeded in 2016, and then by less than 10%.

Landings have exceeded the scientific advice in two of the last 5 years. The excess catches in 2019 and 2022 were not as pronounced as in other SAs. ICES notes that “The management strategy evaluation (MSE) conducted for this stock has not accounted for any interannual quota transfer arrangements for this fishery; such a practice may, therefore, not be precautionary” (ICES 2023). The assessor considers it less likely that excess catch will occur in SA4 in the future than in other SAs.

Catch has exceeded the scientific advice twice in the last five years. The excess has not been as extreme as in other SAs. In 2019 the excess catch was taken while sandeel biomass was estimated to be above the target reference point, and in 2022 biomass was above the limit reference point. Taken together, the assessor considers this SA to meet the requirements of A3.2; however, surveillance assessments should consider whether excess catch has become as significant an issue in SA4 as in other SAs.

Sandeel in SA4, history of ICES advice, agreed TAC, and ICES estimates of catch since 2018. All weights in tonnes (ICES 2023).

Year	ICES advice	Catch corresponding to advice	TAC	ICES catch SA 4	Total ICES catch (SAs 1r–7r)
2018	MSY approach: allow for sufficient stock (MSY $B_{\text{escapement}}$ ) to remain for successful recruitment	≤ 59345	59345	42298	269579
2019	Catches for monitoring purposes should not exceed 5000 tonnes	≤ 5000	5000	6666	235537
2020	MSY approach: allow for sufficient stock (MSY $B_{\text{escapement}}$ ) to remain for successful recruitment	≤ 39611	39611	20116	446765
2021	MSY approach: allow for sufficient stock (MSY $B_{\text{escapement}}$ ) to remain for successful recruitment	≤ 77512	68989	51448	232610
2022	MSY approach: zero catch	0	5000	5507***	166238***
2023	MSY approach: allow for sufficient stock (MSY $B_{\text{escapement}}$ ) to remain for successful recruitment	≤ 35020			

\* Advice for Subarea 4, excluding the Shetland area.

\*\* Set for EU waters of divisions 2.a and 3.a, and Subarea 4.

\*\*\* Preliminary.

**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

ICES has recommended that a quota of 5,000t specifically for research purposes should be set in 2019 and 2022. In both years the TAC was set in line with this advice, but excess catch was taken (see above). Despite the issues with quota transfer potentially preventing the ability of managers to prohibit catch, this does not appear to occur in practice in SA4 to the same extent as other

SAs. Therefore the assessor considers it reasonable to assume that closures in future would be similarly effective, and A3.3 is met.

**References**

Council Regulation (EU) 2022/515 of 31 March 2022, amending Regulation (EU) 2022/109 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters.

ICES (2023). Sandeel (*Ammodytes* spp.) in divisions 4.a–b, Sandeel Area 4 (northern and central North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.4, <https://doi.org/10.17895/ices.advice.21815193>

UK Government (2023). Written record of fisheries consultations from 9 to 13 March 2023 between the United Kingdom and the European Union about sandeels in 2023.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1143911/Written\\_Record\\_of\\_fisheries\\_consultations\\_from\\_9\\_to\\_13\\_March\\_2023\\_between\\_the\\_United\\_Kingdom\\_and\\_the\\_European\\_Union\\_about\\_sandeels\\_in\\_2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1143911/Written_Record_of_fisheries_consultations_from_9_to_13_March_2023_between_the_United_Kingdom_and_the_European_Union_about_sandeels_in_2023.pdf)

Standard clause 1.3.2.1.3

A4 Stock Status – Minimum Requirements	
<b>A4.1</b>	<p>The stock is at or above the target reference point, OR IF NOT:</p> <p>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p>
<b>Clause outcome:</b>	
PASS	
<b>[SA4]</b>	
<b>A4.1 The stock is at or above the target reference point, OR IF NOT:</b>	
<b>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</b>	
<b>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</b>	
<p>As noted in A2, the most recent ICES catch advice report includes the statement that “spawning-stock size is below MSY <math>B_{escapement}</math>, and between <math>B_{pa}</math>, and <math>B_{lim}</math>” (ICES 2023). The fishery therefore does not meet the first component of this clause.</p> <p>As the stock is above the limit reference or proxy, the second statement is applicable. There is evidence that a fall below the limit reference point would lead to an ICES catch recommendation of 5,000t for research purposes only. As A3.3 is met, the assessor considers the fishery to also meet the component of this clause, and A4.1 is met.</p>	
<b>References</b>	
ICES (2023). Sandeel ( <i>Ammodytes</i> spp.) in divisions 4.a–b, Sandeel Area 4 (northern and central North Sea). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, san.sa.4, <a href="https://doi.org/10.17895/ices.advice.21815193">https://doi.org/10.17895/ices.advice.21815193</a>	
<b>Links</b>	
<b>MarinTrust Standard clause</b>	<b>1.3.2.1.4</b>
<b>FAO CCRF</b>	<b>7.2.1, 7.2.2 (e)</b>
<b>GSSI</b>	<b>D6 01</b>



## CATEGORY B SPECIES

Category B species are those which make up greater than 5% of landings in the applicant raw material, but which are not subject to a species-specific research and management regime sufficient to pass all Category A clauses. If there are no Category B species in the fishery under assessment, this section can be deleted.

Category B species are assessed using a risk-based approach. The following process should be completed once for each Category B species.

### If there are estimates of biomass (B), fishing mortality (F), and reference points

It is possible for a Category B species to have some biomass and fishing mortality data available. When sufficient information is present, the assessment team should use the following risk matrix to determine whether the species should be recommended for approval.

TABLE B(A) – F, B AND REFERENCE POINTS ARE AVAILABLE

<b>Biomass is above MSY / target reference point</b>	Pass	Pass	Pass	Fail	Fail
<b>Biomass is below MSY / target reference point, but above limit reference point</b>	Pass, but re-assess when fishery removals resume	Pass	Fail	Fail	Fail
<b>Biomass is below limit reference point (stock is overfished)</b>	Pass, but re-assess when fishery removals resume	Fail	Fail	Fail	Fail
<b>Biomass is significantly below limit reference point (Recruitment impaired)</b>	Fail	Fail	Fail	Fail	Fail
	<b>Fishery removals are prohibited</b>	<b>Fishing mortality is below MSY or target reference point</b>	<b>Fishing mortality is around MSY or target reference point, or below the long-term average</b>	<b>Fishing mortality is above the MSY or target reference point, or around the long-term average</b>	<b>Fishing mortality is above the limit reference point or above the long-term average (Stock is subject to overfishing)</b>



## If the biomass / fishing pressure risk assessment is not possible

Initially, the resilience of each Category B species to fishing pressure should be estimated using the American Fisheries Society procedure described in Musick, J.A. (1999). This approach is used as the resilience values for many species and stocks have been estimated by FishBase and are already available online. For details of the approach, please refer to Appendix A. Determining the resilience provides a basis for estimating the risk that fishing may pose to the long-term sustainability of the stock. Table B(b) should be used to determine whether the species should be recommended for approval.

