MarinTrust Standard V2

Whole fish Fishery Assessment Report Template

Fishery Under Assessment	Species:	Sandeel (*Ammodytes marinus)*
	Geographical area:	Division 4.b–c, Sandeel Area 1r (central and southern North Sea, Dogger Bank) Sandeel Area 2r (central and southern North Sea) Sandeel Area 3r (northern and central North Sea, Skagerrak)
	Country of origin of the product:	Denmark
	Stock:	ICES in subareas 6–8 (Celtic Seas, English Channel, and Bay of Biscay)
Date	March 2021	
Report Code	WF4	
Assessor	Virginia Polonio	

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Table 1 Application details and summary of the assessment outcome

Application details and summary of the assessment outcome			
Name: Marine Ingredients Denmark (MID)			
Address:			
Country: Denmark		**Zip:**	
Tel. No.		**Fax. No.**	
Email address:		**Applicant Code**	
Key Contact: Søren Anker Pedersen		**Title:**	
Certification Body Details			
Name of Certification Body:		**Global Trust Certification**	
Assessor Name	**CB Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-approval**
Virginia Polonio	Geraldine Criquet	3	Initial
Assessment Period	March 2021		
Scope Details			
Management Authority (Country/State)		Common Fisheries Policy and Denmark Directorate of Fisheries	
Main Species		Sandeel (*Ammodytes marinus*) Three stocks are assessed: ▪ Division 4.b–c, Sandeel Area 1r (central and southern North Sea, Dogger Bank) ▪ Divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea) ▪ Divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak)	

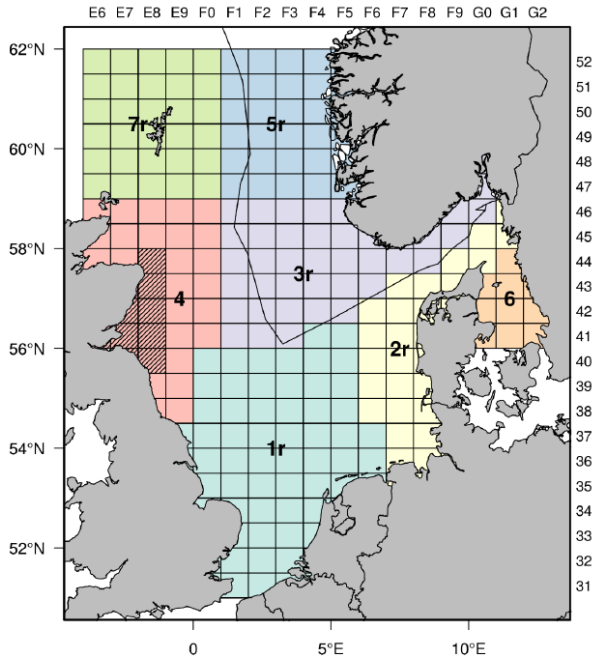
Fishery Location	FAO Area 27 Northeast Atlantic, North Sea areas 1r, 2r and 3r, see map below. 
Gear Type(s)	Pelagic trawl
Outcome of Assessment	
Overall Outcome	PASS
Clauses Failed	NONE
CB Peer Review Evaluation	Agree with the assessor's determination
Fishery Assessment Peer Review Group Evaluation	Approved – report available on request
Recommendation	**APPROVED**

Table 2. Assessment Determination

Assessment Determination
The fishery complies with the management clauses defined in M1 and M2 as there is a well-established management system for these sandeel stocks in the North Sea. The three stocks of sandeel accounting for 97 % of the landings have been assessed under category A and all of them have passed all the clauses in section A1 to A4. The three sandeel stocks are above biomass limit reference points. The other species that complement the catches are herring, whiting and mackerel. Herring (*Clupea harengus*) in 4 & 3a and 7d (North Sea, Skagerrak and Kattegat, eastern English Channel); Whiting (*Merlangus merlangus*) in 4 North Sea & 7d. (eastern English Channel) and Mackerel (*Scomber scombrus*) in 1-8 & 14, 9a (Northeast Atlantic and adjacent waters) are above biomass limit reference point in the last ICES advice and removals have been considered in the stock. Impacts on ETP species, information from ICES ecosystem overview in the North Sea and observer programme has been reported as negligible. Habitats impacts are not considered negative as the fishery is operating with pelagic trawls and on sandy bottom. Ecosystems components of North Sea are large studied and well known and it is not considered that the fishery under assessment has negative impacts with the key ecosystem components. Therefore, in order to be approved, the fishery must pass all the clauses. Sandeel in the North Sea areas 1r, 2r and 3r are **APPROVED** by the assessor under the current MARINTRUST v 2.0 Wholefish standard.
Fishery Assessment Peer Review Comments
The assessor correctly classified all species in conformity with Marin Trust species categorisation requirements. The fishery is managed by the European and Denmark national management systems. There is a monitoring, surveillance and control system in place. There is a harvest strategy in place to ensure that stocks are fished at sustainable levels. Data are collected and stocks are assessed. The three sandeel stocks, the mackerel, herring and whiting stocks have biomass above the limit reference points. Given the type of gear, there is no evidence that the fishery impacts significantly habitats. There is no evidence that the fishery has significant negative impacts on ETP species and the ecosystem. Based on all the above, the fishery passes all clauses and all stocks should be approved.
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 (Ammodytes marinus)* in divisions 4.b–c, Sandeel Area 1r (central and southern North Sea, Dogger Bank)	97%	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category A	*Sandeel (Ammodytes marinus)* in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea)	97%	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category A	*Sandeel (Ammodytes marinus)* in divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak)	97%	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category C	Herring (*Clupea harengus*) 4 & 3a and 7d (North Sea, Skagerrak and Kattegat, eastern English Channel)	0.38%	PASS	
Category C	Whiting (*Merlangius merlangus*) 4 North Sea & 7d. (eastern English Channel)	0.40%	PASS	
Category C	Mackerel (*Scomber scombrus*)1-8 & 14, 9a (Northeast Atlantic and adjacent waters)	0.86%	PASS	

Table 5 Species Categorisation Table

Common name	Latin name	Stock	IUCN Redlist Category[1]	% of landings	Management	Category
Sandeel	*Ammodytes marinus*	divisions 4.b–c, Sandeel Area 1r (central and southern North Sea, Dogger Bank)	LC	97.7%	CFP and Danish Directorate of Fisheries	A
Sandeel	*Ammodytes marinus*	divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea)	LC	97.7%	CFP and Danish Directorate of Fisheries	A
Sandeel	*Ammodytes marinus*	divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak)	LC	97.7%	CFP and Danish Directorate of Fisheries	A
Herring	*Clupea harengus*	4 & 3a and 7d (North Sea, Skagerrak and Kattegat, eastern English Channel)	LC	0.38%	CFP and Danish Directorate of Fisheries	C
Whiting	*Merlangius merlangus*	4 North Sea & 7d. (eastern English Channel)	LC	0.40%	CFP and Danish Directorate of Fisheries	C
Mackerel	*Scomber scombrus*	1-8 & 14, 9a (Northeast Atlantic and adjacent waters)	LC	0.86%	CFP and Danish Directorate of Fisheries	C

Species categorisation rationale

The assessor has followed the requirements to classify the species state in the guidance for whole fish reports. Considering the information in the application forms submitted by the client group, sandeel accounts for approximately 97 % of the landings, three stocks are defined in the area and all of them are managed by reference points, therefore sandeel stocks are categorized as A. Other species catches represent very low percentages of total catches. They account for less than 5% but the three stocks are subject to a specific management regime, therefore, they are categorised as C.

[1] https://www.iucnredlist.org/

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		
	M1.1	There is an organisation responsible for managing the fishery.	PASS
	M1.2	There is an organisation responsible for collecting data and assessing the fishery.	PASS
	M1.3	Fishery management organisations are publicly committed to sustainability.	PASS
	M1.4	Fishery management organisations are legally empowered to take management actions.	PASS
	M1.5	There is a consultation process through which fishery stakeholders are engaged in decision-making.	PASS
	M1.6	The decision-making process is transparent, with processes and results publicly available.	PASS
		Clause outcome:	**PASS**

M1.1 There is an organisation responsible for managing the fishery.

Denmark is a Member State of the European Union, and therefore in Community waters implements the Common Fisheries Policy (CFP). In force since 1983, the CFP aims to reconcile resource conservation with the preservation of income and jobs in coastal zones that offer few alternatives in terms of production or employment. It therefore covers not just resources but also markets and structures. At a national level, individual Member States are responsible for implementing the CFP and other EU legislation and agreements. EU fisheries legislation is transposed directly to national legislation, while environmental and other agreements are transposed by primary and secondary national legislation, enacted in accordance with the EU legislation. Member States national fisheries administrations are responsible for a range of management and regulatory duties, including: fleet activity management; national quota management; the monitoring and control of all fisheries working within their national jurisdiction; the collection, collation, and communication of key fishery data; and finally undertaking a range of scientific monitoring and development work. Further, the Danish Fisheries Agency is an agency under the Ministry of Food, Agriculture and Fisheries and comprises a central part with departments in both Copenhagen and Southern Jutland as well as a regional fisheries control. The main fisheries law in Denmark is the 1999 Fisheries Act (Act No. 281 of 1999, consolidated as LBK No. 978 of 26 September 2008).

M1.2 There is an organisation responsible for collecting data and assessing the fishery.

The Danish Agrifish Agency is responsible for regulating, monitoring, enforcement and inspection of fishing. It is also responsible for providing structural support from the European Maritime and Fisheries Fund (EMFF, Regulation (EU) No 508/2014). The agency also collects fisheries statistics and provides them to the EC. Further, the main institutions involved in collecting data and assessing the fishery are:

- International Council for the Exploration of the Sea, ICES – provides the forum for consolidation of scientific work undertaken by scientists in participating national institutions (through relevant Expert Groups), and the delivery of advice on how best to manage fish stocks.
- European Commission's Scientific, Technical and Economic Committee for Fisheries, STECF – the fisheries scientific committee of the European Commission providing advice to the Commission on all aspects of fisheries science and economics.
- DTU-Aqua, national fisheries research institute, responsible for herring fisheries analysis and advice, including collaborating on stock assessment as part of the appropriate ICES working groups.
- The Danish and Fishermen's Association represent the interests of Danish fishermen national and internationally (ex. Advisory Councils).

