MarinTrust RS V2.0

WHOLEFISH FISHERY ASSESSMENT REPORT TEMPLATE DOCUMENT

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TABLE 1 APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME

Application details and summary of the assessment outcome			
Name: North Atlantic Pelagic Advocacy Group (NAPA)			
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Country: UK		**Zip:** S75 1BL	
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Email address: tom@tomolamolaconsulting.com		**Applicant Code**	
Key Contact: Tom Pickerell		**Title:** NAPA Project Lead	
Certification Body Details			
Name of Certification Body:		RS Standards	
Assessor Name	**CB Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-approval**
RS Standards			Improver Programme initial assessment
Assessment Period	March 2021		
Scope Details			
Management Authority (Country/State)		EU, Faroe Islands, Norway, Iceland, UK	
Main Species		Blue Whiting	
Fishery Location		NE Atlantic	
Gear Type(s)		Pelagic trawl & purse seine	
Outcome of Assessment			
Overall Outcome			
Clauses Failed		A3.2	
CB Peer Review Evaluation			
Fishery Assessment Peer Review Group Evaluation			
Recommendation			

TABLE 2. ASSESSMENT DETERMINATION

Assessment Determination
Fishery Assessment Peer Review Comments
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	Blue whiting (*Micromesistius poutassou*)	>98%	A1	PASS
			A2	PASS
			A3	GAP
			A4	PASS
Category B	No Category B Species		n/a	
Category C	No Category C Species	<1%	PASS	
Category D	No Category D Species	<1%	PASS	

Catch Composition

The four MSC certification reports covering components of this blue whiting fishery each utilise catch composition data from different sources. A summary of these is provided below and used to conduct the Marin Trust species categorisation procedure.

The February 2016 SPSG, DPPO, PFA, KFO & CDPSM MSC certification report[1] primarily uses declared landings data to consider catch composition in the fishery. The certification report (p. 45) concludes that the "blue whiting fishery can generally be described as a clean, single-species fishery, though small quantities of other species such as mackerel can occur". The only species other than blue whiting identified as being present in the catch are mackerel and horse mackerel, both representing less than 0.1% of landings. All five Units of Certification (UoC) within this certification report use pelagic trawl gears.

The June 2016 FPO MSC certification report[2] uses Faroese Pelagic Organisation (FPO) and Faroese Industrial group of vessels (FIV) data to consider catch composition in the fishery. Subsequent surveillance reports note that there has been no significant change in catch composition since the original assessment. The 2016 certification report (p. 38) states that "The fisheries for blue whiting (all gears) are highly selective – specifically targeting what are predominantly single-species shoals". Blue whiting is estimated to make up 98-100% of the catch. The only other species noted in the report as making up more than 0.1% of the catch are saith (1.25%), silver smelt (0-2%), mackerel (<1%) and Atlanto-Scandian herring (<1%). Species noted as occasionally present, though making up less than 0.1%

[1] MSC fishery page, PFA, DPPO, KFO, SPSG & CDPSM Northeast Atlantic blue whiting pelagic trawl, https://fisheries.msc.org/en/fisheries/pfa-dppo-kfo-spsg-compagnie-des-peches-st-malo-northeast-atlantic-blue-whiting-pelagic-trawl/

[2] MSC fishery page, Faroese Pelagic Organization North East Atlantic blue whiting, https://fisheries.msc.org/en/fisheries/faroese-pelagic-organization-north-east-atlantic-blue-whiting/

of the catch, include cod, redfish, horse mackerel and North Sea herring. The FPO UoC uses pelagic trawl gears.

The January 2018 ISF MSC certification report[3] includes catch composition data for both pelagic and bottom trawlers for two entire years combined, and encompasses the parts of the season when vessels are targeting other species (primarily herring and mackerel). For pelagic gears, blue whiting comprises only 57% of the total catch; however the report (p. 40) notes that "during the blue whiting fishing season in Faroese fishing grounds (where the targeted fishery is located), 99% of the catches account for blue whiting, while less than 1% correspond to catches of herring". Species noted as making up more than 0.1% of the catch for the entire year include herring (21.85%), mackerel (18.38%), golden redfish (0.59%), deepwater redfish (0.32%), greater silver smelt (0.28%), cod (0.27%), saithe (0.26%), Greenland halibut (0.11%), and Norway pout (0.1%).

The July 2020 Norway MSC certification report[4] estimates catch composition using data from landings records, which according to the Norwegian landings obligation include all species in the catch except elasmobranchs. Catch composition data in the report (pp. 51-53) is broken down into three gear types: purse seine, pelagic/midwater trawl, and bottom trawl. Purse seine data indicates landings were 100% blue whiting in every year 2014-2018. Catch data for pelagic trawl gear shows that 99% of landings were blue whiting; the only species representing more than 0.1% of the annual catch were lesser silver smelt (0.3%) and Norway pout (0.3%).

Species Categorisation

Type 1 Species: All four MSC certification reports conclude that blue whiting makes up 98% or more of the catch with pelagic gears. Therefore based on these data sources, it is considered that blue whiting is the only Type 1 species caught in the fishery. As blue whiting is subject to a species-specific management regime it should be assessed under Category A.

Type 2 Species: The Icelandic report provides catch composition data for purse seines which indicates that the catch is effectively 100% blue whiting with these gears. The EU & UK report indicates no other species making up 0.1% or more of the catch with any pelagic trawl gears. The Faroese and Norwegian reports do indicate the possible presence of Type 2 species in small quantities, but there are no species which occur in both data sets.

Given the MSC reports, and uncertainty with respect to the other species that could be caught in the pelagic fishery, we've identified the following Type 2 species that could feature in >0.1% of the catches:

- Herring (*Clupea harengus*) – Norwegian spring-spawning – Category C
- Mackerel (*Scomber scombrus*) – North East Atlantic – Category C
- Norway pout (*Trisopterus esmarkii*) – North East Atlantic – Category C
- Saithe (*Pollachius virens*) – Faroes and North Sea stocks – Category C
- Lesser silver smelt (*Argentina sphyraena*) – North East Atlantic – Category D

[3] MSC fishery page, ISF Iceland North East Atlantic blue whiting, https://fisheries.msc.org/en/fisheries/isf-iceland-north-east-atlantic-blue-whiting
[4] MSC fishery page, Norway North East Atlantic blue whiting, https://fisheries.msc.org/en/fisheries/norway-north-east-atlantic-blue-whiting

TABLE 5 SPECIES CATEGORISATION TABLE

Common name	Latin name	Stock	IUCN Redlist Category[5]	% of landings	Management	Category
Blue Whiting	*Micromesistius poutassou*	North-East Atlantic	Least Concern[6]	>98%	Yes	A
Herring	*Clupea harengus*	Norwegian spring-spawning	Least Concern	<1%	Yes	C
Mackerel	*Scomber scombrus*	North-East Atlantic	Least Concern	<1%	Yes	C
Norway pout	*Trisopterus esmarkii*	North-East Atlantic	Least Concern	<1%	Yes	C
Saithe	*Pollachius virens*	Faroes & North Sea stocks	Least Concern	<1%	Yes	C
Lesser silver smelt	*Argentina sphyraena*	North-East Atlantic	Least Concern	<1%	No	D

[5] https://www.iucnredlist.org/
[6] IUCN Red List, Blue Whiting, https://www.iucnredlist.org/species/198586/18983495

HISTORY

Third-Party Recognition of the North-East Atlantic Blue Whiting Fishery

The blue whiting fishery in the North-East Atlantic has engaged with third-party recognition programmes – primarily MarinTrust (formerly IFFO RS) and the MSC – for over a decade. In 2010, components of the fishery achieved IFFO RS recognition as a responsible source of raw materials for IFFO RS certified factories. Over time a series of assessments and approvals for different components of the fishery were carried out, until landings by Iceland, Denmark (including the Faroe Islands), the UK, Ireland and Norway were all IFFO RS approved.