**TABLE B(b) – NO REFERENCE POINTS AVAILABLE. B = CURRENT BIOMASS; B<sub>av</sub> = LONG-TERM AVERAGE BIOMASS; F = CURRENT FISHING MORTALITY; F<sub>av</sub> = LONG-TERM AVERAGE FISHING MORTALITY.**

<b>B &gt; B<sub>av</sub> and F &lt; F<sub>av</sub></b>	Pass	Pass	Pass	Fail
<b>B &gt; B<sub>av</sub> and F or F<sub>av</sub> unknown</b>	Pass	Pass	Fail	Fail
<b>B = B<sub>av</sub> and F &lt; F<sub>av</sub></b>	Pass	Pass	Fail	Fail
<b>B = B<sub>av</sub> and F or F<sub>av</sub> unknown</b>	Pass	Fail	Fail	Fail
<b>B &gt; B<sub>av</sub> and F &gt; F<sub>av</sub></b>	Pass	Fail	Fail	Fail
<b>B &lt; B<sub>av</sub></b>	Fail	Fail	Fail	Fail
<b>B unknown</b>	Fail	Fail	Fail	Fail
<b>Resilience</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Very Low</b>

## Assessment Results

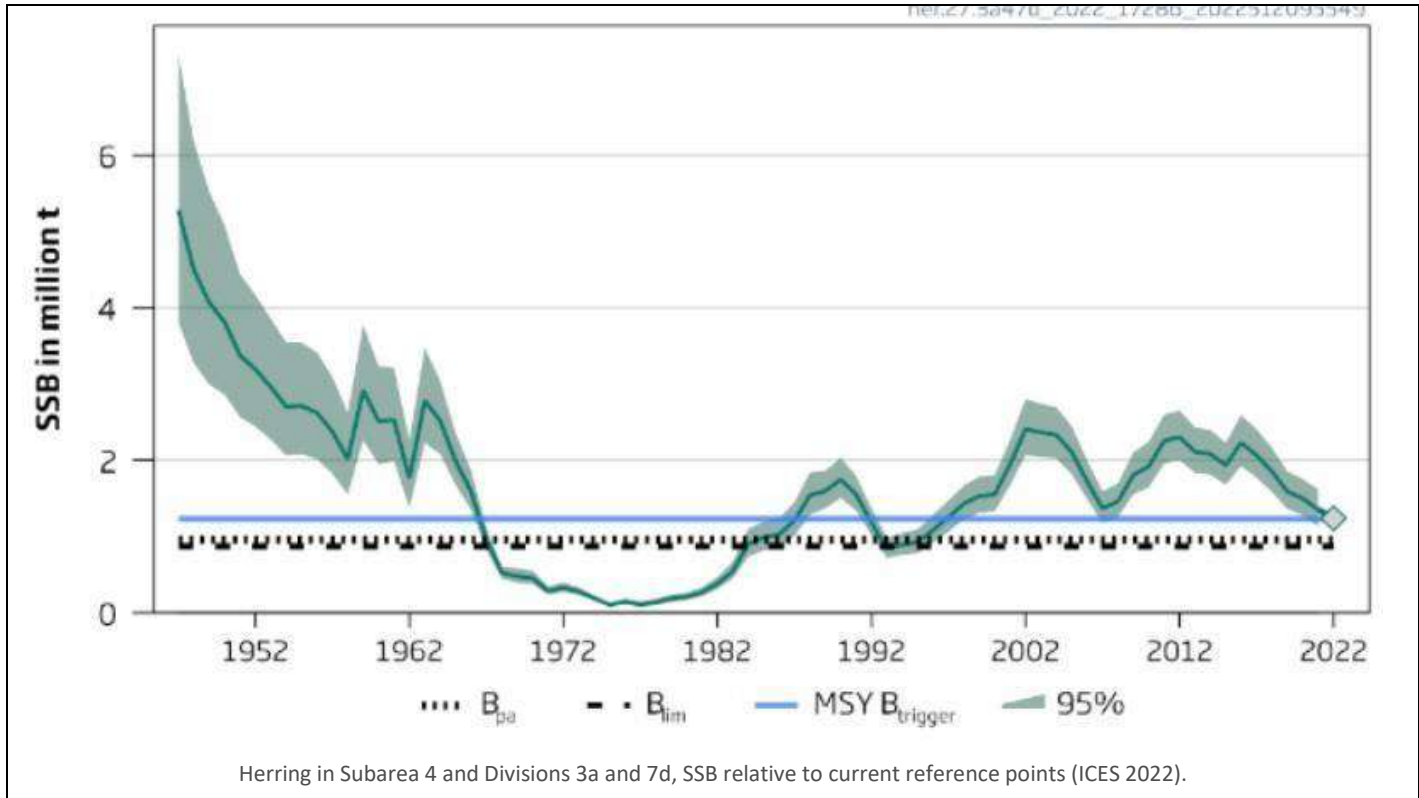
<b>Species Name</b>		n/a
<b>B1</b>	Species Name	
	Table used (Ba, Bb)	
	Outcome	
References		
Links		
MarinTrust Standard clause		1.3.2.2, 4.1.4
FAO CCRF		7.5.1
GSSI		D.5.01

## CATEGORY C SPECIES

In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment.

Clause C1 should be completed for **each** Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it may be assessed as a Category D species instead, EXCEPT if there is evidence that it is currently below the limit reference point.