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

Denmark is a state Member of the European Commission and therefore as the Common Fisheries Policies states, in the newly reformed CFP there is an Article 2 specific to ensure the precautionary approach and MSY objectives to reach sustainable fisheries, while it states that "in order to reach the objective of progressively restoring and maintaining populations of fish stocks above biomass levels capable of producing maximum sustainable yield, the maximum sustainable yield exploitation rate shall be achieved by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks".

The Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive). For that purpose, marine strategies shall be developed and implemented in order to:

(a) protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems in areas where they have been adversely affected.

(b) prevent and reduce inputs in the marine environment, with a view to phasing out pollution as defined in Article 3(8), so as to ensure that there are no significant impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea.

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

The principal aim of fisheries management under the Common Fisheries Policy (CFP) is to ensure high long-term fishing yields for all stocks. In order to meet their environmental obligations under directives, EU countries need to take action on various fronts. This includes addressing the management of the fisheries. Since fisheries policy is an exclusive competence of the European Union, it is up to the EU to take any fisheries-related measures. Therefore, the EU's Common Fisheries Policy (CFP) also gives member states the chance to play an active role in designing fisheries conservation measures Affected countries may submit joint recommendations as regards the fisheries conservation measures deemed necessary to achieve those environmental objectives. The Commission can then adopt legislation on the basis of those recommendations, effectively turning them into binding EU law. Therefore, in the case of this fishery the institutions involved in the fishery that can take actions on management strategies are listed below:

- European Commission DG MARE – responsible for drafting European legislation on the management of European fisheries in accordance with the Common Fisheries Policy.
- Ministry of Food, Agriculture and Fisheries responsible for overall management of Danish fisheries.
- Danish Agrifish Agency, responsible for regulating, monitoring, enforcement and inspection of fishing, and providing structural support, e.g. from the European Maritime and Fisheries Fund.
- International Council for the Exploration of the Sea, ICES – provides the forum for consolidation of scientific work undertaken by scientists in participating national institutions (through relevant Expert Groups), and the delivery of advice on how best to manage fish stocks.
- European Commission's Scientific, Technical and Economic Committee for Fisheries, STECF – the fisheries scientific committee of the European Commission providing advice to the Commission on all aspects of fisheries science and economics.
- DTU-Aqua, national fisheries research institute, responsible for herring fisheries analysis and advice, including collaborating on stock assessment as part of the appropriate ICES working groups.
- The Danish and Fishermen's Association represent the interests of Danish fishermen national and internationally (ex. Advisory Councils).

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

The Advisory Councils (ACs) are stakeholder-led organisations that provide the Commission and EU countries with recommendations on fisheries management matters. This may include advice on conservation and socio-economic aspects of management, and on simplification of rules. Advisory Councils are consulted in the context of regionalisation. Advisory Councils should also contribute to data for fisheries management and conservation measures. Advisory Councils are composed of representatives from the industry and from other interest groups (with a 60% - 40% allocation of the seats in the general assembly and the executive committee). They receive EU financial assistance as bodies pursuing an aim of general European interest.

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

The EC by making proposals based on the most updated research, and submitting them to agreement by Council and Parliament, does respond to serious and other important issues. By also drafting and making proposals in consultation with a wide range of stakeholders, (ACs, MSs, industry representatives, environmental NGOs and general public) they respond in a transparent, timely and adaptive manner and take account of the wider implications of decisions regarding the status of exploited stocks and their immediate management needs. The outcome of meetings of the Council of Ministers clearly

demonstrates that all of this information is taken into account and explains the basis for management actions. This information is formally reported and readily accessible on the EC website (Events | Fisheries (europa.eu))
References Fisheries | (europa.eu) The Common Fisheries Policy (CFP) | Fisheries (europa.eu) English (fiskeristyrelsen.dk) Jake Rice, Ken Haste Andersen, and Amanda Stern-Pirlot. 2017. MSC Final Report and Determination For DFPO and DPPO North Sea, Skagerrak and Kattegat Sandeel, Norway Pout, and Sprat fisheries. DFPO, DPPO and SPFPO North Sea, Skagerrak and Kattegat sandeel, sprat and Norway pout fishery Prepared for Danish Fishermen's Producers Organisation (DFPO), Danish Pelagic Producers Organisation (DPPO), and Swedish Pelagic Federation Producer Oraganization (SPFPO) Certificate No: MSC-F-31297 MRAG Americas, Inc. April 1, 2020 (updated April 6, 2020) 3rd Surveillance R

Links	
MARINTRUST Standard clause	1.3.1.1, 1.3.1.2
FAO CCRF	7.2, 7.3.1, 7.4.4, 12.3
GSSI	D.1.01, D.4.01, D2.01, D1.07, D1.04,

M2	Surveillance, Control and Enforcement - Minimum Requirements		
	M2.1	There is an organisation responsible for monitoring compliance with fishery laws and regulations.	PASS
	M2.2	There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.	PASS
	M2.3	There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.	PASS
	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.	PASS
		Clause outcome:	**PASS**

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

It is the responsibility of EU member states to enforce rules agreed under the CFP. An EU Community Fisheries Control Agency (CFCA) was established in 2007 to strengthen and coordinate controls across all national enforcement authorities to bring about improved uniformity and effectiveness of enforcement. This is further reinforced by the new EU control regulation which came into force on 1st January 2010 and aims to foster a new culture of compliance (1224/2009).

In Denmark, the responsible authority is the Agrifish Agency. The introduction of e-logbooks has facilitated consistent enforcement and compliance. Specifically, on the topic of monitoring of non-target catch, both self-reporting in electronic logbooks and official sampling are employed.

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

To ensure that fishing rules are applied in the same way in all member countries, and to harmonise the way infringements are sanctioned, the EU has established a list of serious infringements of the rules of the common fisheries policy. EU countries must include in their legislation effective, proportionate and dissuasive sanctions, and ensure that the rules are respected. EU countries have introduced a point system for serious infringements. Under the scheme, national authorities will:

- assess alleged infringements involving vessels registered under its flag, using standard EU definitions
- impose a pre-set number of penalty points on vessels involved in serious infringements (points are recorded in the national registry of fisheries offences)
- suspend the vessel's licence for 2, 4, 8 or 12 months when a pre-set number of points have been accumulated in a 3-year period.

Within the Danish fisheries organization, mechanisms exist to apply sanctions to vessels that break quota allowances (requiring additional quota to be sought). The MCS system enforcing national regulations implementing the CFP, along with some self-regulation by the industry are consistently applied and expected to provide effective deterrence.

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

The latest inspection report from the Danish Fisheries Agency shows that inspections are proceeding as last year (Fiskerikontrol, 2018). Regarding the landing obligation, the inspection report notes: The landing obligation is monitored using "last haul" control. Since 2016 they have made 245 last haul checks in the North Sea and found 7 violations (<3%) of the landing obligations. Danish vessels have to report all the catches in the electronic books. VMS control system are implemented, and the landings reported by the fleets to the Danish Directorate of Fisheries are monitored at dockside controls. The MCS system enforcing national regulations implementing the CFP, along with some self-regulation by the industry are consistently applied and expected to provide effective deterrence. In the sandeel fishery, vessels have quota for certain management areas and there has been misreporting of catch in the past (i.e. reporting from the wrong area; Agrifish 2015). The fact that this was detected demonstrates that there is an effective control system.

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.

In Denmark, the enforcement system makes strategic and coordinated use of e-logbooks, sales notes, VMS, designated ports, landing inspections, advance hailing of landing, reporting tolerance limits, inspections throughout the retail and supply chain (as a result of revised buyers and sellers registration requirements in the reformed CFP). Recent improvements including the new EU IUU and Control regulations and the NEAFC Port State control rules also increase comprehensive nature of the system. This can be considered comprehensive and COM (2008) 670 demonstrates that this is consistently effective, even though occasional instances of noncompliance are detected and the cases are penalised by a sanction defined by the prosecutor in charge.
References http://ec.europa.eu/environment/marine/good-environmental-status/index_en.htm 2 Directive 2009/147/EC of the European Parliament and the Council of 30 November 2009 on the conservation of wild birds (codified version). COUNCIL REGULATION (EC) No 1224/2009. Establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008. COMMISSION REGULATION (EC) No 1010/2009. Laying down detailed rules for the implementation of Council Regulation (EC) No 1005/2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing COM (2008) 670. COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT. Reports from Member States on behaviours which seriously infringed the rules of the Common Fisheries Policy in 2006 Jake Rice, Ken Haste Andersen, and Amanda Stern-Pirlot. 2017. MSC Final Report and Determination For DFPO and DPPO North Sea, Skagerrak and Kattegat Sandeel, Norway Pout, and Sprat fisheries.

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, *Ammodytes marinus*, divisions 4.b–c, Sandeel Area 1r (central and southern North Sea, Dogger Bank)**

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**

A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

History of the total catch (in tonnes) as estimated by ICES are considering in the stock assessment of this stock. Commercial catch rates are also included in the models and total international catch and fishing effort is also known.

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

The input data that are considered by ICES are the survey index (D9376) carried out in December (dredge survey since 2004). Additional, annual natural mortality estimated from multispecies assessment, constant maturity-at-age from surveys and age frequencies from catch sampling are included in the ICES models to estimate the stock status. Discards and bycatch are negligible.

Therefore, removals and additional information of the species are known and considered in the models to define the status of the stock.

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.1r, https://doi.org/10.17895/ices.advice.7672

Links

MARINTRUST Standard clause	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	7.3.1, 12.3
GSSI	D.4.01, D.5.01, D.6.02, D.3.14

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
		Clause outcome:	**PASS**

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.

Stock assessment for sandeel stocks in the North Sea are performed annually and stock assessment outcome are presented in ICES advices published annually.

A commercial tuning series (RTM) describing the average catch in numbers-at-age per fishing day of a standard vessel in April/early May is used in the assessment. Catch statistics for each division are given by country in the ICES HAWG working group. Catch statistics and effort by assessment area are aso given. Historical data series of the total catch (in tonnes) by country as estimated by ICES is presented from 1952 to 2020.

Figure 1 shows total catches by areas. Therefore, Fisheries removals are considered and in the last ICES stock assessment and biological characteristics of the species are taken into account to define fishing seasons among other stock information used to define management measures.