Prior to the 2010 approval, the fishery had experienced several years in which TAC and catches exceeded the ICES advice – sometimes by more than 50%. IFFO RS approval was given within the context of an international management plan intended to ensure catches remained within the advice[7]. In 2014 there was a failure to reach an international agreement on quota shares, and the resulting TAC (and thereafter catch) was around 25% higher than the ICES advice. Continuing IFFO RS approval was made explicitly dependent on achieving total international catches within the level advised by ICES[8].

In 2015 the IFFO RS surveillance assessment noted that the condition placed on the fishery had still not been met, and in early 2016 the fishery was suspended from IFFO RS recognition[9]. However, at the same time as the IFFO RS suspension a large component of the fishery was awarded MSC certification. Although the MSC certification was accompanied by a similar condition to that which had led to the IFFO RS suspension, the IFFO RS policy of recognising MSC-certified fisheries as a responsible source of raw materials effectively nullified the original suspension. Through this loophole the fishery continued to be used as a source of raw materials in the manufacture of IFFO RS certified fishmeal and fish oil.

Between 2016 and 2020, several further Units of Certification (UoC) within the blue whiting fishery achieved MSC recognition with similar conditions. On January 8th 2020, the three CABs involved in the MSC certifications produced a document harmonising the surveillance and re-assessment timelines for the various UoCs[10]. This document set a deadline of November 30th 2020 for the entire fishery to resolve the issues which resulted in the conditions – primarily, to reach an agreement on the total international catch.

As of the November deadline, the CABs were not satisfied that the conditions had been resolved, and the blue whiting MSC certifications were suspended with an effective date of the 30th December 2020[11].

[7] Agreement on international management of Blue whiting in the NE Atlantic, October 2011: https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/kvoteavtaler/2012/kolmule/blue_whiting_2011.pdf

[8] See, for example, the IFFO RS Faroe Islands blue whiting fishery assessment, May 2014.

[9] Blue whiting outcome statement, IFFO RS, 20 March 2016

[10] Undercurrent News, "With mackerel already gone, Atlantic herring faces MSC certificate loss", 7 February 2020: https://www.undercurrentnews.com/2020/02/07/with-mackerel-already-gone-atlantic-herring-faces-msc-certificate-loss/

[11] MSC press release, "Atlanto-Scandian herring and blue whiting fisheries to be suspended", 1 December 2020: https://www.msc.org/media-centre/press-releases/AS-herring-blue-whiting-suspension

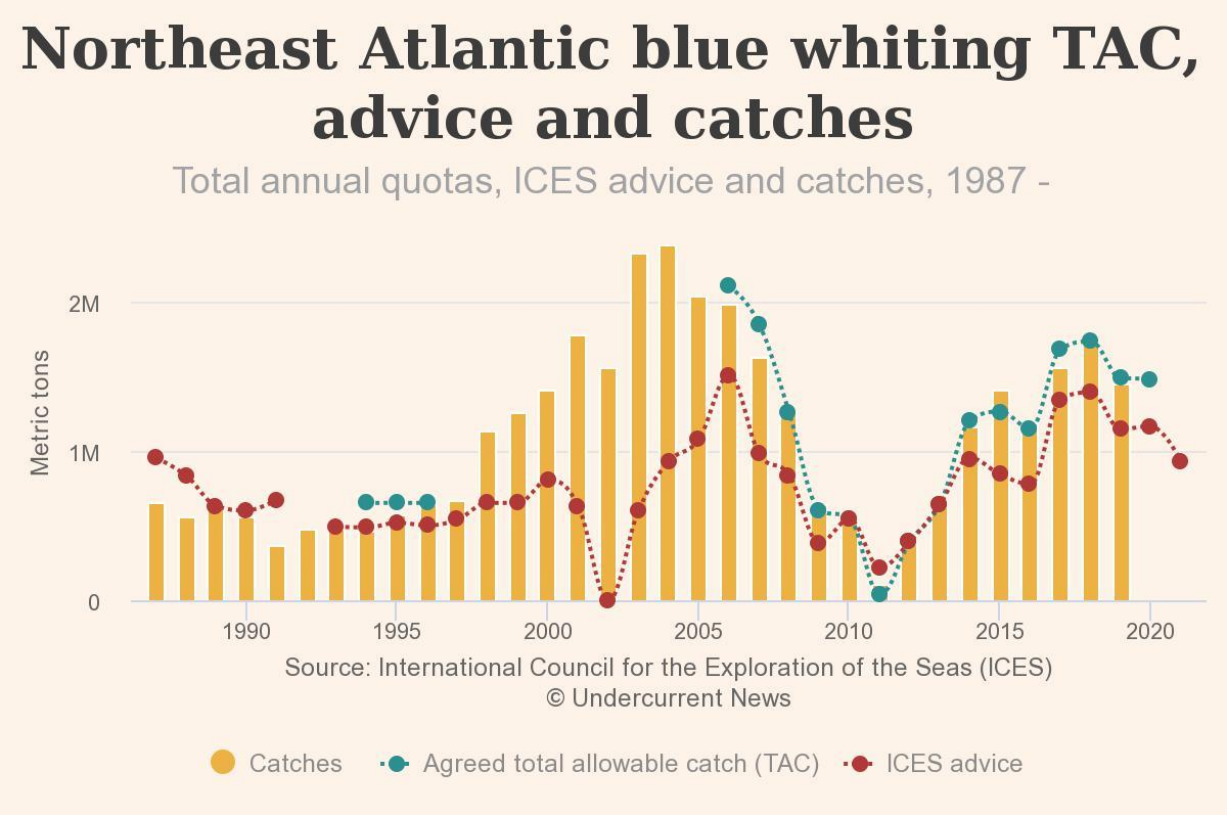


Figure 1 – Historical ICES advice, agreed TAC and actual catches for blue whiting in the NE Atlantic. TAC and catches have exceeded the ICES advice every year since 2014. From Undercurrent News, March 2020[12]

[12] Undercurrent News, "'Lose blue whiting MSC, lose Skretting': Race is on to resolve issues with key salmon feed ingredient", 9 March 2020: https://www.undercurrentnews.com/2020/03/09/lose-blue-whiting-msc-lose-skretting-race-is-on-to-resolve-issues-with-key-salmon-feed-ingredient/

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.

International

The Regional Fisheries Management Organisation (RFMO) for the North-East Atlantic is the North East Atlantic Fisheries Commission (NEAFC).

EU

Over-arching fisheries management is provided by the European Commission via the Common Fisheries Policy (CFP). Additionally, fisheries ministries of member nations play an important role at the national level.