<b>Species Name</b>		Herring, <i>Clupea harengus</i> , in ICES Subarea 4 & Divisions 3a and 7d (North Sea, Skagerrak and Kattegat, eastern English Channel)	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	PASS
	<b>C1.2</b>	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	PASS
			<b>Clause outcome:</b> PASS
<p><b>C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.</b></p> <p>An annual stock assessment is conducted by ICES and used to produce catch recommendations for the stock. All fishery removals for the stock are incorporated into the stock assessment, an effort assisted by mandatory catch reporting and landings obligation rules in place in the EU. Total landings of herring in Subarea 4 and Divisions 3a and 7d in 2021 were estimated to be 364,453t (ICES 2023). This total includes catch from the sandeel fisheries in the North Sea.</p> <p>All fishery removals are included and C1.1 is met.</p> <p><b>C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.</b></p> <p>The annual ICES advice includes an estimate of the status of the stock relative to established target and limit reference points. The June 2022 advice states that “Fishing pressure on the stock is below <math>F_{MSY}</math> and the spawning-stock size is above <math>MSY B_{trigger}</math>, <math>B_{pa}</math>, and <math>B_{lim}</math>” (ICES, 2022). SSB in 2022 was estimated to be 1,240,164t, against a limit reference point (<math>B_{lim}</math>) of 874,198t.</p> <p>The diagram below shows the time series of SSB estimates and demonstrates that the stock size has been above both the target and limit reference points since the early 1990s. Total annual catch is restricted via a TAC which varies according to the state of the stock, and largely in line with ICES advice.</p> <p>The results of the most recent herring stock assessment indicate that stock biomass is above the target and limit reference points, and C1.2 is met.</p>			



**References**

ICES (2022). Herring (*Clupea harengus*) in Subarea 4 and Divisions 3.a and 7.d, autumn spawners (North Sea, Skagerrak and Kattegat, eastern English Channel). In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, her.27.3a47d, <https://doi.org/10.17895/ices.advice.19447985>

**Links**

MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

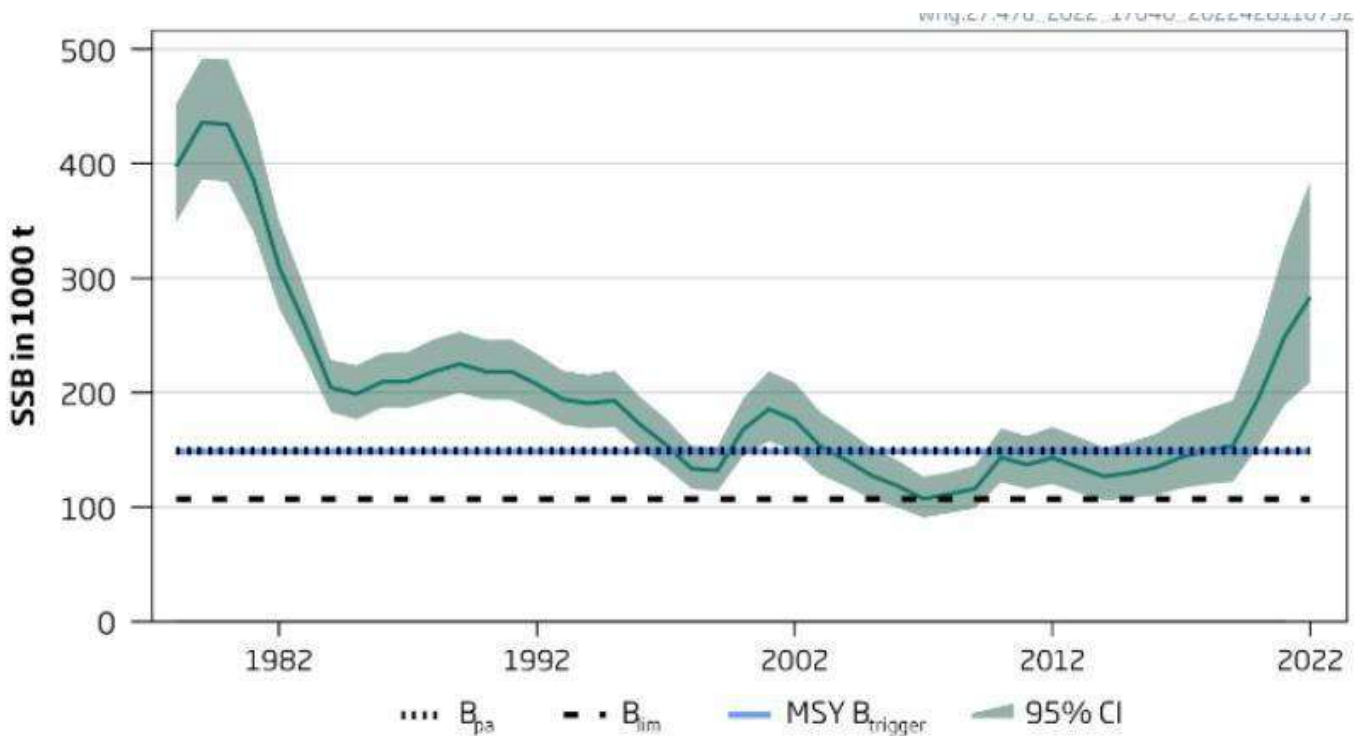
<b>Species Name</b>		Whiting, <i>Merlangius merlangus</i> , in ICES Subarea 4 (North Sea) & Division 7d (eastern English Channel)	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	PASS
	<b>C1.2</b>	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	PASS
<b>Clause outcome:</b>			PASS
<b>C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.</b>			
An annual stock assessment is conducted by ICES and used to produce catch recommendations for the stock. All fishery removals for the stock are incorporated into the stock assessment, an effort assisted by mandatory catch reporting and landings obligation rules in place in the EU. Total landings of whiting in 2021 were estimated to be 26, 141t in Subarea 4, and 6,958t in Division 7d (ICES 2022). This total includes catch from the sandeel fisheries in the North Sea.			
Fishery removals are accounted for in the stock assessment process and C1.1 is met.			

**C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.**

The annual ICES advice includes an estimate of the status of the stock relative to established target and limit reference points. The June 2022 advice states that “Fishing pressure on the stock is below  $F_{MSY}$ , and the spawning-stock size is above  $MSY B_{trigger}$ ,  $B_{pa}$ , and  $B_{lim}$ ” (ICES, 2021). SSB in 2023 was projected to be 294,175t, against a limit reference point ( $B_{lim}$ ) of 107,146t.

The graph below shows the time series of SSB estimates and demonstrates that the stock size has been above both the target and limit reference points in recent years. Total annual catch is restricted via separate TACs for Subarea 4 and Division 7d, both of which vary according to the state of the stock, and are largely in line with ICES advice.