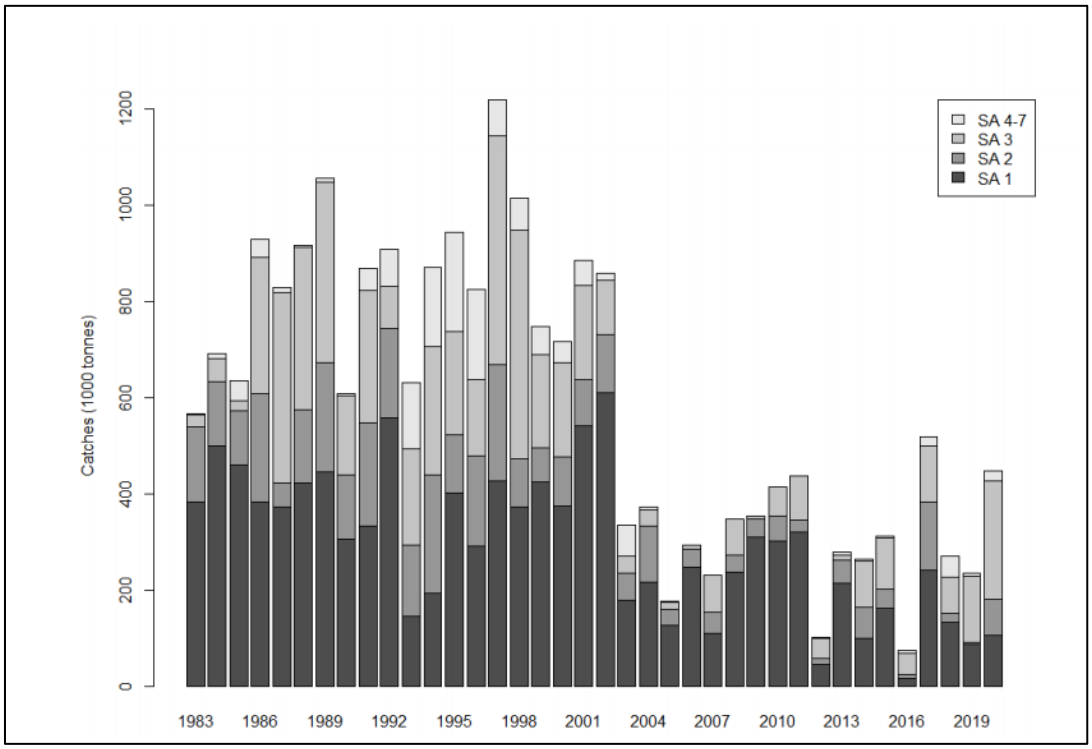


Figure 1. Sandeel in ICES div IV and IIIa. Total catches by year and area.

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

An estimate of the status is given by ICES annually. Following the two latest Benchmark assessments (ICES, 2010, 2016) the SMS-effort model was used to estimate fishing mortalities and stock numbers-at-age by half year, using data from 1983 to 2020. Reference points were defined in the last ICES advice are presented in the table below (table 1).

Table 1. Sandeel in divisions 4.b–c, Sandeel Area 1r. Reference points, values, and their technical basis. ICES 2021

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{escapement}$	145 000 t	= B_{pa}	ICES (2017)
	F_{MSY}	Not defined		
	F_{cap}*	0.49	Maximum F, estimated from the management strategy evaluation (MSE), resulting in < 5% probability of SSB < B_{lim}	ICES (2017)
Precautionary approach	B_{lim}	110 000 t	The lowest SSB at which a high recruitment is observed	ICES (2017)
	B_{pa}	145 000 t	$B_{pa} = B_{lim} \times \exp(\sigma \times 1.645)$, with $\sigma = 0.17$ estimated from the assessment uncertainty in the terminal year	ICES (2017)
	F_{lim}	Not defined		
Management plan	SSB_{MGT}	Not defined		
	F_{MGT}	Not defined		

* Not used as a biological reference point but used in ICES MSY approach for stocks of short-lived species.

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

In the last ICES advice from 2021, removals of 2020 were estimated at 103,282 tonnes. ICES advises that when the MSY approach is applied, catches in 2021 should be no more than 5,464 tonnes. In order to obtain samples to assess the status of the stock in 2022, ICES advises a sampling protocol in the fishery similar to that implemented for a monitoring TAC.

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

ICES advice and stock assessment are subject to internal and external peer review. The stock assessments are subject to the process of the compilation and quality checks of the ICES stock assessment dataset. Further, periodic benchmark assessments are organized by ICES, which is the scientific body that conducts the annual assessments, efforts are taken to ensure that participants in benchmark meetings include experts in assessment methods relevant for the stock(s) under consideration, but not involved in the annual working group meetings where the assessments are reviewed. The views of the independent experts have strong influence in the conclusions and recommendations from the benchmark assessments. Moreover, the ICES Advisory Committee (ACOM) reviews all Working Group Reports and finalizes the advice on each stock. This process routinely requires one or two addition experts, independent of any engagement in the relevant working group, review each assessment for quality and for coherence of the draft advice with the assessment.

A2.5 The assessment is made publicly available.

All ICES reports and stock assessment reports are available on the ICES website.

References

ACOM (ices.dk)

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.1r, https://doi.org/10.17895/ices.advice.7672

Links

MARINTRUST Standard clause	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	12.3
GSSI	D.5.01, D.6.02, D.3.14

A3	**Harvest Strategy - Minimum Requirements**		
	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS

	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.	PASS
	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).	PASS
		Clause outcome:	**PASS**

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

A management plan needs to be developed. The ICES approach for MSY based management of a short-lived species such as sandeel is the so-called escapement strategy, i.e. to maintain SSB above MSY Btrigger after the fishery has taken place. Management strategy evaluations presented at the ICES WKMSYREF2 and WKMSYREF5 meetings (ICES, 2014a, 2017) indicated that the escapement-strategy is not sustainable for short-lived species, unless the strategy is combined with a ceiling (Fcap) on the fishing mortality. This means that if the TAC that comes out of the escapement strategy corresponds to an Fbar that exceeds Fcap, then the escapement strategy should be disqualified and the TAC is instead determined based on a fishing mortality corresponding to Fcap. Fcap for SA 1r is 0.49 (ICES, 2017). Therefore, TACs are defined as a response on fishing mortality among with other reference points analysed in the models.

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.

For sandeel in area 1r, for the 2016-2020 period, catches do not exceed the recommended catch except in 2016, where catch advice was ≤ 5000; TAC 13000 and ICES catch in SA 1r were estimated at 15,264 tonnes. From 2017 to 2020 removals did not exceed TAC. Therefore, removals do not regularly exceed the level indicated or stated in the stock assessment .

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).

The MSY approach is applied to the sandeel stock. ICES advices a zero catch for a given year in response to the position of the stock relative to the limit reference point. For example, there is a zero catch advice in 2021 for the sandeel in area 2r. Small quota for research are permissible. For example, for sandeel in area 2r, in order to obtain samples to assess the status of the stock in 2022, ICES advises a sampling protocol in the fishery similar to that implemented for a monitoring TAC.

References

ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG websit.
HAWG 2021 . Annex 9. Sandeel in Division 3.a and Subarea 4 and Division 6.a.

Vasilakopoulos P., Jardim E. (2017); Compilation and quality check of the ICES stock assessment data; EUR 28588 EN; doi:10.2760/332539

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.1r, https://doi.org/10.17895/ices.advice.7672

Standard clause 1.3.2.1.3

Links	
MARINTRUST Standard clause	1.3.2.1.3, 1.3.2.1.4
FAO CCRF	7.2.1, 7.22 (e), 7.5.3
GSSI	D3.04, D6.01

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

		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: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	
			Clause outcome: **PASS**

A4.1 The stock is at or above the target reference point, OR IF NOT:

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:

The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited
ICES assesses that the spawning-stock size is below MSY Bescapement and Bpa but above Blim. No reference points for fishing pressure have been defined for this stock (Figure 2).

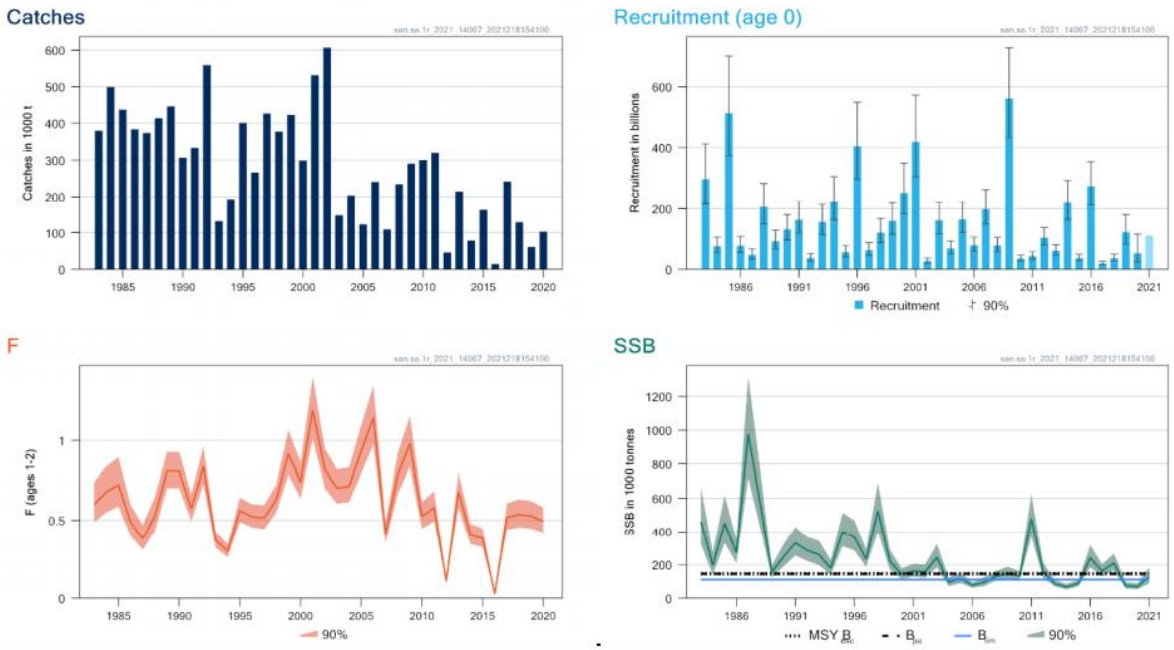


Figure 2. Sandeel in divisions 4.b–c, Sandeel Area 1r. Summary of the stock assessment. The assumed recruitment value for 2021 is shaded in a lighter colour. ICES 2021

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.1r, https://doi.org/10.17895/ices.advice.7672

Links	
MARINTRUST Standard clause	**1.3.2.1.4**
FAO CCRF	**7.2.1, 7.2.2 (e)**
GSSI	**D6 01**

Species Name	Sandeel Ammodytes marinus in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea)

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**

A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

Total catch weight by year for SA 2r is given in ICES report. Catch numbers-at-age by half-year are given also reported. The proportion of the 1-group in the catch has decreased since 2013 only to increase to the record high level of 98% in 2017 originating from a high recruitment in 2016. This year class is seen in the 2019 catch with highest proportion of 3-group in the time-series (52%). Catches in 2020 were dominated by 1-group. No commercial tuning series are used in the last assessment.). The dredge survey in SA 2r (Table 9.3.4 and Figure 9.3.5) increased coverage in 2010 and this is therefore used as the start year of the dredge time-series for the assessment. The coverage has however varied somewhat in this period and the time-series is still short. Details about the dredge survey are given in the Stock Annex and the benchmark report (ICES, 2016)

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

The Analytical age-based (SMS-effort), half-yearly time-steps (ICES, 2021b) are the assessment type used. The input data are: one survey index (D9376) (dredge survey since 2010), total international catch and fishing effort, constant maturity-at-age from surveys, natural mortality estimated from multispecies assessment (assumed constant over time; ICES, 2018), Age frequencies from catch sampling. Discards and bycatch are considered to be negligible.