Faroe Islands

The Faroese Ministry of Fisheries is responsible for fisheries management, research, whaling, national emergency preparedness, search and rescue, and meteorological services.

Iceland

The relevant organisation in Iceland is the Ministry of Industries and Innovation, within which the Minister of Fisheries and Agriculture has direct responsibility for fisheries management.

Norway

The Ministry of Trade, Industry and Fisheries is responsible for the management of fisheries in Norway.

UK

The majority of fisheries management operations within England are handled by the Marine Management Organisation (MMO), an executive non-departmental public body sponsored by the Department for Environment, Food and Rural Affairs (DEFRA). In Scotland the equivalent role is performed by Marine Scotland, a directorate of the Scottish Government, and in Wales by the Marine and Fisheries Division of the Welsh Government.

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

International

The main organisation responsible for stock assessment is the International Council for the Exploration of the Sea (ICES). In addition to stock assessment and catch recommendations, ICES is involved in many other scientific aspects of the fishery.

EU

Data collection is largely the responsibility of the individual member states.

Faroe Islands

The relevant organisation in the Faroe Islands is the Faroe Marine Research Institute (Havstovan).

Iceland

The relevant organisation in Iceland is the Marine and Freshwater Research Institute (MFRI).

Norway

The relevant organisation in Norway is the Institute of Marine Research (IMR).

UK

The relevant organisation in the UK is the Centre for Environment, Fisheries and Aquaculture Science (CEFAS).

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

International

The NEAFC's stated objective is "to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits".

EU

The stated aim of the CFP is to "ensure that fishing and aquaculture are environmentally, economically and socially sustainable and that they provide a source of healthy food for EU citizens". Member states also have their own individual fisheries management objectives.

Faroe Islands

The stated objective of Faroese fisheries management is "to conserve and utilise marine fish stocks in order to ensure biological and economic sustainability and secure optimal socio-economic benefits from fisheries".

Iceland

Long-term Icelandic fisheries management policy was summarised in a 2007 joint statement by the fishing industry, the Minister of Fisheries, the MFRI, and other stakeholders. The statement goes into considerable detail but states "The fisheries management in Iceland is primarily based on extensive research on the fish stocks and the marine ecosystem, decisions made on the conduct of fisheries and allowable catches on the basis of scientific advice, and effective monitoring and enforcement of the fisheries and the total catch. These are the main pillars of the Icelandic fisheries management intended to ensure responsible fisheries and the sustainability of the ocean's natural resources".

Norway

The Marine Resources Act requires that fisheries management in Norway be guided by the precautionary approach and also that it must apply an ecosystem approach to habitats and biodiversity.

UK

The Fisheries Act includes 8 Objectives. The first of these is the "sustainability objective", which is that "(a) fish and aquaculture activities are (i) environmentally sustainable in the long term, and (ii) managed so as to achieve economic, social and employment benefits and contribute to the availability of food supplies, and (b) the fishing capacity of fleets is such that fleets are economically viable but do not overexploit marine stocks".

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

International

Measures which are formally adopted by the NEAFC become binding after a period of 30 days to allow for objections. Objecting parties are not bound by measures.

EU

The main EU legislation is the Common Fisheries Policy (CFP), most recently revised in 2014.Individual member states may also have relevant fisheries laws and regulations.

Faroe Islands

The primary Faroese fisheries law is the Commercial Fisheries Act, 1994 (revised 1996).

Iceland

The main Icelandic fisheries law is the Fisheries Management Act, 1990 (amended 2006).

Norway

The main Norwegian fisheries law is the Marine Resources Act, 2008.

UK

The main UK fisheries law is the Fisheries Act, 2020.

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

International

NEAFC meetings of committees and working groups involve representatives of all the contracting parties. Stakeholders within the contracting parties are represented by these experts.

EU

The EU stakeholder consultation process is set out in the CFP.

Faroe Islands

The Faroese Commercial Fisheries Act includes the codification of the continuous consultation and cooperation between government and stakeholders which has been a traditional part of Faroese fishery management.

Iceland

There is substantial evidence of informal stakeholder consultation in Icelandic fisheries management, but there is also evidence of more formal consultation through regular meetings between stakeholders and government.

Norway

There is continual informal contact between stakeholders and government agencies, which is further enhanced by formal Regulatory Meetings, which are held twice a year and are open to all stakeholders to attend.

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

NEAFC and ICES reports, recommendations and measures are all made available on the relevant website. All of the information used to conduct the current assessment was obtained from publicly available sources.

References

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.

EU

Fisheries monitoring and enforcement is the responsibility of the individual member states.

Faroe Islands

The organisation responsible for MCS in the Faroe Islands is the National Fisheries Inspection Service.

Iceland

The organisation responsible for MCS in Iceland is the Directorate of Fisheries, in cooperation with the Coast Guard.

Norway

Fisheries enforcement is the responsibility of the Coast Guard, which performs inspections and other tasks on behalf of a number of government agencies including the Ministry of Trade, Industry and Fisheries.

UK

Fisheries enforcement in the UK is devolved. In England the responsible organisation is the MMO.

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

EU

Sanctions are the responsibility of the individual member state.

Faroe Islands

Sanctions are set out in the Commercial Fisheries Act.

Iceland

Sanctions are set out in the Fisheries Management Act.

Norway

Sanctions are set out in the Marine Resources Act.

UK

Sanctions are set out in the Fisheries Act.

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

During the completion of the current assessment, no evidence was discovered to suggest any significant levels of noncompliance or IUU fishing in this fishery.

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. Portside inspections, observer programmes and VMS are common throughout the various management authorities responsible for the blue whiting fishery.
References

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		**Blue whiting, *Micromesistius poutassou***	
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 fishery removals are calculated by ICES annually, based on officially reported catch data and estimates of discards. Total catch in 2019 was 1,515,527t, and at the time of the most recently published ICES advice the preliminary estimated catch in 2020 was 1,478,358t. An estimate of total catch is available for every year since 1981.