The 2022 whiting stock assessment concluded that stock biomass is currently above both the target and limit reference points, and C1.2 is met.



Whiting in Subarea 4 and Division 7d, SSB relative to current reference points (ICES 2022).

**References**

ICES (2022). Whiting (*Merlangius merlangus*) in Subarea 4 and Division 7.d (North Sea and eastern English Channel). In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, whg.27.47d. <https://doi.org/10.17895/ices.advice.19457411>

**Links**

MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

<b>Species Name</b>		Mackerel, <i>Scomber scombrus</i> , in ICES Subareas 1-8 & 14 & Division 9a (Northeast Atlantic and adjacent waters)	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	PASS
	<b>C1.2</b>	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	PASS



**C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.**

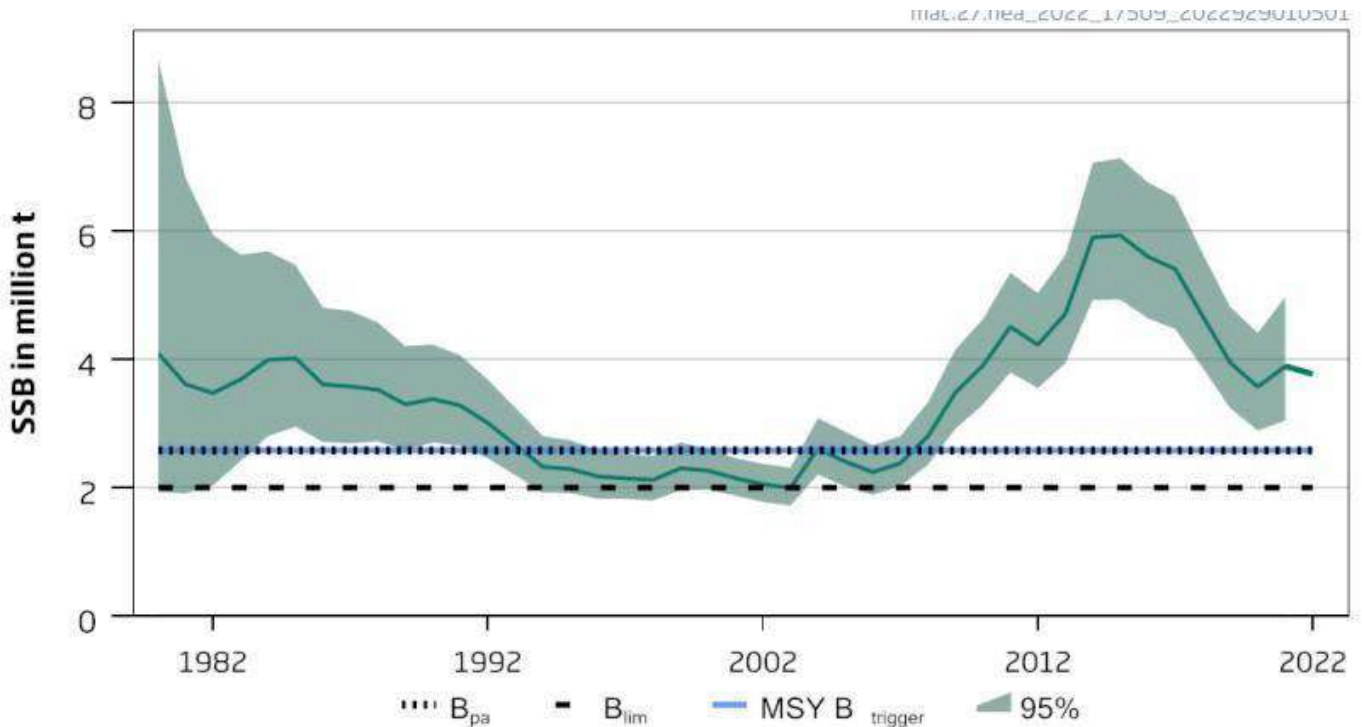
An annual stock assessment is conducted by ICES and used to produce catch recommendations for the stock. All fishery removals for the stock are incorporated into the stock assessment, an effort assisted by mandatory catch reporting and landings obligation rules in place in the EU. Total landings of mackerel in 2020 across all areas were estimated to be 1,081,540t. This total includes catch from the sandeel fisheries in the North Sea (ICES, 2022).

Fishery removals are accounted for in the stock assessment process and C1.1 is met.

**C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.**

The annual ICES advice includes an estimate of the status of the stock relative to established target and limit reference points. The September 2022 advice states that “Fishing pressure on the stock is above  $F_{MSY}$  but below  $F_{pa}$  and  $F_{lim}$ ; spawning-stock size is above  $MSY B_{trigger}$ ,  $B_{pa}$ , and  $B_{lim}$ ” (ICES, 2022). SSB in 2022 was estimated to be 3,769,326t, against a limit reference point ( $B_{lim}$ ) of 2,000,000t.

The graph below shows the time series of SSB estimates and demonstrates that the stock size has been above both the target and limit reference points since the mid-2000s. Total annual catch is restricted via TACs. There has been no agreement on total international catch since 2009, and total landings are frequently above the ICES recommended level. The failure to agree an international TAC is reflected in the long-term decline in estimated SSB since around 2015. If the decline continues in coming years, it is possible that the stock will fall below  $B_{lim}$ , in which circumstance it would no longer meet MT requirement C1.2. However, at the present time, biomass is considerably above the target and limit reference points, and C1.2 is met.