Therefore, removals and additional information is collected to enable an indication of the stock status.

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.2r, https://doi.org/10.17895/ices.advice.7673
ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG website.
ICES. 2020. Inter-benchmark process on Sandeel (Ammodytes spp.) in Area 2r (central and southern North Sea, Dogger Bank), and Area 3r (Skagerrak, northern and central North Sea) (IBPSandeel). ICES Scientific Reports, 2:11. 23 pp. http://doi.org/10.17895/ices.pub.5553.

Links

MARINTRUST Standard clause	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	7.3.1, 12.3
GSSI	D.4.01, D.5.01, D.6.02, D.3.14

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
		Clause outcome:	**PASS**

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.

Stock assessment for sandeel stocks in the North Sea are performed annually and stock assessment outcome are presented in ICES advices published annually.
A commercial tuning series (RTM) describing the average catch in numbers-at-age per fishing day of a standard vessel in April/early May is used in the assessment. Catch statistics for each division are given by country in the ICES HAWG working group. Catch statistics and effort by assessment area are also given. Historical data series of the total catch (in tonnes) by country as estimated by ICES is presented from 1952 to 2020. Figure 1 above shows total catches by areas. Therefore, Fisheries removals are considered and in the last ICES stock assessment and biological characteristics of the species are taken into account to define fishing seasons among other stock information used to define management measures.

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

Reference points for the SA 2r are defined and used to define the stock status. Table 2 below shows the reference points used in the last stock assessment performed by ICES in 2021.

Table 2. Sandeel in divisions 4.b–c and Subdivision 20, Sandeel Area 2r. Reference points, values, and their technical basis. ICES 2021

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{escapement}$	84 000 t	= B_{pa}	ICES (2017)
	F_{MSY}	Not defined		
	F_{cap}*	0.44	Maximum F, estimated from a management strategy evaluation (MSE), resulting in < 5% probability of SSB < B_{lim}	ICES (2017)
Precautionary approach	B_{lim}	56 000 t	Average SSB of the two lowest SSB estimates (in 2001 and 2009) that provide high recruitment	ICES (2017)
	B_{pa}	84 000 t	$B_{pa} = B_{lim} \times \exp(\sigma \times 1.645)$, with $\sigma = 0.25$ estimated from the assessment uncertainty in the terminal year	ICES (2017)
	F_{lim}	Not defined		
Management plan	SSB_{MGT}	Not defined		
	F_{MGT}	Not defined		

* Not used as a biological reference point but used in ICES MSY approach for stocks of short-lived species.

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

Catches in 2020 were estimated as 73,921 tonnes. ICES advises that when the MSY approach is applied, there should be zero catch in 2021. In order to obtain samples to assess the status of the stock in 2022, ICES advises a monitoring TAC in 2021. Catches should not exceed 5000 tonnes and should have an associated sampling protocol in the fishery.

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

ICES advice and stock assessment are subject to internal and external peer review. The stock assessment are subject to the process of the compilation and quality checks of the ICES stock assessment dataset. Further, periodic benchmark assessments are organized by ICES, which is the scientific body that conducts the annual assessments, efforts are taken to ensure that participants in benchmark meetings include experts in assessment methods relevant for the stock(s) under consideration, but not involved in the annual working group meetings where the assessments are reviewed. The views of the independent experts have strong influence in the conclusions and recommendations from the benchmark assessments. Moreover, the ICES Advisory Committee (ACOM) reviews all Working Group Reports and finalizes the advice on each stock. This process routinely requires one or two addition experts, independent of any engagement in the relevant working group, review each assessment for quality and for coherence of the draft advice with the assessment.

A2.5 The assessment is made publicly available.

All ICES reports and stock assessment are available in ICES website.

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.2r, https://doi.org/10.17895/ices.advice.7673
ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG website.
ICES. 2020. Inter-benchmark process on Sandeel (Ammodytes spp.) in Area 2r (central and southern North Sea, Dogger Bank), and Area 3r (Skagerrak, northern and central North Sea) (IBPSandeel). ICES Scientific Reports, 2:11. 23 pp. http://doi.org/10.17895/ices.pub.5553

Links

MARINTRUST Standard clause	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	12.3
GSSI	D.5.01, D.6.02, D.3.14

A3	**Harvest Strategy - Minimum Requirements**		
	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
	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.	PASS
	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).	PASS
		Clause outcome:	**PASS**

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

The ICES approach for MSY based management of a short-lived species such as sandeel is the escapement strategy, i.e. to maintain SSB above MSY Btrigger after the fishery has taken place. Management strategy evaluations (ICES, 2016) established that the escapement-strategy is not sustainable for short-lived species, unless the strategy is combined with a ceiling (Fcap) on the fishing mortality and estimated this Fcap for SA 2r sandeel at 0.44. This means that if the TAC that results from the escapement strategy corresponds to an Fbar that exceeds Fcap, then the TAC is determined based on a fishing mortality corresponding to Fcap.

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.

For sandeel in area 2r, for the 2016-2020 period, catches exceeded the catch advice in 2016, 2018 and 2020, which can be considered as regularly exceeding the catch advice. Removals on these three years exceeded the catch advice by more than 10%. However, the stock is considered to be above the limit reference point in 2021

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 advises that when the MSY approach is applied, there should be zero catch in 2021. In order to obtain samples to assess the status of the stock in 2022, ICES advises a monitoring TAC in 2021. Catches should not exceed 5000 tonnes and should have an associated sampling protocol in the fishery.

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.2r, https://doi.org/10.17895/ices.advice.7673

ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG website. ICES. 2020. Inter-benchmark process on Sandeel (Ammodytes spp.) in Area 2r (central and southern North Sea, Dogger Bank), and Area 3r (Skagerrak, northern and central North Sea) (IBPSandeel). ICES Scientific Reports, 2:11. 23 pp. http://doi.org/10.17895/ices.pub.5553
Standard clause 1.3.2.1.3

Links	
MARINTRUST Standard clause	1.3.2.1.3, 1.3.2.1.4
FAO CCRF	7.2.1, 7.22 (e), 7.5.3
GSSI	D3.04, D6.01

A4	**Stock Status - Minimum Requirements**		
	A4.1	The stock is at or above the target reference point, OR IF NOT: 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: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	PASS
		Clause outcome:	**PASS**

A4.1 The stock is at or above the target reference point, OR IF NOT:

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:

The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.

ICES assesses that the spawning-stock size is below MSY Bescapement and Bpa but above Blim. No reference points for fishing pressure have been defined for this stock (Figure 3).

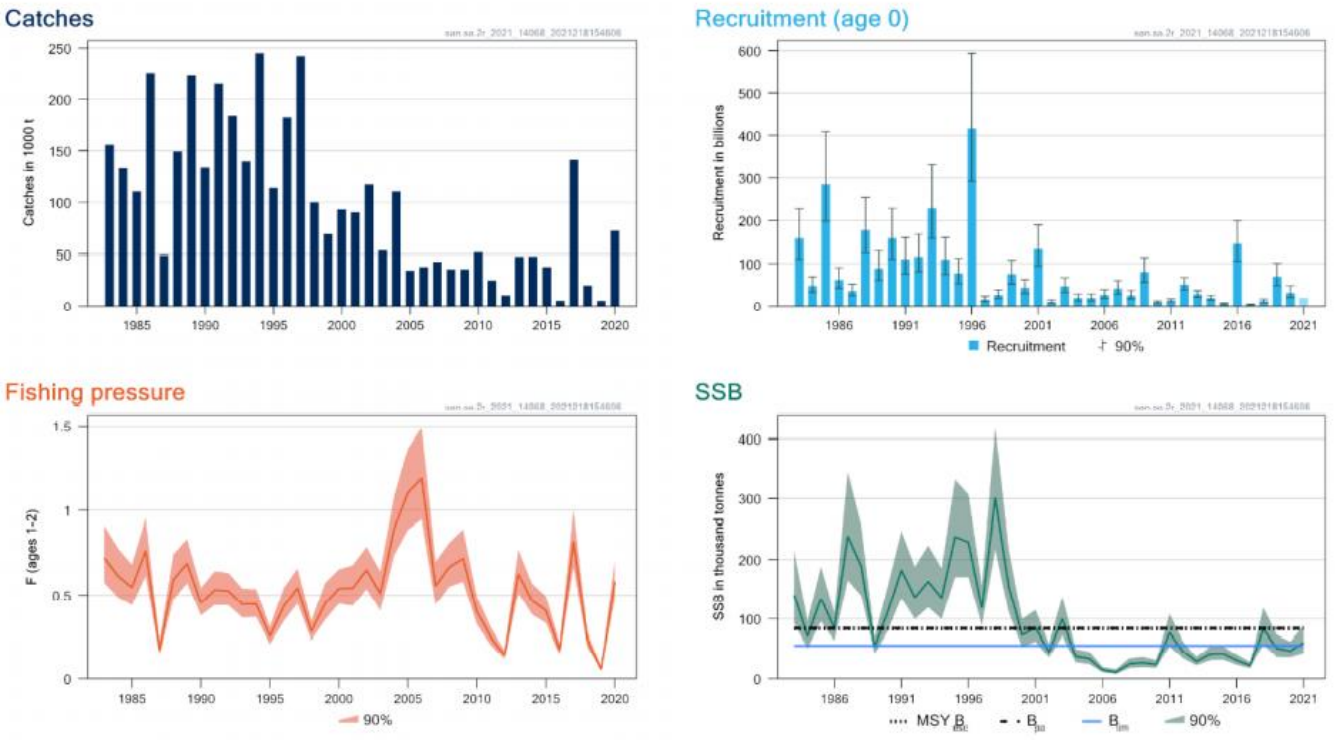


Figure 3. Sandeel in divisions 4.b–c and Subdivision 20, Sandeel Area 2r. Summary of the stock assessment. The assumed recruitment value for 2021 is shaded in a lighter colour.
References ICES. 2021. Sandeel (Ammodytes spp.) in divisions 4.b–c and Subdivision 20, Sandeel Area 2r (central and southern North Sea). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, san.sa.2r, https://doi.org/10.17895/ices.advice.7673

