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IFFO RS
Global Standard for Responsible Supply
of Marine Ingredients

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Global Standard for Responsible Supply of Marine Ingredients Fishery Assessment Methodology and Template Report V2.0



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Fishery Under Assessment	Sprat (<i>Sprattus sprattus</i>) Subdivisions 22-32, Baltic Sea (Denmark, Latvia)
Date	August 2019
Assessor	Jim Daly

Application details and summary of the assessment outcome				
Name: FF Skagen A/S and others				
Address:				
Country: Denmark, Latvia		Zip:		
Tel. No.:		Fax. No.:		
Email address:		Applicant Code		
Key Contact:		Title:		
Certification Body Details				
Name of Certification Body:		SAI GLOBAL LTD		
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval	Whole fish/ By-product
Jim Daly	Conor Donnelly	3	SURV 1	Whole fish
Assessment Period	2018-2019			

Scope Details	
Management Authority (Country/State)	EU; Denmark: Ministry of Food, Agriculture and Fisheries; Latvia: National Board of Fisheries of the Ministry of Agriculture; Russia: Federal Agency for Fishery
Main Species	Sprat (<i>Sprattus sprattus</i>)
Fishery Location	Subdivisions 22-32, Baltic Sea (Denmark, Latvia)
Gear Type(s)	Primarily pelagic trawl, some demersal trawling
Outcome of Assessment	
Overall Outcome	PASS
Clauses Failed	NONE
Peer Review Evaluation	Approve
Recommendation	PASS

Assessment Determination
<p>Sprat in the Baltic Sea has been assessed as a single stock since 1992 and has been taken with a bycatch of herring to an extent that depends on season and area. EU vessels are no longer allowed to land unsorted catches, unless there is a proper sampling scheme to monitor species composition. This is thought to have led to a reduction in the amount of misreported species. The most recent ICES advice has not included discards or bycatch in their assessment as they are considered negligible.</p> <p>The fishery has been IFFO-RS approved with a condition which was closed in 2017; the condition being that the 2017 TAC should be set below ICES scientific advice. In 2017 the agreed TAC of 303,593t was set against ICES advice at the time of no more than 314,000t.</p> <p>The stock is in good condition. Spawning-stock biomass (SSB) is well above MSY Btrigger. A recent increase in SSB is attributable to a strong year class of 2014. The 2015 and 2016 year classes are estimated to be slightly below average, while the 2017 year class is estimated to be above average. Fishing mortality (F) has declined in recent years to just above FMSY. From 2019-2020 the stock is predicted to stay at recent levels of 1.3 million tons if exploited at FMSY.</p> <p>The EU component of the Baltic Sea sprat fishery is managed within the CFP framework and as such is subject to research, control and enforcement typical of European fisheries. The EU landing obligation in 2015 began to cover small and large pelagic species in the Baltic. Discard data have not generally been available for inclusion in stock assessments, although efforts are underway to remedy this in future. In countries where sprat is caught for human consumption there may be significant discarding.</p> <p>Russia's Federal Agency for Fishery (Rosrybolovstvo) is a federal executive body responsible for control (oversight) in fisheries and conservation of marine biological resources. Russia operate on an annual autonomous quota and provide catch data from their fleet within the assessment area to the EU each year.</p> <p>Scientific understanding of the stock appears to be good, and ICES has made annual management and quota recommendations for nearly 30 years. However, there is yet no international agreement in place with regards to TAC setting for this species in the Baltic. Although Sprat is present throughout the Baltic region, catches occur (2017 data) primarily in Subdivisions 26 (37%), 28 (21%), 25 (15%) and 29 (10%, Figure 1).</p> <p>Preliminary investigations indicate that stocks of Western Baltic spring-spawning herring and Central Baltic herring are mixing in Subdivisions 24-26 (Figure 2). This is not considered in the current assessment but should be investigated further. Species misreporting of herring has occurred in the past and there are again indications that it is a problem in some nations. For the herring stock in the Central Baltic assessments have generally shown an overall upwards revision in SSB and a downwards revision in fishing mortality (F).</p> <p>Sprat (<i>Sprattus sprattus</i>) has not yet been assessed under the IUCN Red List; Herring (<i>Clupea harengus</i>) is listed on the IUCN website as a species of least concern; both species are currently not listed on the most recent CITES appendices of endangered and/or threatened species (websites accessed 23.08.19).</p> <p>The assessment team recommends approving this fishery under IFFO-RS (whole fish) Standard v 2.0 for fishmeal and/or fish oil production.</p>
Peer Review Comments
Agree
Notes for On-site Auditor

Note: This table should be completed for whole fish assessments only.