Mackerel in the Northeast Atlantic and adjacent waters, SSB relative to current reference point (ICES 2022)

**References**

ICES (2022). Mackerel (*Scomber scombrus*) in subareas 1-8 and 14 and division 9.a (the Northeast Atlantic and adjacent waters). In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, mac.27.nea. <https://doi.org/10.17895/ices.advice.7789>

**Links**

MarinTrust Standard clause

1.3.2.2

FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

## CATEGORY D SPECIES

Category D species are those which make up less than 5% of landings and are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

<b>D1</b>	<b>Species Name</b>	<b>n/a</b>		
	<b>Productivity Attribute</b>	<b>Value</b>	<b>Score</b>	
	Average age at maturity (years)			
	Average maximum age (years)			
	Fecundity (eggs/spawning)			
	Average maximum size (cm)			
	Average size at maturity (cm)			
	Reproductive strategy			
	Mean trophic level			
	<b>Average Productivity Score</b>			
	<b>Susceptibility Attribute</b>	<b>Value</b>	<b>Score</b>	
	Availability (area overlap)			
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)			
	Selectivity of gear type			
	Post-capture mortality			
	<b>Average Susceptibility Score</b>			
	<b>PSA Risk Rating (From Table D3)</b>			
	<b>Compliance rating</b>			
	<b>Further justification for susceptibility scoring (where relevant)</b>			
	<i>For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision</i>			
<b>References</b>				
<i>Standard clauses 1.3.2.2</i>				

**Table D2 - Productivity / Susceptibility attributes and scores.**

<b>Productivity attributes</b>	<b>High productivity (Low risk, score = 1)</b>	<b>Medium productivity (medium risk, score = 2)</b>	<b>Low productivity (high risk, score = 3)</b>
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level	<2.75	2.75-3.25	>3.25

<b>Susceptibility attributes</b>	<b>Low susceptibility (Low risk, score = 1)</b>	<b>Medium susceptibility (medium risk, score = 2)</b>	<b>High susceptibility (high risk, score = 3)</b>
Areal overlap (availability) Overlap of the fishing effort with the species range	<10% overlap	10-30% overlap	>30% overlap
Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability).	Medium overlap with fishing gear.	High overlap with fishing gear (high encounterability). Default score for target species
Selectivity of gear type Potential of the gear to retain species	a Individuals < size at maturity are rarely caught	a Individuals < size at maturity are regularly caught.	a Individuals < size at maturity are frequently caught
	b Individuals < size at maturity can escape or avoid gear.	b Individuals < half the size at maturity can escape or avoid gear.	b Individuals < half the size at maturity are retained by gear.
Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival.	Evidence of some released post-capture and survival.	Retained species or majority dead when released.

D3		Average Susceptibility Score		
		1 - 1.75	1.76 - 2.24	2.25 - 3
Average Productivity Score	1 - 1.75	PASS	PASS	PASS
	1.76 - 2.24	PASS	PASS	TABLE D4
	2.25 - 3	PASS	TABLE D4	TABLE D4

D4	Species Name	n/a	
<b>Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements</b>			
D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.		
D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.		
<b>Outcome:</b>			
<b>Evidence</b>			
D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.			
D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.			
<b>References</b>			
<b>Links</b>			
MarinTrust Standard clause		1.3.2.2, 4.1.4	
FAO CCRF		7.5.1	
GSSI		D.5.01	



## FURTHER IMPACTS

The three clauses in this section relate to impacts the fishery may have in other areas. A fishery must meet the minimum requirements of all three clauses before it can be recommended for approval.

F1	Impacts on ETP Species - Minimum Requirements		
	F1.1	Interactions with ETP species are recorded.	PASS
	F1.2	There is no substantial evidence that the fishery has a significant negative effect on ETP species.	PASS
	F1.3	If the fishery is known to interact with ETP species, measures are in place to minimise mortality.	PASS
<b>Clause outcome:</b>			PASS
<b>F1.1 Interactions with ETP species are recorded.</b>			
<p>Interactions with ETP species are recorded as required by EU and UK legislation (for example EC Regulation 812/2004 and EU Regulation 2017/10042) and are submitted to the ICES Working Group on Bycatch of Protected Species (WGBYC) for analysis. The most recent WGBYC report was published in March 2022 and contains detailed information on the data sources used to inform the activities of the group. The report is not specific to the Danish sandeel fishery and does not provide specific details of the data submitted by Danish vessels targeting sandeel; however it provides a summary of monitoring efforts and bycatch across the Greater North Sea ecoregion (page 13); indicates that Denmark submitted data on fishing effort, monitoring effort, and bycatch events as requested in 2017-2021 (Table 3.1, page 27); and lists the number of reported mammal, bird and turtle interactions in 2021 by region and gear type (Table 3.2, page 29-43). The bycatch data are used by the WGBYC to estimate bycatch rates and overall impacts of fisheries on ETP species in the waters covered by ICES.</p>			
<b>F1.2 There is no substantial evidence that the fishery has a significant negative effect on ETP species.</b>			
<p>The 2016 ICES sandeel benchmarking report notes that bycatch of sea mammals and birds is very low, stating that it is “undetectable using observer programmes” (ICES 2017, page 23). This was reinforced by the findings of a 2021 report examining the environmental and ecological impacts of Danish fisheries (Gislason <i>et al</i> 2021), which did not identify any ETP species present in Danish pelagic gears. No other evidence to indicate that the fishery has a direct negative impact on any ETP species was encountered during the completion of this assessment, and F1.2 is met.</p>			
<b>F1.3 If the fishery is known to interact with ETP species, measures are in place to minimise mortality.</b>			
<p>There is no evidence to indicate the fishery regularly interacts with ETP species, and therefore no such measures are required to be in place. However, some general measures are in place across EU fisheries, such as the reporting requirements listed in F1.1 above, and a recently proposed Action Plan for further protecting ecosystems and vulnerable species (EC 2023).</p>			
<b>References</b>			
<p>ICES (2022). Working Group on Bycatch of Protected Species (WGBYC). ICES Scientific Reports. 4:91. 265 pp. <a href="https://doi.org/10.17895/ices.pub.21602322">https://doi.org/10.17895/ices.pub.21602322</a></p> <p>EC (2023). Fisheries, aquaculture and marine ecosystems: transition to clean energy and ecosystem protection for more sustainability and resilience. <a href="https://ec.europa.eu/commission/presscorner/detail/en/ip_23_828">https://ec.europa.eu/commission/presscorner/detail/en/ip_23_828</a></p> <p>Gislason, H., Eigaard, O.R., Dinesen, G.E., Larsen, F., Glemarec, G., Egekvist, J., Rindorf, A., Vinther, M., Storr-Paulsen, M., Håkansson, K.B., Bastardie, F., Olesen, H.J., Krag, L.A., O'Neill, B., Feekings, J., Petersen, J.K., &amp; Dalskov, J. (2021). Miljøskånsomhed og økologisk bæredygtighed i dansk fiskeri. DTU Aqua-rapport nr. 392-2021. Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet. 151 pp. <a href="https://fiskerforum.dk/wp-content/uploads/Miljoskansomhed-og-okologisk-baeredygtighed-i-dansk-fiskeri-DTU-Aqua-rapport-nr.-392-2021.pdf">https://fiskerforum.dk/wp-content/uploads/Miljoskansomhed-og-okologisk-baeredygtighed-i-dansk-fiskeri-DTU-Aqua-rapport-nr.-392-2021.pdf</a></p> <p>ICES (2017). Report of the Benchmark Workshop on Sandeel (WKSand). ICES Expert Group reports (until 2018). Report. <a href="https://doi.org/10.17895/ices.pub.7718">https://doi.org/10.17895/ices.pub.7718</a></p>			
<b>Links</b>			
<b>MarinTrust Standard clause</b>		1.3.3.1	
<b>FAO CCRF</b>		7.2.2 (d)	