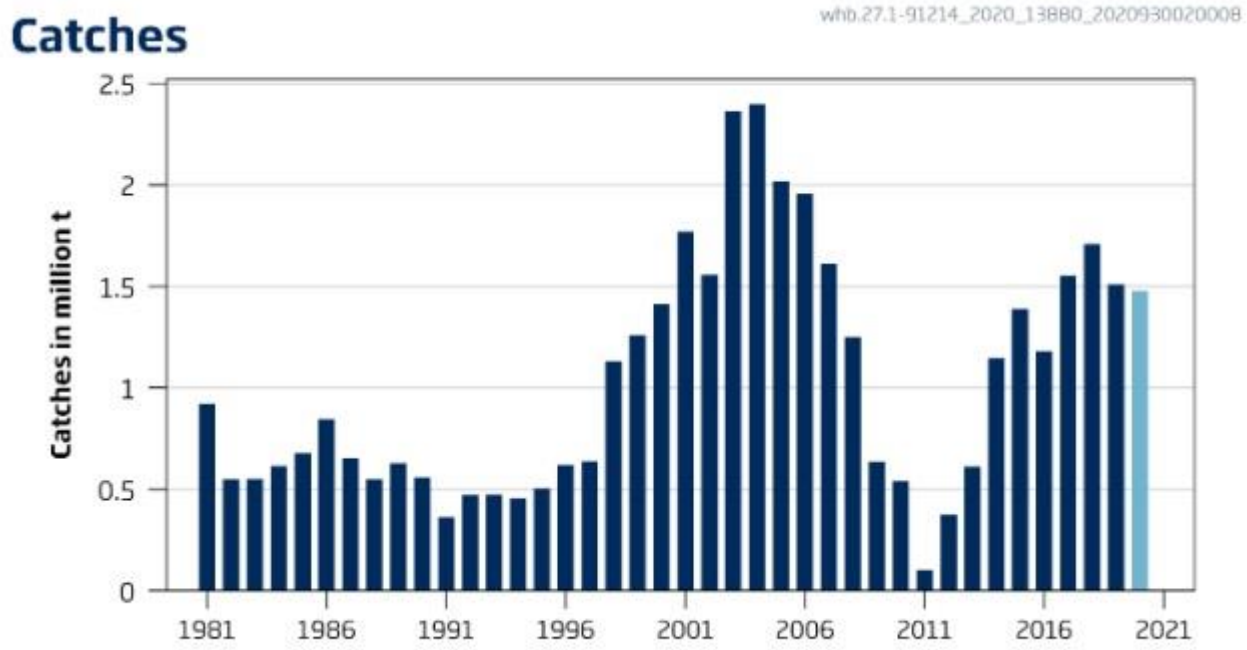


Figure A1(1) – Catches of blue whiting in the NE Atlantic, 1981-Present. Catches for 2020 are provisional. From the September 2020 ICES blue whiting advice.

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

A wide range of additional information is collected from both fishery-dependent and fishery-independent sources. These are detailed in the ICES WGWIDE report, and include:

- Officially reported catch data, broken down by catch date and location. Total catch in 2019 was 1,515,527t (including discards).
- Discard data from Denmark, France, Ireland, Portugal, Spain, Sweden, England and Wales, and Scotland, and estimates from other countries. Discards are estimated to be small relative to the scale of the fishery, representing around 0.17% of total catch.

- Catch length and age samples. In 2019 the sampling regime covered 84% of catches, with 136,604 length and 17,869 age measurements taken. Weight samples were also collected to allow weight-at-age to be estimated.
- The International Blue Whiting Spawning Stock Survey (IBWSS). This is the only survey used to input into the stock assessment model for blue whiting. Although it was not conducted in 2020 due to COVID-19, historical survey indices were still incorporated into the analysis.
- Other fishery-independent data sources include the International Ecosystem Survey in the Nordic Seas (IESNS) in May; the Norwegian bottom trawl survey in the Barents Sea (BS-NoRu-Q1(Btr)) in February and March; Icelandic and Faroese bottom trawl surveys conducted in the spring; and the International Survey in Nordic Seas and Adjacent Waters (IESSNS) in July and August.

References

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, Section 2 – Blue Whiting in Northeast Atlantic, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/04%20WGWIDE%20Report%202020%20-%2002%20Blue%20whiting.pdf

ICES advice on fishing opportunities, catch and effort, Ecoregions of the Northeast Atlantic and Arctic Ocean, Blue Whiting in subareas 1-9 and 14, 30th September 2020:
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/whb.27.1-91214.pdf

ICES Stock Annex: Blue whiting in the Northeast Atlantic, September 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2020/whb.27.1-91214_SA.pdf

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.

ICES conducts a stock assessment for blue whiting in the NE Atlantic annually. The assessment uses a state-space stock assessment model (SAM) described by Berg and Nielsen in 2016. The input data for the SAM assessment are catch number-at-age, mean weight-at-age in both the stock and the catch, natural mortality, and proportion of stock mature. The stock assessment considers all fishery removals and the biological characteristics of the species, as evidenced by the detailed

discussions provided in the ICES documentation. For more detail on the types and sources of data used in the blue whiting stock assessment, please refer to Section A1.

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

Several reference points have been established for the stock with regards to both spawning stock biomass (SSB) and fishing mortality (F). The long-term management plan utilises a biomass limit reference point (B_{lim} = 1,500,000t), biomass target reference point (B_{pa} = 2,250,000t), and fishing mortality target reference point (F_{MSY} = 0.32). These are based on ICES estimates. ICES has also established a fishing mortality limit reference point (F_{lim} = 0.88).

Figure A2(1) shows the historical estimates of F and SSB for blue whiting in the NE Atlantic since 1981. Fishing mortality has frequently exceeded F_{MSY}, but rarely F_{lim}, and is currently estimated to be between the two. SSB has been above B_{MSY} since the mid-1990s, but is currently considered to be in decline. Figure A2(2) summarises the current status of the fishery relative to reference points.

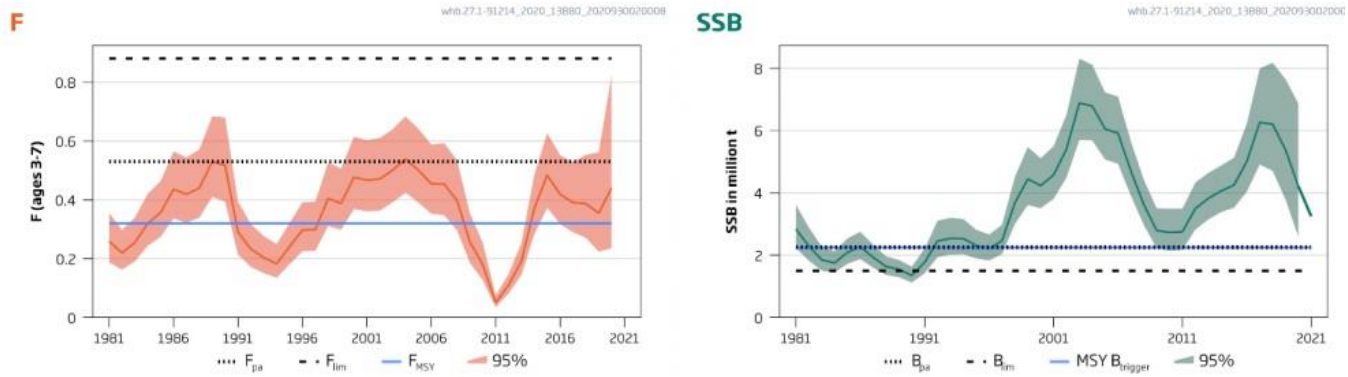


Figure A2(1) – Estimated fishing mortality (F, left) and spawning stock biomass (SSB, right) for blue whiting in the NE Atlantic, 1981-Present. From the September 2020 ICES blue whiting advice.

		Fishing pressure				Stock size			
		2018	2019	2020		2019	2020	2021	
Maximum sustainable yield	F_{MSY}	✗	✗	✗	Above	MSY $B_{trigger}$	✓	✓	✓ Above trigger
Precautionary approach	F_{pa},F_{lim}	✓	✓	✓	Harvested sustainably	B_{pa},B_{lim}	✓	✓	✓ Full reproductive capacity
Management plan	F_{MGT}	✗	✗	✗	Above	B_{MGT}	✓	✓	✓ Above

Figure A2(2) – Summary of estimated blue whiting fishery and stock status relative to the reference points. From the September 2020 ICES blue whiting advice.