Links	
MARINTRUST Standard clause	**1.3.2.1.4**
FAO CCRF	**7.2.1, 7.2.2 (e)**
GSSI	**D6 01**

Species Name	Sandeel, *Ammodytes marinus* divisions 4.a–b and Subdivision 20, Sandeel Area 3r (northern and central North Sea, Skagerrak)

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**

A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

Reported catches, fishing days, and vessel monitoring system (VMS) data indicated that a substantial amount of catches taken in SA 3. In 2019, the 3-group provided the second largest contribution to the catches (44%) a bit below the 65% reported in 2012 when the large 2009-year class were 3 years old. The proportion of group-1 was 67% in 2020. CPUE data from the dredge survey in 2020 show above average indices for both age 0 and age 1 in 2020. The Norwegian acoustic survey (2009–2020) carried out in Norwegian EEZ is used as tuning series in the assessment in SA 3r. The survey covers the main sandeel grounds in SA 3r.

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

The model used for this stock is Age-structured model (SMS-effort), half-yearly time-step (ICES, 2021b). Input data are as follows: Acoustic survey index (D9376) (2010–2020) and dredge survey index (2005–2020); Total international catch and fishing effort; Constant maturity-at-age estimated from the dredge survey; Natural mortality estimated from multispecies assessment (ICES, 2018); Age frequencies from catch sampling. Discards and bycatch are considered to be negligible.

Therefore, removals and additional information is collected to assess the stock status of this species.

References

ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG website.

Links

MARINTRUST Standard clause	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	7.3.1, 12.3
GSSI	D.4.01, D.5.01, D.6.02, D.3.14

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
		Clause outcome:	**PASS**

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.

Stock assessment for sandeel stocks in the North Sea are performed annually and stock assessment outcome are presented in ICES advices published annually.
A commercial tuning series (RTM) describing the average catch in numbers-at-age per fishing day of a standard vessel in April/early May is used in the assessment. Catch statistics for each division are given by country in the ICES HAWG working

group. Catch statistics and effort by assessment area are also given. Historical data series of the total catch (in tonnes) by country as estimated by ICES is presented from 1952 to 2020. Figure 1 above shows total catches by areas. Therefore, Fisheries removals are considered and in the last ICES stock assessment and biological characteristics of the species are taken into account to define fishing seasons among other stock information used to define management measures.

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

The SSB has increased from below Blim in 2013 to above Bpa since 2015, due to above average recruitment in 2013, 2014, 2016, 2018 to 2020 combined with a low fishing mortality. Recruitment estimates for 2018-2020 are all above average. Since 2011 the Norwegian sandeel fishery in the current SA3r has been managed according to an area-based management plan for the Norwegian EEZ and an advice provided by the IMR in Bergen.

This stock was inter-benchmarked in 2020 because the assessment has a tendency to overestimate both recruitment and SSB when recruitment is above average (ICES, 2020). A density dependency in the dredge survey recruitment index was included in the assessment model to account for overestimation of large incoming year classes. This change reduced the overestimation of SSB and recruitment in the assessment model. (Table 3)

Table 3. Sandeel in divisions 4.a–b and Subdivision 20, Sandeel Area 3r. Reference points, values, and their technical basis. ICES 2021.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{escapement}$	129 000 t	= B_{pa}	ICES (2017)
	F_{MSY}	Not defined		
	F_{cap}*	0.29	The maximum F, as estimated from the management strategy evaluation (MSE), that results in < 5% probability of SSB < B_{lim}	ICES (2017)
Precautionary approach	B_{lim}	80 000 t	The lowest SSB at which a high recruitment is observed	ICES (2017)
	B_{pa}	129 000 t	$B_{pa} = B_{lim} \times \exp(\sigma \times 1.645)$, with $\sigma = 0.29$ estimated from the assessment uncertainty in the terminal year	ICES (2017)
	F_{lim}	Not defined		
Management plan	SSB_{MGT}	Not defined		
	F_{MGT}	Not defined		

* Not used as a biological reference point but used in ICES MSY approach for stocks of short-lived species.

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

ICES advises that when the MSY approach is applied, catches in 2021 should be no more than 161,335 tonnes.

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

ICES advice and stock assessment are subject to internal and external peer review. The stock assessment are subject to the process of the compilation and quality checks of the ICES stock assessment dataset. Further, periodic benchmark assessments are organized by ICES, which is the scientific body that conducts the annual assessments, efforts are taken to ensure that participants in benchmark meetings include experts in assessment methods relevant for the stock(s) under consideration, but not involved in the annual working group meetings where the assessments are reviewed. The views of the independent experts have strong influence in the conclusions and recommendations from the benchmark assessments. Moreover, the ICES Advisory Committee (ACOM) reviews all Working Group Reports and finalizes the advice on each stock. This process routinely requires one or two addition experts, independent of any engagement in the relevant working group, review each assessment for quality and for coherence of the draft advice with the assessment.

A2.5 The assessment is made publicly available.

All ICES reports and stock assessment are available in ICES website

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.3r, https://doi.org/10.17895/ices.advice.7674

ICES. 2021a. Advice on fishing opportunities. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, section 1.1.1. https://doi.org/10.17895/ices.advice7720. ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG website.

Links	
MARINTRUST Standard clause	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	12.3
GSSI	D.5.01, D.6.02, D.3.14

A3	**Harvest Strategy - Minimum Requirements**		
	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
	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.	PASS
	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).	PASS
		Clause outcome:	**PASS**

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

The ICES approach for MSY based management of a short-lived species such as sandeel is the escapement strategy, i.e. to maintain SSB above MSY Btrigger after the fishery has taken place. Management strategy evaluations presented at the ICES WKMSYREF2 and WKMSYREF5 meeting (ICES, 2014a, 2017) indicated that the escapementstrategy is not sustainable for short-lived species, unless the strategy is combined with a ceiling (Fcap) on the fishing mortality. This means that if the TAC that comes out of the Escapement strategy corresponds to an Fbar that exceeds Fcap, then the Escapement-strategy should be disqualified and the TAC is instead determined based on a fishing mortality corresponding to Fcap. Fcap for SA 4 (in accordance with the concepts of a conventional management strategy evaluation and a selection criteria of 0.05 probability of SSB < Blim) is set at 0.15 (ICES, 2016). However, it is important to acknowledge that the assessment model does not consider that a significant part of SA 4 (East coast of Scotland, sand banks covered by the dredge survey) is closed to fishing. Accordingly, the estimated TAC would in practice be achieved in a much smaller region than the whole SA 4 which raises concerns of local depletion. Therefore, such a high TAC may not be sustainable and future work should consider how to incorporate the spatial management in place in future advice.

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.

For sandeel in area 3r, for the 2016-2020 period, catches exceeded the catch advice in 2017, 2019 and 2020 by more than 10%. However, the stock has been well above the limit reference point during that period and is also considered to be above the limit reference point in 2021.

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 applied different management strategies to allow that the stock status is above biomass reference points. When the stock has showed lower SSB estimation, the TAC has been reduced i.e in 2011 there was no fishery and 2011 catches were allowed just for monitoring purposes could not exceed 5000 t. In 2021 ICES advice is MSY approach: allow for sufficient stock (MSY Bescapement) to remain for successful recruitment, therefore, catches in 2021 should be no more than 161,335 tonnes.

References

ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.3r, https://doi.org/10.17895/ices.advice.7674

ICES. 2021a. Advice on fishing opportunities. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, section 1.1.1. https://doi.org/10.17895/ices.advice7720. ICES. 2021b. Sandeel in Division 3.a and Subarea 4. In Herring Assessment Working Group for the Area South of 62°N (HAWG), Section 9. In prep. Section 9 is available separately at the HAWG website.

Standard clause 1.3.2.1.3

Links	
MARINTRUST Standard clause	1.3.2.1.3, 1.3.2.1.4
FAO CCRF	7.2.1, 7.22 (e), 7.5.3
GSSI	D3.04, D6.01

A4	**Stock Status - Minimum Requirements**		
	A4.1	The stock is at or above the target reference point, OR IF NOT: 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: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	PASS
		Clause outcome:	**PASS**

A4.1 The stock is at or above the target reference point, OR IF NOT:

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:

The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.

ICES assesses that the spawning- stock size is above MSY Bescapement, Bpa, and Blim. No reference points for fishing pressure have been defined for this stock (Figure 4).