GSSI	D4.04, D.3.08
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<b>F2</b>	<b>Impacts on Habitats - Minimum Requirements</b>		
	<b>F2.1</b>	Potential habitat interactions are considered in the management decision-making process.	PASS
	<b>F2.2</b>	There is no substantial evidence that the fishery has a significant negative impact on physical habitats.	PASS
	<b>F2.3</b>	If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.	PASS
<b>Clause outcome:</b>			PASS

**F2.1 Potential habitat interactions are considered in the management decision-making process.**

The MarinTrust fishery assessment guidance states that “good practice requires there to be a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types”. Such a strategy is not required for the specific fishery under assessment here, as due to the gear type used it fundamentally does not pose such a risk. However, in general terms the potential impacts of fisheries on habitats are considered throughout the management process in both the EU and Norway. F2.1 is met.

**F2.2 There is no substantial evidence that the fishery has a significant negative impact on physical habitats.**

The pelagic gears used in the sandeel fishery under assessment here do not interact with the seabed and are therefore considered unlikely to have a significant negative impact on seabed habitats. No evidence was encountered during the completion of this assessment report to indicate that the fishery impacts physical habitats. F2.2 is met.

**F2.3 If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.**

The pelagic gears used in the Danish component of the sandeel fishery are considered unlikely to interact with seabed habitats. However, the protection of sensitive habitats throughout the area covered by this MT assessment is regulated through the international convention on biodiversity (OSPAR 03/17/1, Annex 9), and the corresponding national legislation (Natura2000 in Denmark, National Order No. 1048/2013). There are a series of Marine Protected Areas in the North Sea. F2.3 is met.

**References**

Danish Fisheries Agency, Natura 2000 and fisheries: regional processes. <https://fiskeristyrelsen.dk/english/commercial-fisheries/natura-2000-and-fisheries-regional-processes/#c83659>

Rice, J., K. H. Andersen, and A. Stern-Piriot,. 2017. MSC Public Certification Report for DFPO and DPPO North Sea, Skagerrak and Kattegat Sandeel, Norway Pout, and Sprat fisheries. MRAG-MS-7a-v3. MRAG Americas, Inc. March 23, 2017. 388 pp.

**Links**

<b>MarinTrust Standard clause</b>	1.3.3.2
<b>FAO CCRF</b>	6.8
<b>GSSI</b>	D.2.07, D.6.07, D3.09

F3 Ecosystem Impacts - Minimum Requirements		
F3.1	The broader ecosystem within which the fishery occurs is considered during the management decision-making process.	PASS
F3.2	There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.	PASS
F3.3	If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.	PASS
<b>Clause outcome:</b>		PASS

**F3.1 The broader ecosystem within which the fishery occurs is considered during the management decision-making process.**

The potential ecosystem impacts of fisheries are primarily taken into account in the management process by ICES. A key component of this is the development of ecosystem overviews, the outcomes of which are incorporated into Working Group discussions and recommendations. The relevant ICES ecoregion to this fishery is the Greater North Sea (ICES 2022). Ecosystem overviews provide a summary of the key environmental indicators, ecosystem pressures, and the current state of the ecosystem. Relevant aspects of the North Sea ecoregion which are summarised in the ICES report include:

- The episodic changes in productivity of key elements of the ecosystem in the North Sea, including phytoplankton, zooplankton and demersal and pelagic fish.
- The links between these changes in productivity and temperature trends both within the North Sea and across the North Atlantic.
- The impacts of wind farms and other artificial hard substrates on biodiversity and productivity.
- The impacts of fishing on ecosystem structure, particularly the removal of many larger fish.
- A shift from pelagic to benthic production, particularly the substantial increase in the size of the plaice stock.

In addition to this over-arching consideration, the role of sandeel within the North Sea ecosystem is also considered by the HAWG when developing sandeel stock assessments and management advice. The most recent HAWG report (ICES 2023) summarises this discussion, highlighting the important role of the seven SAs in the management of the species, and noting that local depletion of sandeel has been shown to have some impact on nearby seabird populations.

Finally, a detailed explanation of the way in which the ecosystem aspects of sandeel management are incorporated into ICES assessments (and therefore into management advice) is set out in each of the sandeel stock annexes (for example ICES 2019, for sandeel in SA1r). This includes an exploration of the bottom-up effects on sandeel (i.e. the way that environmental variables and plankton population affects sandeel stocks); top-down effects on sandeel (i.e. the way that predator populations affect sandeel stocks); and implications for ecosystem-based management.

All of these factors are considered in the development and delivery of ICES advice, which in turn underpins the management decision-making process as per the CFP. The broader ecosystem is considered in the management decision-making process, and F3.1 is met.

**F3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.**

The sandeel stock annexes include an exploration of the potential impacts of low forage fish abundance on dependant predators, compared to the proportion of each predator's diet which is known to be made up of sandeel (ICES 2019). While marine mammals and fish are generally found to be at low risk of localised sandeel depletion, a number of seabird species are considered vulnerable in the North Sea. These include sandwich tern (*Sterna sandvicensis*); Arctic tern; great skua (*Catharacta skua*); Arctic skua; guillemot (*Uria aalge*); and Kittiwake (*Rissa tridactyla*) (ICES 2019).

The MT Fishery Assessment guidance states that the assessment of this clause should consider whether the fishery "reduce[s] those key features that are crucial to maintaining the integrity and structure of the ecosystem". Although the fishery has the potential to adversely impact seabirds as described above, the assessor found no evidence to suggest more widespread

disruption of the ecosystem as set out in the guidance. For this reason – and as the impact of the fishery on dependent predators specifically is covered in detail under F3.3 – the assessor considers F3.2 to be met.