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

Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A	Sprat (<i>Sprattus sprattus</i>)	95	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category B				
Category C	Herring (<i>Clupea harengus</i>)	5	PASS	
Category D				

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

HOW TO COMPLETE THIS ASSESSMENT REPORT

This assessment template uses a modular approach to assessing fisheries against the IFFO RS standard.

Whole Fish

The process for completing the template for a **whole fish** assessment is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table, to determine which categories of species are present in the fishery.
2. ALL ASSESSMENTS: Complete clauses M1, M2, M3: Management.
3. IF THERE ARE CATEGORY A SPECIES IN THE FISHERY: Complete clauses A1, A2, A3, A4 for **each** Category A species.
4. IF THERE ARE CATEGORY B SPECIES IN THE FISHERY: Complete the Section B risk assessment for **each** Category B species.
5. IF THERE ARE CATEGORY C SPECIES IN THE FISHERY: Complete clause C1 for **each** Category C species.
6. IF THERE ARE CATEGORY D SPECIES IN THE FISHERY: Complete Section D.
7. ALL ASSESSMENTS: Complete clauses F1, F2, F3: Further Impacts.

A fishery must score a pass in **all applicable clauses** before approval may be recommended. To achieve a pass in a clause, the fishery/species must meet **all** of the minimum requirements.

By-products

The process for completing the template for **by-product raw material** is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table with the names of the by-product species and stocks under assessment. The “% landings” column can be left empty; all by-products are considered as Category C and D.
2. IF THERE ARE CATEGORY C BYPRODUCTS UNDER ASSESSMENT: Complete clause C1 for **each** Category C by-product.
3. IF THERE ARE CATEGORY D BYPRODUCTS UNDER ASSESSMENT: Complete Section D.
4. ALL OTHER SECTIONS CAN BE DELETED. Clauses M1 - M3, F1 - F3, and Sections A and B do not need to be completed for a by-product assessment.

By-product approval is awarded on a species-by-species basis. Each by-product species scoring a pass under the appropriate section may be approved against the IFFO RS Standard.

SPECIES CATEGORISATION

The following table should be completed as fully as the available information permits. Any species representing more than 0.1% of the annual catch should be listed, along with an estimate of the proportion of the catch each species represents. The species should then be divided into Type 1 and Type 2 as follows:

- **Type 1 Species** can be considered the ‘target’ or ‘main’ species in the fishery. They make up the bulk of annual landings and are subjected to a detailed assessment.
- **Type 2 Species** can be considered the ‘bycatch’ or ‘minor’ species in the fishery. They make up a small proportion of the annual landings and are subjected to relatively high-level assessment.

Type 1 Species must represent 95% of the total annual catch. Type 2 Species may represent a maximum of 5% of the annual catch (see Appendix B).

Species which make up less than 0.1% of landings do not need to be listed (NOTE: ETP species are considered separately). The table should be extended if more space is needed. Discarded species should be included when known.

The ‘stock’ column should be used to differentiate when there are multiple biological or management stocks of one species captured by the fishery. The ‘management’ column should be used to indicate whether there is an adequate management regime specifically aimed at the individual species/stock. In some cases, it will be immediately clear whether there is a species-specific management regime in place (for example, if there is an annual TAC). In less clear circumstances, the rule of thumb should be that if the species meets the minimum requirements of clauses A1-A4, an adequate species-specific management regime is in place.

NOTE: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in the CITES appendices, it **cannot** be approved for use as an IFFO RS raw material. This applied to whole fish as well as by-products.

TYPE 1 SPECIES (Representing 95% of the catch or more)

Category A: Species-specific management regime in place.

Category B: No species-specific management regime in place.

TYPE 2 SPECIES (Representing 5% OF THE CATCH OR LESS)

Category C: Species-specific management regime in place.

Category D: No species-specific management regime in place.