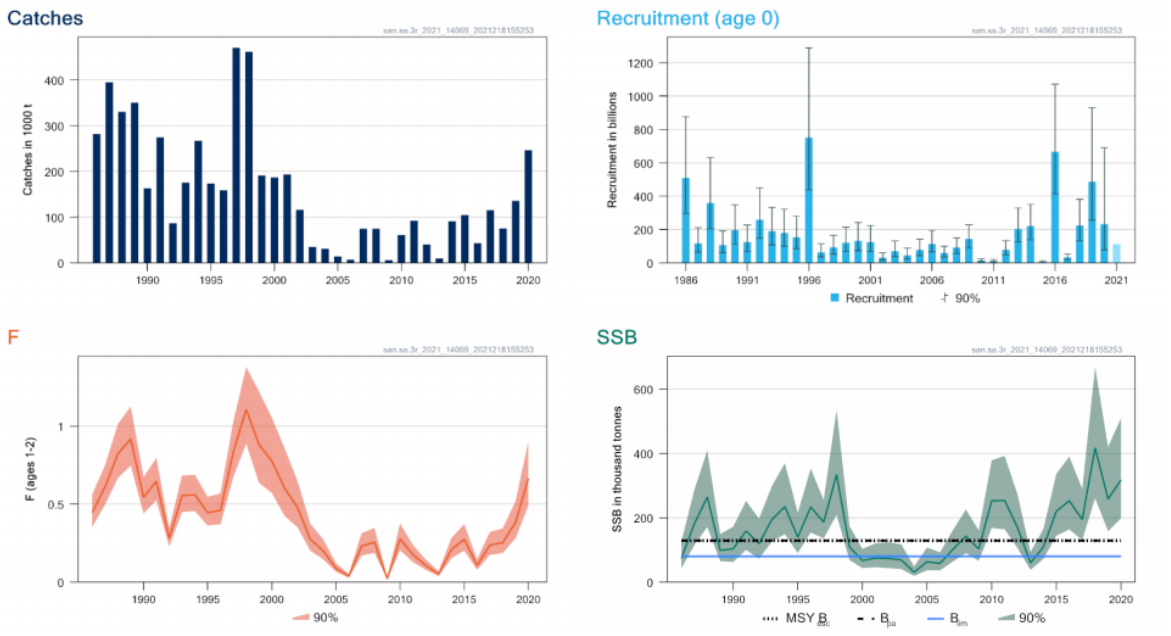


Figure 4. Sandeel in divisions 4.a–b and Subdivision 20, Sandeel Area 3r. Summary of the stock assessment. The assumed recruitment value for 2021 is shaded in a lighter colour.

References	
ICES. 2021. 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, 2021. ICES Advice 2021, san.sa.3r, https://doi.org/10.17895/ices.advice.7674	
Links	
MARINTRUST Standard clause	**1.3.2.1.4**
FAO CCRF	**7.2.1, 7.2.2 (e)**
GSSI	**D6 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.

Species Name		**Herring, *Clupea harengus*, 4 & 3a and 7d (North Sea, Skagerrak and Kattegat, eastern English Channel)**	
C1	**Category C Stock Status - Minimum Requirements**		
	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.	PASS
	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.	PASS
		Clause outcome:	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.

In the last stock assessment the input data used were: Commercial catches and five survey indices (IBTS Q1 1-ringer, IBTS0, LAI as SSB index, HERAS 1-8 ringers, IBTS Q3 0-5-ringers); annual maturity data from HERAS survey, natural mortalities from SMS North Sea multispecies model. Discards Discarding is considered to be negligible. Therefore, removals are considered in the stock assessment.

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.

Spawning-stock biomass (SSB) fluctuated between 1.5 and 2.7 million tonnes between 1998 and 2018, and in all years it was above MSY Btrigger. Fishing mortality (F) has been below FMSY since 1996. Recruitment (R) has been relatively low since 2002, with very low recruitment in 2015 and 2017 (**Figure 5**).

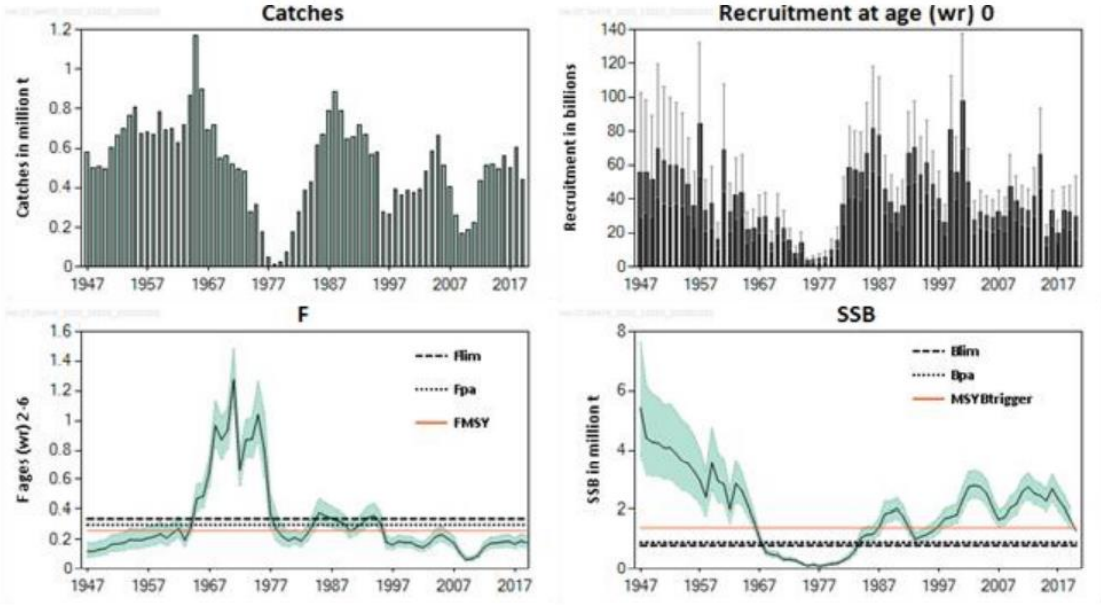


Figure 5. Herring in Subarea 4 and divisions 3.a and 7.d, autumn spawners. Summary of the stock assessment; 95% confidence intervals are shown for SSB, F, and recruitment. ICES 2020

Therefore, as it is showed in the figure 4, SSB is below trigger but is above Bpa and Blim, therefore, is considered to be above limits.

References

ICES. 2020. 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, 2019. ICES Advice 2019, her.27.3a47d, https://doi.org/10.17895/ices.advice.6026.

ICES. 2019. 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, 2019. ICES Advice 2019, her.27.3a47d, https://doi.org/10.17895/ices.advice.4716.

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

Species Name	**Whiting, *Merlangius merlangus*, 4 North Sea & 7d. (eastern English Channel)**	
C1	**Category C Stock Status - Minimum Requirements**	
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.	PASS
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.	PASS
	Clause outcome:	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.

In the last stock assessment the input data were: Commercial catches (international catches, ages from catch sampling by métier, since 1978), two survey indices (IBTS Q1 & Q3; ages 0 to 5; since 1983); time-varying maturity estimated from NS IBTS Q1 data; time-varying natural mortalities from the SMS multispecies model (ICES, 2019b).

Discards, BMS landings, and bycatch: the proportion of landings with associated discards was 73%. 55% of the discards were sampled. No biological samples were available for age allocations from the industrial bycatch; therefore, samples of total catches were used and mean weight-at-age is assumed equal to catch weights-at-age. Below minimum size (BMS) landings, where reported to ICES, are included with discards as unwanted catch in the assessment since 2015.

Therefore, removals of the species are considered in the last stock assessment.

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.

Whiting in Subarea 4 and Division 7.d has shown that state of the stock and the fishery relative to reference points is that Spawning-stock biomass (SSB) has fluctuated around MSY Btrigger since the mid-1980s and it was just below it in 2019. For this year, SSB is above Btrigger. The stock is also above Bpa and Blim and is in full reproductive capacity. Fishing mortality (F) has been above FMSY throughout the time-series, apart from 2005. Recruitment (R) has been fluctuating without trend, but the last two-year classes are below average (Figure 6).

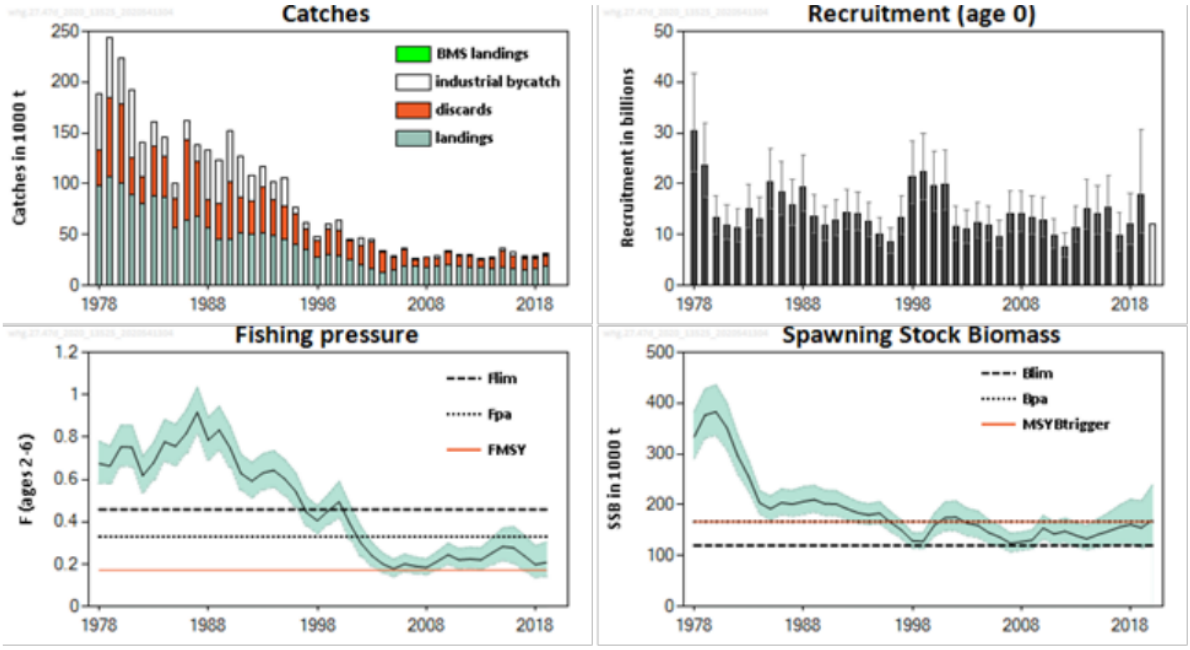


Figure 6. Whiting in Subarea 4 and Division 7.d. Summary of the stock assessment. Shaded areas (Fishing pressure [F], Spawning-stock biomass [B]) and error bars (Recruitment) indicate 95% confidence intervals. Assumed recruitment is unshaded. Landings below minimum conservation reference size (BMS) as officially reported. ICES 2021

References

ICES. 2020. Whiting (Merlangius merlangus) in Subarea 4 and Division 7.d (North Sea and eastern English Channel). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, whg.27.47d. https://doi.org/10.17895/ices.advice.5935.