**F3.3 If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.**

ICES recognises the importance of sandeel in North Sea food webs, and has advised that management of the sandeel fisheries should ensure that sandeel abundance be maintained high enough to provide food for a variety of predator species (ICES 2017). An example of the implementation of this advice is the closed area off the east coast of Scotland, in SA4 (see map in species categorisation section). This closed area is primarily to ensure adequate localised food supply for kittiwake, but may also protect other predator species.

ICES has recommended that sandeel abundance should be maintained at levels which ensure food for predators, and there is evidence that this has been factored in when designing the reference points. The 2017 sandeel benchmarking report states that for SA1r, “ $B_{lim}$  was set at the lowest SSB which provided a high recruitment” (ICES 2017). Similarly, the limit reference point for SA2r was set by estimating the level at which stock size appeared to no longer influence recruitment. Equivalent approaches are applied in SA3r and SA4. These reference points take into account natural mortality via the use of multispecies models, as described in the 2021 Herring Assessment Working Group paper (ICES 2021). By including natural mortality estimates when making catch recommendations, ICES introduces additional precaution to reflect the important role of sandeel in the North Sea ecosystem.

There is evidence to indicate that additional precaution is incorporated into catch recommendations to ensure the role of sandeel in the ecosystem is maintained, and therefore F3.3 is met.

**References**

ICES (2017). Report of the Benchmark Workshop on Sandeel (WKSand). ICES Expert Group reports (until 2018). Report. <https://doi.org/10.17895/ices.pub.7718>

ICES (2019). Stock Annex: Sandeel (*Ammodytes marinus*) in the North Sea area 1 (SA1). ICES Stock Annexes. Report. <https://doi.org/10.17895/ices.pub.18623159.v1>

ICES (2021). Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 3:12. 779 pp. <https://doi.org/10.17895/ices.pub.8214>

ICES (2022). Greater North Sea ecoregion – Ecosystem overview. In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, Section 7.1, <https://doi.org/10.17895/ices.advice.21731912>

ICES (2023). Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 5:23. <https://doi.org/10.17895/ices.pub.22182034>

**Links**

<b>MarinTrust Standard clause</b>	1.3.3.3
<b>FAO CCRF</b>	7.2.2 (d)
<b>GSSI</b>	D.2.09, D3.10, D.6.09

## SOCIAL CRITERION

In addition to the scored criteria listed above, applicants must commit to ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights. They must also commit to ensuring there is no use of enforced or unpaid labour in the fleet(s) operating upon the resource.

## Appendix A - Determining Resilience Ratings

The assessment of Category B species described in this assessment report template utilises a resilience rating system suggested by the American Fisheries Society. This approach was chosen because it is also used by FishBase, and so the resilience ratings for many thousands of species are freely available online. As described by FishBase, the following is the process used to arrive at the resilience ratings:

*“The American Fisheries Society (AFS) has suggested values for several biological parameters that allow classification of a fish population or species into categories of high, medium, low and very low resilience or productivity (Musick 1999). If no reliable estimate of  $r_m$  (see below) is available, the assignment is to the lowest category for which any of the available parameters fits. For each of these categories, AFS has suggested thresholds for decline over the longer of 10 years or three generations. If an observed decline measured in biomass or numbers of mature individuals exceeds the indicated threshold value, the population or species is considered vulnerable to extinction unless explicitly shown otherwise. If one sex strongly limits the reproductive capacity of the species or population, then only the decline in the limiting sex should be considered. We decided to restrict the automatic assignment of resilience categories in the Key Facts page to values of  $K$ ,  $t_m$  and  $t_{max}$  and those records of fecundity estimates that referred to minimum number of eggs or pups per female per year, assuming that these were equivalent to average fecundity at first maturity (Musick 1999). Note that many small fishes may spawn several times per year (we exclude these for the time being) and large live bearers such as the coelacanth may have gestation periods of more than one year (we corrected fecundity estimates for those cases reported in the literature). Also, we excluded resilience estimates based on  $r_m$  (see below) as we are not yet confident with the reliability of the current method for estimating  $r_m$ . If users have independent  $r_m$  or fecundity estimates, they can refer to Table 1 for using this information.”*

Parameter	High	Medium	Low	Very low
Threshold	0.99	0.95	0.85	0.70
$r_{max}$ (1/year)	> 0.5	0.16 - 0.50	0.05 - 0.15	< 0.05
$K$ (1/year)	> 0.3	0.16 - 0.30	0.05 - 0.15	< 0.05
Fecundity (1/year)	> 10,000	100 - 1000	10 - 100	< 10
$t_m$ (years)	< 1	2 - 4	5 - 10	> 10
$t_{max}$ (years)	1 - 3	4 - 10	11 - 30	> 30

[Taken from the FishBase manual, “Estimation of Life-History Key Facts”, <http://www.fishbase.us/manual/English/key%20facts.htm#resilience>]



## Glossary

**Non-target:** Species for which the gear is not specifically set, although they may have immediate commercial value and be a desirable component of the catch. OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12

**Target:** In the context of fishery certification, the target catch is the catch of stock under consideration by the unit of certification – i.e. the fish that are being assessed for certification and ecolabelling. (GSSI)

## Appendix

### MarinTrust Fishery Assessment Peer Review Template

This section comprises a summary of the fishery being assessed against version 2 of the MarinTrust Standard.

<b>Fishery under assessment</b>	WF04 Sandeel in ICES Divisions 4a-c
<b>Management authority (Country/State)</b>	EU (Denmark); UK, Norway
<b>Main species</b>	Sandeel ( <i>Ammodytes marinus</i> )
<b>Fishery location</b>	FAO 27 (Northeast Atlantic), ICES Subarea 4 divisions a-c
<b>Gear type(s)</b>	Pelagic trawl
<b>Overall recommendation. (Approve/ Fail)</b>	Fail

**Summary: in this section, provide any additional information about the fishery that the reviewers feel is significant to their decision.**

**General Comments on the Draft Report provided to the peer reviewer**

The opening table is missing the client application code, but the report is completed to a high level.

### Summary of Peer Review Outcomes

Peer reviewers should review the fishery assessment report with the primary objective of answering the key questions listed in the table below. Where the situation is more complicated, reviewers may instead answer “See Notes”.

	YES	NO	See Notes
<b>A – Fishery Assessment</b>			
1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	X		
2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	X		
3. Are the scores in the following sections accurate (i.e. do the scores reflect the evidence provided)?	X		
Section M - Management	X		
Category A Species	X		
Category B Species	N.A.		
Category C Species	X		
Category D Species	N.A.		
Section F – Further Impacts		X	X

### Detailed Peer Review Justification

Peer reviewers should provide support for their answers in the boxes provided, by referring to specific scoring issues and any relevant documentation as appropriate.