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

The annual ICES advice includes a set of catch recommendations based on a range of management options. The primary catch advice is based on the long-term management strategy, which in the most recent advice amounted to a recommendation that the 2021 TAC be set at 929,292t. Catch scenarios based on other potential management strategies included 0t (for a strategy of F_{2021} = 0); 841,717t (for a strategy of F_{2021} = F_{MSY}); and 1,802,838t (for a strategy of SSB_{2022} = B_{pa}).

Table 3 Blue whiting in subareas 1–9, 12, and 14. Annual catch scenarios. All weights are in tonnes.

Basis	Total catch (2021)	F (2021)	SSB (2022)	% SSB change *	% catch change **	% advice change ***
ICES advice basis						
Long-term management strategy $Catch_{2021} = TAC_{2020}$ −20%	929292	0.36	3046216	−6.2	−37	−20
Other scenarios						
MSY approach: F_{MSY}	841717	0.32	3127644	−3.7	−43	−28
F = 0	0	0.00	3921194	21	−100	−100
F_{pa}	1265493	0.53	2735932	−16	−14.4	8.9
F_{lim}	1810385	0.88	2243305	−31	23	56
$SSB_{2022} = B_{lim}$	2677773	1.81	1500000	−54	81	131
$SSB_{2022} = B_{pa}$	1802838	0.87	2250000	−31	22	55
SSB_{2022} = MSY $B_{trigger}$	1802838	0.87	2250000	−31	22	55
$F = F_{2020}$	1095465	0.44	2892329	−11.0	−26	−5.7
$SSB_{2022} = SSB_{2021}$	712737	0.26	3248040	0	−52	−39
$Catch_{2021} = Catch_{2020}$	1478358	0.65	2541771	−22	0	27
$Catch_{2021} = Catch_{2020}$ −20%	1182686	0.49	2811956	−13.4	−20	1.80
$Catch_{2021} = Catch_{2020}$ +25%	1847948	0.91	2209901	−32	25	59
$Catch_{2021} = Advice_{2020}$ −20%	929292	0.36	3046216	−6.2	−37	−20

* SSB 2022 relative to SSB 2021.
** Catch 2021 relative to expected catch in 2020 (1 478 358 tonnes).
*** Catch 2020 relative to advice for 2020 (1 161 615 tonnes).

Figure A2(3) – ICES catch advice for the 2021 fishery and catch and SSB projections for 2022 for a range of management scenarios. From the September 2020 ICES blue whiting advice.

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

The ICES advice provision framework is operated according to 10 key Principles. Principle 5 states, "*The best-available science and quality-assured data are used. ICES selects and applies relevant methods for any analysis, including the development of new methods. The methods are peer reviewed by independent experts and clearly and openly documented*". Principle 7 states, "*To ensure that the best available, credible science has been used and to confirm that the analysis provides a sound basis for advice, all analyses and methods are peer reviewed by at least two independent reviewers. For recurrent advice, the review is conducted through a benchmark process; for special requests through one-off reviews*". Peer review is an integral part of the process by which ICES conducts stock assessments and provides management advice.

Figure A2(4) summarises the process by which ICES provides management advice and publishes expert working group reports.

Figure A2(4) – Framework for ICES provision of advice. ACOM is the ICES Advisory Committee. From the Guide to ICES Advisory Framework and Principles, January 2021.

A2.5 The assessment is made publicly available.

All documentation relating to the stock assessment and catch advice is made available on the ICES website. In the specific case of blue whiting in the NE Atlantic, this includes the annual Working Group on Widely Distributed Stocks (WGWIDE) Expert Group Report. This report contains a detailed explanation of the data collection and analysis involved in the stock assessment; a list of participants in WGWIDE activities; a summary of the process applied by the working group to arrive at its recommendations; and the results of internal audits conducted to ensure the accuracy of the working group documentation. The large majority of the information in Section A of the current assessment originates from the ICES WGWIDE report and stock recommendation.

References

Berg, CW, and Nielsen, A, *Accounting for correlated observations in an age-based state-space stock assessment model* – ICES Journal of Marine Science, 73: 1788 – 1797.

Guide to ICES advisory framework and principles, 21 January 2021:
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/Guide_to_ICES_Advice.pdf

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, full report, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/01%20WGWIDE%20Report%202020.pdf

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, Section 2 – Blue Whiting in Northeast Atlantic, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/04%20WGWIDE%20Report%202020%20-%2002%20Blue%20whiting.pdf

ICES advice on fishing opportunities, catch and effort, Ecoregions of the Northeast Atlantic and Arctic Ocean, Blue Whiting in subareas 1-9 and 14, 30th September 2020: https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/whb.27.1-91214.pdf ICES Stock Annex: Blue whiting in the Northeast Atlantic, September 2020: http://www.ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2020/whb.27.1-91214_SA.pdf

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.	GAP
	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:	GAP

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

Total fishing mortality is restricted via the implementation of catch quotas. The details vary slightly between national authorities, but as a general procedure all vessels fishing for blue whiting are required to notify the relevant authorities of the approximate catch quantity onboard prior to landing at designated ports, and as they enter or leave the various fishing zones. When the catch is landed, the relevant authority will sample the catch and verify declared estimates and logbook data. These validated landings data are used to update national and vessel catch statistics, and count towards quota share.

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

Total fishery removals regularly exceed the level recommended by ICES. The TAC has been set higher than the recommended level every year since 2014. Figure A3(1), below, summarises the ICES recommendation, TAC, and total catch for each fishing season since 2007. See also Figure 1, in the History section above.

Although a management plan has been agreed between the coastal states, there is no agreement as to how to apportion the catch quota between countries. Since 2014 the sum of the unilateral quotas set by each country has totalled at least 20% more than the scientific advice. In 2020 the ICES advice was for catches not to exceed 1,161,615t; the sum of the unilateral TACs was 27% higher, at 1,478,358t. In some years catch also has also exceeded the combined TAC. The failure of the fishery to resolve the dispute in TAC shares was the core reason for the suspension of the four MSC certifications.

Year	ICES advice	Catch corresponding to advice	TAC	ICES estimated landings	ICES estimated discards§	ICES catch
2007	F should be less than the proposed F_{pa}	980000	1847000 ***			1625255
2008	F should be less than F_{pa}	835000	1250000 ^			1260615
2009	Maintain stock above B_{pa}	384000	606000 ^^			641818
2010	Follow the agreed management plan	540000	548000			526357
2011	See scenarios	40100–223000	40000			103620
2012	Follow the agreed management plan	391000	391000			384021
2013	Follow the agreed management plan	643000	643000			628169
2014	Follow the agreed management plan	948950	1200000			1155279
2015	Follow the agreed management plan	839886	1260000 ^^^	1389953	6291	1396244
2016	MSY approach	≤ 776391	1147000 ^^^	1178180	5007	1183187
2017	MSY approach	≤ 1342330	1675400 ^^^	1556030	2030	1558061
2018	Long-term management strategy	≤ 1387872	1727964 ^^^	1707152	4325	1711477
2019	Long-term management strategy	≤ 1143629	1483208 ^^^	1512922	2604	1515527
2020	Long-term management strategy	≤ 1161615	1478358^^^			1478358 §§
2021	Long-term management strategy	929292				

*** Agreed TAC from the four Coastal States of 1.7 million tonnes, and an additional allocation of 147 000 tonnes to Russia and Greenland.
^ Agreed TAC from the four Coastal States of 1.1 million tonnes, and an additional allocation to Russia and Greenland.
^^ Agreed TAC from the four Coastal States of 0.59 million tonnes, and an additional allocation of 16 000 tonnes to Russia.
^^^ Sum of unilateral quotas (Note: The Coastal States agree a TAC of 1 161 615 tonnes for 2020).
§ Discards estimates include BMS landings.
§§ Preliminary.