ICES. 2019. Whiting (Merlangius merlangus) in Subarea 4 and Division 7.d (North Sea and eastern English Channel). In Report of the ICES Advisory Committee, 2019. ICES Advice 2019, whg.27.47d, https://doi.org/10.17895/ices.advice.4878

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

Species Name	**Mackerel, *Scomber scombrus*, 1-8 & 14, 9a (Northeast Atlantic and adjacent waters)**	
C1	**Category C Stock Status - Minimum Requirements**	
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.	PASS
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.	PASS
	Clause outcome:	**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.

The input data used in the last stock assessment of 2020 were: Catch data, steel tagging data (1980–2006) and RFID tagging data (2014–2019), and three survey indices: SSB index from the triennial egg survey (1992–2019), abundance indices from the IBTS survey (combined Q1 and Q4; age 0, 1998–2019), and from the IESSNS survey (ages 3–11, 2010, 2012–2020). Catches prior to 2000 are given a very low weight in the assessment. Natural mortality (= 0.15 for all ages and years) is based on tagging studies from the early 1980s.

Discarding is known to take place (0.9% of the total catch in weight in 2019) but is only quantified for part of the fisheries; the proportion of the landings covered cannot be calculated. Partial discard estimates are included in the assessment and overall discarding in recent years is assumed negligible.

Therefore, removals of the species are considered in the last stock assessment.

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 spawning-stock biomass (SSB) is estimated to have increased since 2007, reaching a maximum in 2014, and has been declining since then. It has, however, remained above MSY Btrigger since 2008. The fishing mortality (F) has declined since 2003 and is estimated to have been below FMSY since 2016. There has been a succession of large year classes since 2001, with year classes since 2011 estimated to be above average (Figure 7).

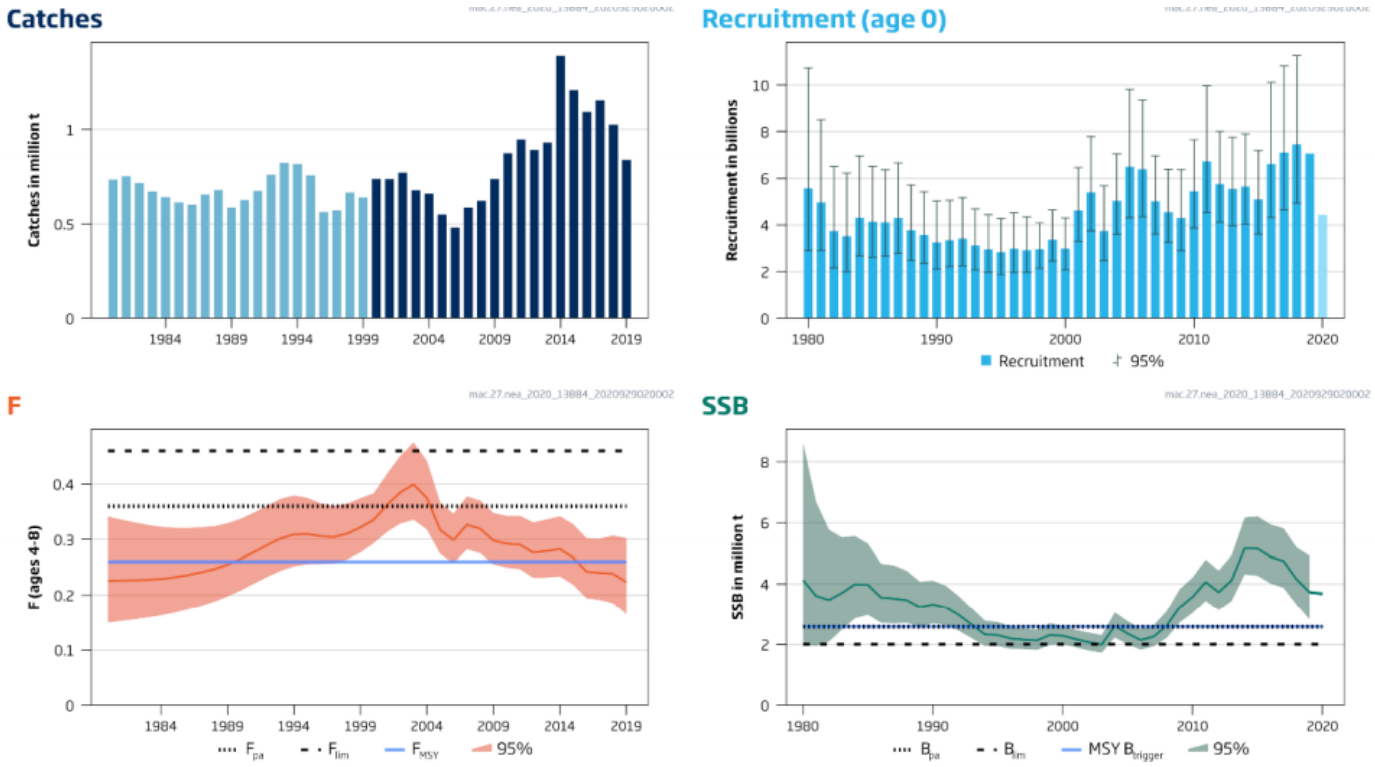


Figure 7. Mackerel in subareas 1–8 and 14, and in Division 9.a. Summary of the stock assessment. The paler shaded catches prior to 2000 have been down-weighted in the assessment because of the considerable underreporting suspected to have taken place in this period. The recruitment value for 2019 is estimated using the recruitment survey (IBTS) and a model (RCT3), and the recruitment value for 2020 is the geometric mean of the recruitments from 1990 to 2018. ICES 2020.

Therefore, ICES assess that fishing pressure on the stock is below FMSY, and spawning-stock size is above MSY Btrigger, Bpa, and Blim.

References

ICES. 2020. 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, 2020. ICES Advice 2020, mac.27.nea. https://doi.org/10.17895/ices.advice.5907

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

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
		Clause outcome:	**PASS**

F1.1 Interactions with ETP species are recorded.

Seabirds. At least 19 species of seabird breed on the coasts of the Greater North Sea, in particular large numbers of northern gannet *Morus bassanus*, herring gull *Larus argentatus*, lesser black-backed gull *Larus fuscus*, black-legged kittiwake *Rissa tridactyla*, and common guillemot *Uria aalge*. Broadly, the numbers of breeding seabirds increased until about 2000, after which there was a decline. The North Sea is used for feeding, both by breeding species on its coasts and by birds from further afield during the non-breeding season. Immigrants during winter from the north and east are of particular note. Numbers of some of these immigrants have been declining, possibly due to milder winters, meaning that these migrants can remain in waters closer to their breeding grounds.

Marine mammals. Two species of seal occur commonly in the North Sea: grey seal *Halichoerus grypus* and harbour seal *Phoca vitulina*. Four cetacean species occur commonly or are resident: minke whale *Balaenoptera acutorostrata*, harbour porpoise *Phocoena phocoena*, white-beaked dolphin *Lagenorhynchus albirostris*, and bottlenose dolphin *Tursiops truncatus.* A further five species are considered regular but less common, short-beaked common dolphin *Delphinus delphis*, Atlantic white-sided dolphin *Lagenorhynchus acutus*, long-finned pilot whale Globicephala melas, killer whale Orcinus orca, and Risso's dolphin Grampus griseus. Both seal species have gone through large population changes over the past century. The abundance of harbour seals reached an all-time low in the 1970s but subsequently increased steadily at an annual rate of 4%; however, this increase was affected by two major interruptions due to outbreaks of the phocine distemper virus (PDV) in 1988 and 2002. Over the last 15 years, declines in the harbour seal population have occurred in the northwestern North Sea. The reasons for these recent declines are unknown, although they are thought to be different in different areas. Grey seals occur predominantly along the British coasts of the North Sea and have been increasing at an annual rate of up to 10%. Trends in the abundance of cetaceans are less well known, but it is known that the centre of summer distribution of harbour porpoises moved southwards between 1994 and 2005, possibly in response to changes in availability of main prey. Minke whales and white-beaked dolphins are found mainly in the northern North Sea, with no obvious changes in distribution between the two surveys. The resident population of bottlenose dolphins lives along the coasts of eastern Scotland and is considered to be stable or increasing.

Further, the surveys carried out annually to study the ecosystems components on the North Sea, the observer programmes also recorded interactions with ETPs from the fleet. However, these interactions with seabirds and marine mammals are considered negligible in pelagic trawls.

F1.2 There is no substantial evidence that the fishery has a significant negative effect on ETP species.

The fishery is conducted with trawl that are generally known to have negligible bycatch of birds or marine mammals (Gislason et al. 2013). This has been documented by the observer program in the North Sea herring fishery, whose results are likely to apply also to the reduction fishery (ICES 2014). fishery has developed a code of conduct including logbook reporting of bycatch.

F1.3 If the fishery is known to interact with ETP species, measures are in place to minimise mortality.

The adopted measures in the strategy is the fishing gear and closure of areas with species of particular concern. For seabirds and marine mammals there is an objective basis supporting that the type of fishing gear used has limited impact on birds and mammals relevant ETP species. The implementation of closed areas for particular sensitive species is likely to work. An example is provided by the Isle of May kittiwakes: the breeding success of the Kittiwake population at the Isle of May is known to be directly linked to the nearby sandeel population. This effect prompted the closure of the fishery in Firth of Forth in 2000

(region IV), where there has since only been a monitoring fishery of 5000 t/yr to monitor the population (ICES, 2014d). The instigation of a closure provides confidence that the strategy will work, also for other species and cases. Despite an initial increased breeding success after the closure (ICES, 2014d), the population of kittiwakes at the Firth of Forth islands continues to decline (by 63.1% between 2000 and 2013; http://jncc.defra.gov.uk/page-2889). This demonstrates that kittiwake population dynamics is influenced by factors other than the fishery. Although primarily directed at protecting birds, this example, where the status of an ETP species has prompted the close of an area for the fishery, provides confidence that the measure will work, also for other species, should a threat be identified.

References

ICES. 2020. Greater North Sea Sea Ecoregion – Ecosystem overview. In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, Section 9.1, https://doi.org/10.17895/ices.advice.7632.

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-MSC-7a-v3. MRAG Americas, Inc. March 23, 2017. 388 pp.

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Gislason, H., Jørgen Dalskov, Grete E. Dinesen, Josefine Egekvist, Ole Eigaard, Thomas Kirk Sørensen and Finn Larsen (2013) Miljøskånsomhed og økologisk bæredygtighed i dansk fiskeri. Notes from NaturErhversstyrelsen, Journal nr. 12/09478.