Detailed justifications are only required where answers given are one of the ‘No’ options. In other (Yes) cases, either confirm ‘scoring agreed’ or identify any places where weak rationales could be strengthened (without any implications for the scores).

Boxes may be extended if more space is required.

1. Is the scoring of the fishery consistent with the MarinTrust standard, and clearly based on the evidence presented in the assessment report?
The peer reviewer agrees with most of the scoring which has been clearly addressed and evidenced throughout. However, although the fishery operates in FAO 27, a well-monitored and controlled system, it is not clear to the peer reviewer what specific information on ETP interactions was provided to the CAB by the client, see section F for further comments. It’s the view of the peer reviewer that Section F (ETP) requires further evidence to meet the MT requirements.
<b>Certification body response</b>
Section F1 has been revised to include additional detail – see below.

2. Has the fishery assessment been fully completed, using the recognised MARINTRUST fishery assessment methodology and associated guidance?
Most sections of the report have been completed with sufficient information and evidence to justify the scoring given. Section F requires further evidence from the fishery.
<b>Certification body response</b>
Section F1 has been revised to include additional detail – see below.

**3. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?**

Yes, the species categorisation is done correctly, but more up-to-date information could have been used from the most recent MSC ACDR report (Sep 2022) for Norway Sandeel. I liked the additional reminder that the sandeel species are considered a stock assemblage and therefore it's not necessary to score each individual sandeel species present. It would be good to see this as a recommendation to the onsite auditor to follow up on catch composition and estimates for the catch of other sandeel species.

**Certification body response**

Catch composition data used by the 2022 Norway sandeel, pout and North Sea sprat ACDR is sourced from the 2019 sandeel surveillance already used in the MT assessment (see page 125 of the report<sup>1</sup>), so no changes have been made. However, fully agree that more up to date information would be beneficial.

**3M. Are the scores in "Section M – Management" clearly justified? YES**

M1.1 There is an organisation responsible for managing the fishery.	YES
M1.2 There is an organisation responsible for collecting data and assessing the fishery.	YES
M1.3 Fishery management organisations are publicly committed to sustainability.	YES
M1.4 Fishery management organisations are legally empowered to take management actions.	YES
M1.5 There is a consultation process through which fishery stakeholders are engaged in decision-making.	YES
M1.6 The decision-making process is transparent, with processes and results publicly available.	YES
M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.	YES
M2.2 There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.	YES
M2.3 There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.	YES
M2.4 Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.	YES

**Certification body response**

**3A. Are the "Category A Species" scores clearly justified? YES**

I agree with the scoring outcome and the rationale is clearly justified.

**Certification body response**

**3B. Are the "Category B Species" scores clearly justified? N.A**

**Certification body response**

<sup>1</sup> <https://fisheries.msc.org/en/fisheries/norway-sandeel-pout-and-north-sea-sprat/@assessments>

3C. Are the “Category C Species” scores clearly justified? YES
I agree with the scoring outcome and the rationale is clearly justified.
Certification body response

3D. Are the “Category D Species” scores clearly justified? N.A
Certification body response

**3F. Are the scores in “Section F – Further Impacts” clearly justified?**

F1.1 The rationale makes it clear that the Governments under which the vessels in this fishery are licensed are meeting their commitments to pass along bycatch data to ICES, but it’s not clear what evidence at the fishery or vessel level has been reviewed. *“The most recent WGBYC report was published in March 2022 and contains detailed information on the data sources used to inform the activities of the group.”* It would be helpful here to provide page references so readers can find evidence reviewed more easily if it is country-generic information, the data provided by governments may not be representative of the sandeel fishery.

F1.2 Similar to F1.1 it is not clear what evidence has been reviewed by the auditor. The most up-to-date reference provided – Gislason *et al* 2021 – is in Danish and therefore cannot be reviewed by the peer reviewer to check statements made. Furthermore, the most recent ACDR for the Norway Sandeel fishery state *“pending better information we do not have the confidence to score ETP interactions by UoA”* pg160 and *“For the sandeel UoAs, we conclude that indirect effects of the UoA on seabirds, mediated by food competition, have been considered, but we cannot say for the moment that they are highly likely not to create unacceptable impacts.”* Pg 161 ETP scoring tables.

If the fishery is found to be interacting with ETP species, requirements under F1.3 also would not be met as no measures are in place.

<https://cert.msc.org/FileLoader/FileLinkDownload.aspx/GetFile?encryptedKey=/azwx1c8dAreolw6sIs6zcJvjdtg4sTMWYqBLTsi3sVo3whDh4hYa5JPgSMb/dol>

**Certification body response**

Additional detail has been included in an updated draft of the report, including:

F1.1: Page references for particularly relevant parts of the WGBYC have been added. Clarification has been provided that the specific data submitted by the Danish sandeel industry is not presented in the WGBCY report, but rather there is evidence showing that Denmark submitted the requested data and is engaged in the relevant monitoring programmes. The main pieces of evidence that F1.1 is met remain, firstly, that it is a legal requirement for vessels to report interactions via their logbooks; and secondly that the level of interaction is known to be very low (as discussed in F1.2).

F1.2: A page reference has been provided for the sandeel benchmarking report statement that bycatch rates for sea birds and sea mammals are undetectable.

The assessor would also like to make the following comments:



- There is no specific part of the Danish report which singles out the sandeel fishery; however there are sections which discuss the prevalence of seabird (5.6.3, Page 74) and marine mammal (5.6.4, Page 81) bycatch, and where no ETP species are identified as present in pelagic gear fisheries.
- The ACDR referenced by the peer reviewer does not state that information on potential ETP impacts is not available, but rather that the assessment team needs to investigate further before they can provide separate analyses for each UoA. The ACDR also notes that previous MSC reports have indicated zero interactions with seabirds and marine mammals in recent years.
- Indirect impacts of the fishery on seabirds and other species is considered in section F3.
- An updated sandeel benchmarking report is due to be published shortly (indeed, was due last year but has been postponed to ensure sufficient data have been compiled); this should provide a new source of evidence for the first surveillance assessment of the sandeel fishery.

Optional: General comments on the Peer Review Draft Report
No further comments.
Certification body response