Figure A3(1) – ICES advice, TAC, and catch for blue whiting in the NE Atlantic, 2007 – 2021. All values are in tonnes. From the September 2020 ICES blue whiting advice.

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

SSB has been estimated to be above the limit reference point for over 20 years, and so there are no direct examples of managers prohibiting fishery removals entirely. However, although the catch advice has frequently been exceeded, there is clear evidence that quotas and catches are lower in years when SSB is estimated to be lower. As there is no evidence to suggest removals would not be prohibited if SSB were to fall below the limit reference point, the fishery is considered to meet the requirements of this clause.

References

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, Section 2 – Blue Whiting in Northeast Atlantic, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/04%20WGWIDE%20Report%202020%20-%2002%20Blue%20whiting.pdf

ICES advice on fishing opportunities, catch and effort, Ecoregions of the Northeast Atlantic and Arctic Ocean, Blue Whiting in subareas 1-9 and 14, 30th September 2020:
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/whb.27.1-91214.pdf

ICES Stock Annex: Blue whiting in the Northeast Atlantic, September 2020: http://www.ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2020/whb.27.1-91214_SA.pdf
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.

The most recent ICES stock assessment concluded that as of September 2020, fishing mortality is above F_{MSY}, but below F_{pa} and F_{lim}. In relation to biomass, the assessment concluded that the spawning stock biomass is above MSY $B_{trigger}$, B_{pa}, and B_{lim}. This means that the stock is above the biomass target reference point. For more details on the reference points used in the management of the blue whiting stock, and the status of the fishery relative to them, please refer to section A2.

References

ICES advice on fishing opportunities, catch and effort, Ecoregions of the Northeast Atlantic and Arctic Ocean, Blue Whiting in subareas 1-9 and 14, 30th September 2020:
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/whb.27.1-91214.pdf

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

CATEGORY B SPECIES

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

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

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

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

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

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

If the biomass / fishing pressure risk assessment is not possible

Initially, the resilience of each Category B species to fishing pressure should be estimated using the American Fisheries Society procedure described in Musick, J.A. (1999). This approach is used as the resilience values for many species and stocks have been estimated by FishBase and are already available online. For details of the

approach, please refer to Appendix A. Determining the resilience provides a basis for estimating the risk that fishing may pose to the long-term sustainability of the stock. Table B(b) should be used to determine whether the species should be recommended for approval.

TABLE B(B) - NO REFERENCE POINTS AVAILABLE. B = CURRENT BIOMASS; B_{AV} = LONG-TERM AVERAGE BIOMASS; F = CURRENT FISHING MORTALITY; F_{AV} = LONG-TERM AVERAGE FISHING MORTALITY.

B > B_{av} and F < F_{av}	Pass	Pass	Pass	Fail
B > B_{av} and F or F_{av} unknown	Pass	Pass	Fail	Fail
B = B_{av} and F < F_{av}	Pass	Pass	Fail	Fail
B = B_{av} and F or F_{av} unknown	Pass	Fail	Fail	Fail
B > B_{av} and F > F_{av}	Pass	Fail	Fail	Fail
B < B_{av}	Fail	Fail	Fail	Fail
B unknown	Fail	Fail	Fail	Fail
Resilience	**High**	**Medium**	**Low**	**Very Low**

Assessment Results

Species Name		
B1	Species Name	
	Table used (Ba, Bb)	
	Outcome	
References		
Links		
MARINTRUST Standard clause		**1.3.2.2, 4.1.4**
FAO CCRF		**7.5.1**
GSSI		**D.5.01**

CATEGORY C SPECIES

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

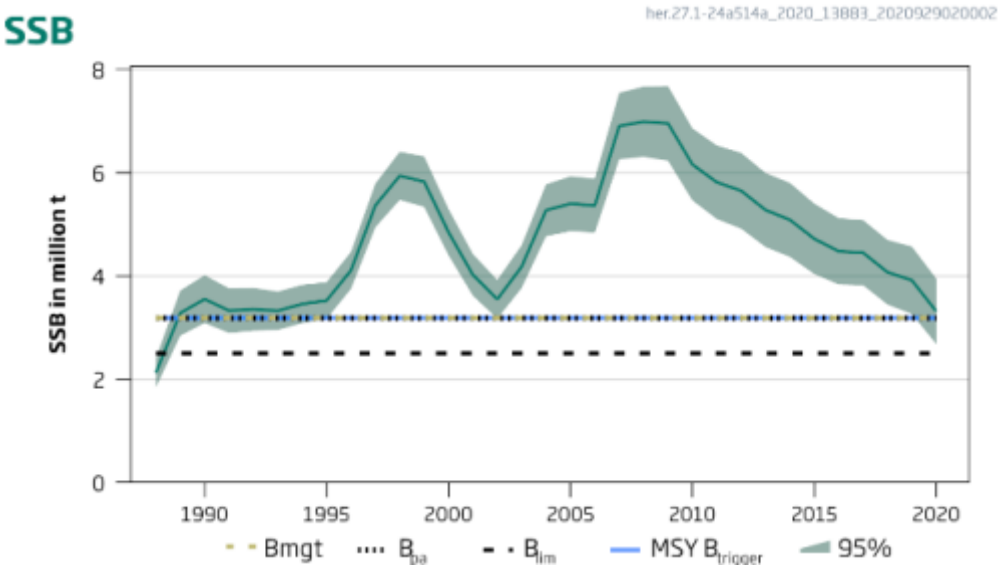
Clause C1 should be completed for **each** Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it may be assessed as a Category D species instead, EXCEPT if there is evidence that it is currently below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

Species Name		**Herring (*Clupea harengus*) in subareas 1, 2, and 5, and in divisions 4.a and 14.a, Norwegian spring-spawning herring**	
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.

Catches of herring in the blue whiting fishery under assessment are negligible (<1%).

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.