Links	
MARINTRUST Standard clause	1.3.3.1
FAO CCRF	7.2.2 (d)
GSSI	D4.04, D.3.08

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

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

Protection of sensitive habitats is regulated through international convention of biodiversity (OSPAR 03/17/1, Annex 9) amended by OSPAR Recommendation 2010/2 (OSPAR 10/23/1, Annex 7) and corresponding national legislation (Marine and Coastal Access Act, 2009, in the UK areas; Natura2000 in Denmark). The measures for the implementation of legislation are a series of Marine Protected Areas (MPAs). Of the 42 sites located in the coastal zone where only Danish fishermen have fishing rigths – 32 sites are fully protected either through the Natura 2000 National Order (No. 1048/2013) or through the National Order governing fishery with trawls in the coastal zone (No. 1588/2015).

In 2014, Denmark launched a regional process with Sweden and Germany with the aim of protecting reef structures in 10 Danish Natura 2000 sites in the Kattegat area and Western Baltic Sea.

Denmark,as the initiating Member State, has invited the Baltic Sea Member States to the regional process regarding the Baltic Sea sites `Adler Grund & Tønneberg Banke´. For the other 6 sites, only Sweden and Germany have fishing rights.

The proposals to protect the habitats or create new MPAs are always expose to a pre-consulting meeting. These proposals are forwarded, alongside the joint recommendations to the European Commission before approval. If the approval is granted by the European Commission, then the protected areas are accepted and implemented in European legislation as delegated acts, which can be consulted on the European Union website and Denmark Directorate of Fisheries. Therefore, there is a mechanism to follow which is considered in the decision-making process to protect habitats.

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

The sandeel fishery with pelagic trawls is conducted on sandy bottoms on fairly shallow water but pelagic trawls do not have contact with the bottom, therefore, as a pelagic fishery operating in the column water there is no evidence of impacts on habitats. Further, the sandeel fishery operates mainly on the sides of the sand banks. Such habitats have a high energy input from tides and therefore high natural disturbance. Such habitats are considered "moderately sensitive" with "low" exposure to trawling, and a "moderate" vulnerability (JNCC 2012, Kaiser et al 2006).

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

Information on exact fishing location is available thought the vessel monitoring system (VMS) used by the fleet. Additionally, detailed habitat maps of the normal fishing grounds are also available. Pelagic gears do not contact the bottom surface and therefore, physical impacts are not considered a harm for the habitats. Additionally, the sandeel fishery is conducted in areas of sand, which tend to be high energy environments in their natural state. As such the limited disturbance of the gear is not thought to be important when compared to natural disturbances (Rice et al. 2017).

Several coastal areas and zones of known deep-water coral communities in the North Sea have been closed to fishing, in order to protect both benthic communities/habitats and juvenile demersal fish (OSPAR, 2009). These areas are also controlled and monitored following Natura 200 regulations.

References

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-MSC-7a-v3. MRAG Americas, Inc. March 23, 2017. 388 pp.

Natura 2000 and fisheries: Regional processes (fiskeristyrelsen.dk)

Links	
MARINTRUST Standard clause	1.3.3.2
FAO CCRF	6.8
GSSI	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
		Clause outcome:	**PASS**

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

Characteristics of the North Sea foodweb are a high production by autotrophic organisms which in turn are consumed by zooplankton and benthos, followed by fish, seabirds, and mammals. The North Sea foodweb is one of the most studied ones in the ICES area. In the past big fish, including elasmobranchs, were major predators in the ecosystem. The North Sea foodweb can now be considered as perturbed as many of these big fish are either absent or present only in reduced numbers. The recovering of these big fish populations will likely have consequences for the large forage fish populations in the North Sea (herring, sprat, sandeel, and Norway pout) (Figure 8).

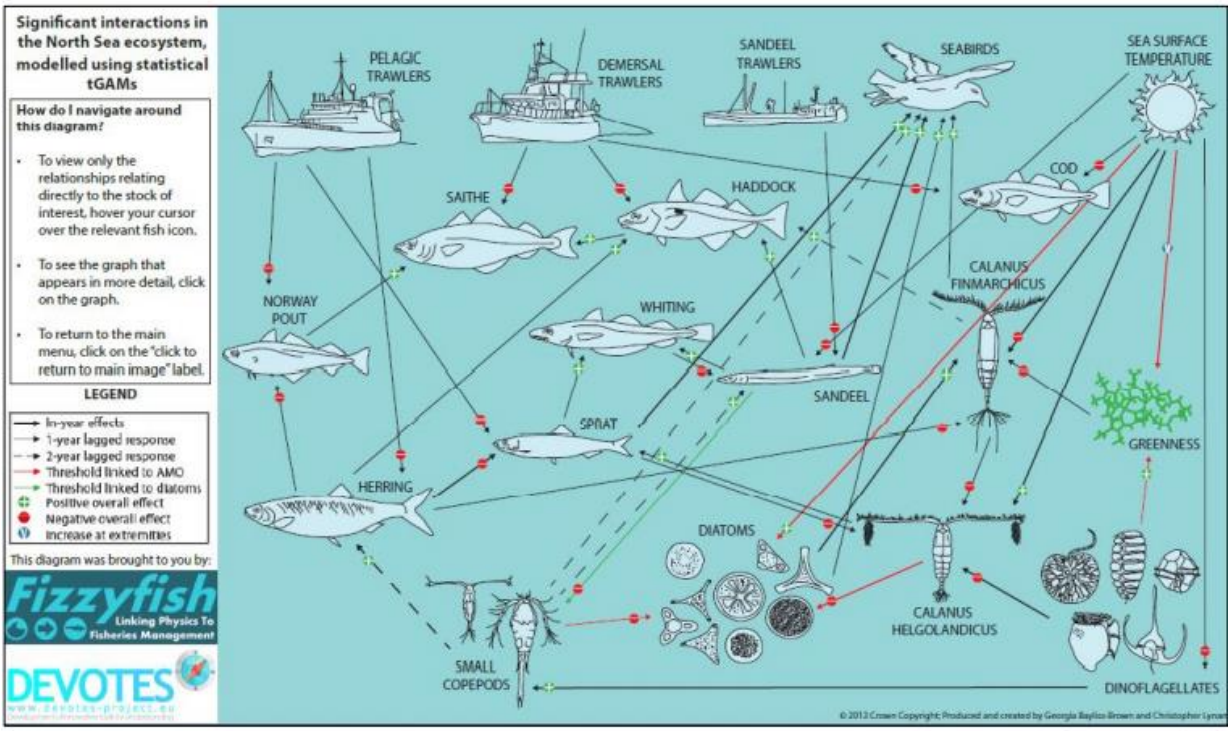

Figure 8. The major components of the Greater North Sea foodweb.
http://www.ices.dk/community/Documents/Expert%20Groups/Lynam_tGAMmodel_key_mov.pdf

The content for the ICES regional ecosystem overviews is based on information and knowledge generated by the following ICES processes: Workshop on Benchmarking Integrated Ecosystem Assessment (WKBEMIA) 2012, ACOM/SCICOM Workshop on Ecosystem Overviews (WKECOVER) 2013, Workshop to draft advice on Ecosystem Overviews (WKDECOVER) 2013, and Advice drafting group to finalize draft Ecosystem Overviews (ADGECO) 2015, which provided the theoretical framework and final layout of the documents. The ICES integrated ecosystem assessment working group Working Group on Integrated Assessments of the North Sea (WGINOSE) contributed to the main sections of this overview. The following working groups contributed to draft the subsections on the state of the ecosystem components: Benthos Ecology Working Group (BEWG), Working Group on Multispecies Assessment Methods (WGSAM), Working Group on Zooplankton Ecology (WGZE), Working Group on Cephalopod Fisheries and Life History (WGCEPH), Working Group on Marine Mammal Ecology (WGMME), and Working Group on Introductions and Transfers of Marine Organisms (WGITMO). In these working groups there are many

different institutions involved along with governments that provide the information for the working groups. Having said that the North Sea broader ecosystem is considered during the management decision-making process.

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

Direct evidence that the fishery is disrupting dependent predators could be recovery of higher trophic level species, and/or the absence of changes in somatic growth or other effects related to food limitation. The higher trophic level fish species have over a long period been of very low abundance compared to historic abundances. The lack of recovery of these species is most likely due to high fishing mortality on the species. There is some evidence of an incipient recovery of cod in the North Sea (ICES, 2015) facilitated by reductions in fishing mortality. This indicates that forage fishing is not hindering recovery. Regarding growth changes, there are no systematic studies linking growth changes (or the absence of growth changes) to lower trophic levels in the North Sea. Further, the current model used in the assessment of natural mortality ("SMS") does not allow the estimation or simulation of food limitation on higher trophic levels. Some efforts have been made to solve these problems, by setting up an EcoSim model and including food-dependent growth, however conclusive evidence has yet to emerge (ICES 2014). Therefore, there is no evidence that the fishery has a negative impact on the ecosystem.

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.

Management of ecosystem effects of the fishery is mandated by the Common Fisheries Policy (CFP). The CFP recognizes the need to manage fisheries collectively on a multispecies basis as well as the need to increasingly account for ecosystem aspects in formulating future fishery management policy and in developing management plans. This is being expressed though the Marine Strategy Framework Directive. A partial strategy of implementing ecosystem effects of fishing on other components of the food web is the use of multi-species models to derive natural mortalities (M2s; ICES 2014). These M2s forms an explicit link between higher trophic level species (larger fish, birds and marine mammals) to lower trophic level species. The M2s are used in the stock assessment of sandeel, sprat and Norway pout, and they therefore directly influence the setting of TACs.

References

ICES (2014) Interim Report of the Working Group on Multispecies Assessment Methods (WGSAM) ICES CM 2014/SSGSUE:11 Lewy, P. and Vinther, M. (2004). A stochastic age-length-structured multispecies model applied to North Sea stocks. ICES CM, FF:22, 33.pp Mackinson, S., and G. Daskalov (2007) An ecosystem model of the North Sea to support an ecosystem approach to fisheries management: description and parameterisation. Cefas Science Series Technical Report 142, 195 pp

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ICES. 2020. Greater North Sea Sea Ecoregion – Ecosystem overview. In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, Section 9.1, https://doi.org/10.17895/ices.advice.7632.

Links	
MARINTRUST Standard clause	1.3.3.3
FAO CCRF	7.2.2 (d)
GSSI	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.

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)