References

ICES Advice 2020. Herring (*Clupea harengus*) in subareas 1, 2, and 5, and in divisions 4.a and 14.a, Norwegian spring-spawning herring (the Northeast Atlantic and the Arctic Ocean). Published 30 September 2020
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/her.27.1-24a514a.pdf

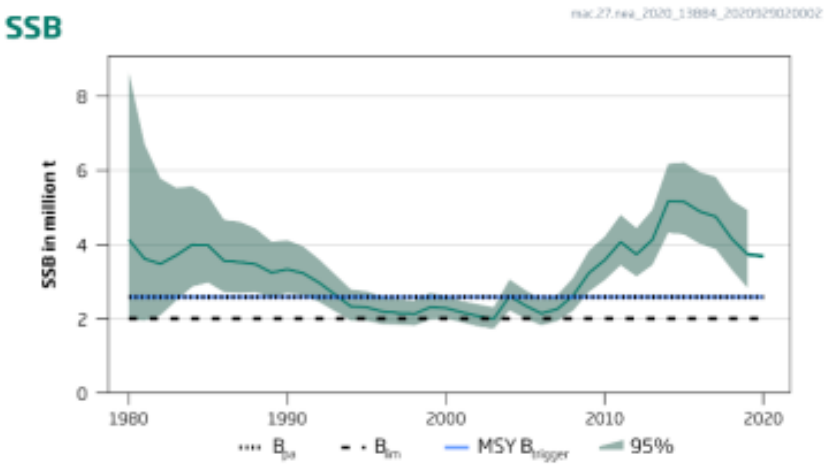
Links	
MARINTRUST Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

Species Name		**Mackerel (*Scomber scombrus*) in subareas 1–8 and 14, and in Division 9.a**	
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.

Catches of mackerel in the blue whiting fishery under assessment are negligible (<1%).

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.



References

ICES Advice 2020. Mackerel (*Scomber scombrus*) in subareas 1–8 and 14, and in Division 9.a (the Northeast Atlantic and adjacent waters). Published 30 September 2020

https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/mac.27.nea.pdf

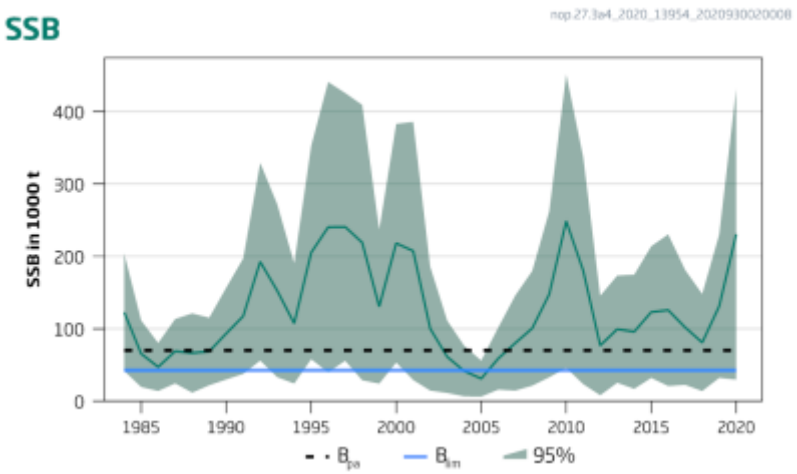
Links	
MARINTRUST Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

Species Name		**Norway pout (*Trisopterus esmarkii*) in Subarea 4 and Division 3.a (North Sea, Skagerrak, and Kattegat)**	
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.

Catches of Norway pout in the blue whiting fishery under assessment are negligible (<1%).

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.



References

ICES Advice 2020. Norway pout (*Trisopterus esmarkii*) in Subarea 4 and Division 3.a (North Sea, Skagerrak, and Kattegat). Published 9 October 2020

https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/nop.27.3a4.pdf

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

Species Name	**Saithe (*Pollachius virens*) Division 5b (Faroes grounds) & subareas 4 and 6, and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)**	
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.

Catches of saithe in the blue whiting fishery under assessment are negligible (<1%).

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.

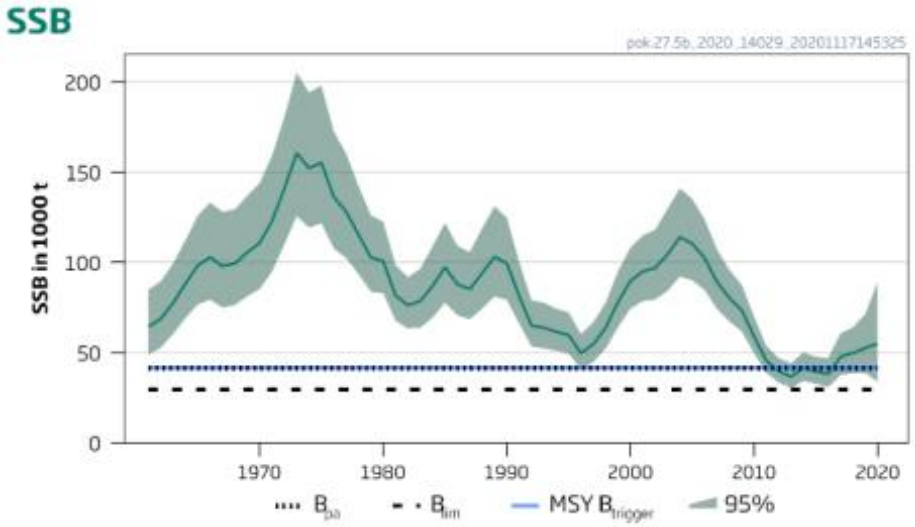


Fig 1. Stock biomass for **Division 5b (Faroes grounds)** saithe stock

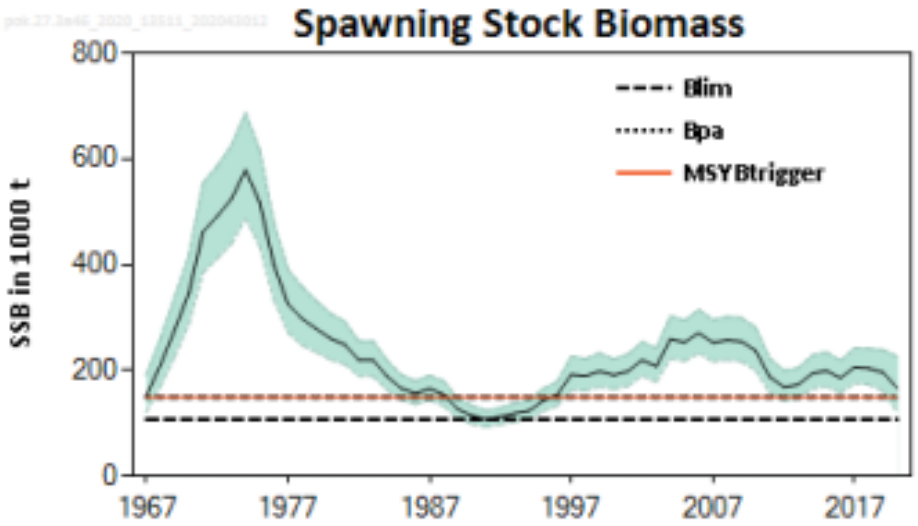


Fig 2. Stock biomass for **subareas 4 and 6, and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)** saithe stock

References

ICES Advice 2020a. Saithe (*Pollachius virens*) in Division 5.b (Faroes grounds). Published 30 November 2020
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/pok.27.5b.pdf

ICEAS Advice 2020b. Saithe (*Pollachius virens*) in subareas 4 and 6, and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat). Published 30 June 2020
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/pok.27.3a46.pdf

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

CATEGORY D SPECIES

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

D1	Species Name	Lesser Silver Smelt *(Argentina sphyraena)*	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)	*Not defined*	
	Average maximum age (years)	16 years	2
	Fecundity (eggs/spawning)	*Not defined*	
	Average maximum size (cm)	35cm	1
	Average size at maturity (cm)	*Not defined*	
	Reproductive strategy	Broadcast spawner	1
	Mean trophic level	3.5	3
		Average Productivity Score	**7/4 = 1.75**
	Susceptibility Attribute	**Value**	**Score**
	Overlap of adult species range with fishery	<25% stock appears in fished area	1
	Distribution	Northern Norway to Western Sahara	1
	Habitat	Schools near bottom	1
	Depth range	Depth range from 50-500 m * unlikely to overlap with pelagic gears targeting blue whiting	1*
	Selectivity	Assuming species would be 1 to 2 times mesh size	2
	Post-capture mortality	Would be retained	3
		Average Susceptibility Score	**9/6 = 1.5**
		PSA Risk Rating (From Table D3)	**PASS**
		Compliance rating	**PASS**

References

Fishbase (assessed 08.03.2021) https://www.fishbase.se/Summary/SpeciesSummary.php?ID=20&AT=Lesser+silver+smelt

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk	Medium productivity/ Medium risk	High productivity/ Low risk
	Score 3	Score 2	Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk	Medium susceptibility/ Medium risk	Low susceptibility/ Low risk
		Score 3	Score 2	Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

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

D4	Species Name		
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	
		Outcome:	

Evidence

D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.

D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.

References

Links	
MARINTRUST Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01

FURTHER IMPACTS

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

F1	Impacts on ETP Species - Minimum Requirements		
	F1.1	Interactions with ETP species are recorded.	PASS
	F1.2	There is no substantial evidence that the fishery has a significant negative effect on ETP species.	PASS
	F1.3	If the fishery is known to interact with ETP species, measures are in place to minimise mortality.	PASS
		Clause outcome:	PASS

F1.1 Interactions with ETP species are recorded.

Interactions with ETP species must be recorded and reported, as required by the relevant national or international regulations and voluntary agreements depending on the flag vessel. Recording and reporting of interactions required by regulations is enforced by inspection and surveillance measures applied by the various MCS organisations discussed in section M2.

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

Blue whiting is widely distributed throughout the NE Atlantic and several sources conclude that this suggests a substantial chance of overlap with one or more ETP species. Species potentially impacted by the fishery include basking shark (IUCN "Endangered") and several species of marine turtle. Reports also indicate that the fishery may interact with several other species of cetacean, including the Atlantic white-sided dolphin, common bottlenose dolphin, and the common dolphin (although these are categorised by the IUCN as "Least Concern"). Overall data on the impact the fishery may have on ETP species is limited, however there are not considered to be any critically endangered species affected by the fishery and the fishery is not considered likely to have any significant negative impacts on ETP species as a whole.

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

Although data is somewhat limited, the fishery is not considered to have significant interactions with ETP species. Evidence collected by applicant groups in preparation for MSC certification demonstrated limited or no interactions with ETP species. Fishermen are reported to always attempt to avoid interactions with ETP species as these will usually result in expensive damage to nets. This principle is also applied to gear design where possible. Specific measures vary by country, but in many areas there are seasonal or geographical closures to protect at-risk species, particularly sea birds.

References

Fishsource, Blue Whiting in the NE Atlantic: https://www.fishsource.org/stock_page/1251

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, Section 2 – Blue Whiting in Northeast Atlantic, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/04%20WGWIDE%20Report%202020%20-%2002%20Blue%20whiting.pdf

ICES advice on fishing opportunities, catch and effort, Ecoregions of the Northeast Atlantic and Arctic Ocean, Blue Whiting in subareas 1-9 and 14, 30th September 2020:
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/whb.27.1-91214.pdf

ICES Stock Annex: Blue whiting in the Northeast Atlantic, September 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2020/whb.27.1-91214_SA.pdf

MSC fishery page, PFA, DPPO, KFO, SPSG & CDPSM Northeast Atlantic blue whiting pelagic trawl,
https://fisheries.msc.org/en/fisheries/pfa-dppo-kfo-spsg-compagnie-des-peches-st-malo-northeast-atlantic-blue-whiting-pelagic-trawl/

MSC fishery page, Faroese Pelagic Organization North East Atlantic blue whiting,
https://fisheries.msc.org/en/fisheries/faroese-pelagic-organization-north-east-atlantic-blue-whiting/

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.

In general terms, the potential habitat interactions of fisheries are taken into account by the management organisations relevant to the blue whiting fishery in the NE Atlantic. However, because interactions between pelagic gears and the seabed are considered to be unlikely, the consideration of such limited risks does not have any significant impact on decision-making.

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

Purse seine and pelagic trawl gears are considered very low impact with regards to benthic habitats. Mid-water gears are not designed or operated to intentionally make contact with the sea bed, and if contact does occur then such gears are likely to be damaged or destroyed before benthic habitats can be significantly impacted. There has been no evidence encountered during the current assessment to indicate that these assumptions do not apply to the blue whiting fishery.

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

There is no evidence that the fishery interacts with physical habitats.

References

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, Section 2 – Blue Whiting in Northeast Atlantic, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/04%20WGWIDE%20Report%202020%20-%2002%20Blue%20whiting.pdf

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Report of the ICES Advisory Committee on Fishery Management, Advisory Committee on the Marine Environment and Advisory Committee on Ecosystems, 2006, Book 9: Widely distributed and migratory stocks:
http://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Advice/2006/ICES%20Advice%202006%20Book%209.pdf

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.

Ecosystem considerations form a key component of the ICES stock assessment and recommendations, both with regards to predicting the impacts of the broader ecosystem on the blue whiting population, and also considering the impact of blue whiting removals on the broader ecosystem. ICES concludes that blue whiting plays an important role in the ecosystem, both by consuming zooplankton and small fish and by acting as prey for larger fish and marine mammals. In particular, ICES notes there are likely to be substantial interactions between blue whiting and herring populations, with a considerable overlap between blue whiting spawning areas and herring feeding grounds.

ICES also utilises temperature and salinity data when monitoring blue whiting spawning behaviours. This information feeds into the stock assessment, particularly in years such as 2020 when no blue whiting survey was carried out. It is considered by ICES to be highly likely that ecosystem factors have a determinant effect on the productivity of pelagic fish stocks in the NE Atlantic, including blue whiting.

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

No evidence was encountered during the current assessment to indicate that the fishery has a significant negative impact on marine ecosystems.

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.

The role of blue whiting in the broader ecosystem was an important consideration in the development of target and limit reference points, and ICES considers that maintaining blue whiting SSB above the target reference point to be an appropriate way of ensuring the fishery does not cause significant negative impacts on the ecosystem as a whole. As ICES makes catch recommendations based on the established reference points, the additional precaution required by this clause is baked in to the recommendation system.

References

ICES Working Group on Widely Distributed Stocks (WGWIDE) Volume 2, Issue 82, Section 2 – Blue Whiting in Northeast Atlantic, 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WGWIDE/04%20WGWIDE%20Report%202020%20-%2002%20Blue%20whiting.pdf

ICES advice on fishing opportunities, catch and effort, Ecoregions of the Northeast Atlantic and Arctic Ocean, Blue Whiting in subareas 1-9 and 14, 30th September 2020:
https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/whb.27.1-91214.pdf

ICES Stock Annex: Blue whiting in the Northeast Atlantic, September 2020:
http://www.ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2020/whb.27.1-91214_SA.pdf

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)