Common name	Latin name	Stock	% of landings	Management	Category
Sprat	<i>Sprattus</i>	Subdivisions 22-32, Baltic Sea	95	EU	A
Herring	<i>Clupea harengus</i>	Subdivisions 22-32, Baltic Sea	5	EU	C

MANAGEMENT

The two clauses in this section relate to the general management regime applied to the fishery under assessment. 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 publically 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 publically available	PASS
Clause outcome:			PASS
<p>Evidence</p> <p>M1.1:</p> <p>Denmark and Latvia are Member States of the European Union, and therefore in Community waters implement 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. Regarding resource management, the CFP regulations comprise:</p> <ul style="list-style-type: none"> • A traditional management tool based on TACs and quotas; • Technical measures relating to gear or catch; • Effort-related management based on vessel engine power and the number of days at sea. <p>The CFP also provides for the introduction of measures to rebuild, over a period of several years, stocks threatened in terms of sustainable harvesting, and for recourse to effort-related management rules to supplement TACs and quotas.</p> <p>The CFP is periodically reviewed and reformed. The last reform came into effect in January 2014 and introduced multi-annual plans which contain goals and tools for fish stock management and the roadmap to achieving objectives in a sustainable and inclusive way.</p> <p>Baltic Sea Multi-annual Plan (2016):</p> <p>Regulation (EU) 2016/1139 established a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks. The plan defines ranges of fishing mortality levels based on which the Council will define annual catch limits. In cases where a spawning stock would be at too low a level, safeguard measures must be taken, and the level of fishing mortality reduced. The Commission is also empowered to adopt delegated acts for fisheries technical measures based on recommendations elaborated jointly at regional level by Member States concerned. A map of the Baltic Sea is provided (Figure 1):</p>			



Figure 1 Map of the Baltic Sea R1

Baltic Sea Multi-annual Plan (Update):

The most recent amendment (EU 2018/976) regarded fishing mortality ranges and safeguard levels for certain herring stocks in the Baltic Sea.

Denmark:

The responsible authority for monitoring and enforcing EU and national conservation policies is the Danish Agrifish Agency, which is a part of the Ministry of Food, Agriculture and Fisheries, under the 1999 Fisheries Act. The Agency carries out inspection at sea and landings, as well as verification of EU marketing standards.

The Ministry also works for Danish fisheries and aquaculture through:

- Regulation and inspections of the fishing industry
- Support for research in fisheries and aquaculture production
- Support for the development of fisheries, the fish industry, fishery harbours and aquaculture
- Fish management and fishing license arrangements for recreational fisheries

The Danish National Institute of Aquatic Resources (DTU Aqua) at the Technical University of Denmark conducts research and provides advice on fisheries research to all stakeholders.

Latvia

The fisheries administration in Latvia is through the National Board of Fisheries of the Ministry of Agriculture, responsible for the overall management of the fisheries sector, quota management, sector development, strategies and legislation. The Board deals with issues related to fisheries science and restocking of fish resources, fish processing and trading issues, and represents Latvian fisheries interests in various EU institutions and international organizations (FAO, NAFO, etc.).

State Environmental Service (SES), part of the Ministry of Environmental Protection and Regional Development, carries out fishing controls in marine waters under Latvian jurisdiction. An action plan was agreed with the EU in 2013 to address shortcomings in Latvia's national fisheries control system. Fishing Law (12.04.1995) sets the basis for fisheries legislation in Latvia through institutions responsible for fisheries management and control, as well as rules on fish resource management.

Baltic Sea Advisory Council (BSAC):

The Baltic Sea Advisory Council (BSAC) was set up in March 2006. Following CFP reform, a new regulation was adopted in which the role and function of Advisory Councils has been included. The main aim of the BSAC is to prepare and provide advice on management of Baltic Sea fisheries in order to achieve a successful running of the EU's CFP. The BSAC consists of organisations representing fisheries and other interest groups affected by the CFP (e.g. environmental, organisations, and sports and recreational fisheries organisations).

Russia's Federal Agency for Fishery (Rosrybolovstvo) is a federal executive body responsible for control (oversight) in fisheries and conservation of marine biological resources in Russia. The Agency exercises its powers also in those cases covered by international treaties. Russia operate an autonomous quota in the assessment area annually.

There are organisations responsible for managing the fishery R2-R9; R27; R32

M1.2:

The primary provider of scientific information and advice at the national level within Denmark is the National Institute of Aquatic Resources at the Technical University of Denmark (DTU Aqua). DTU Aqua's stated mission is to conduct research, provide advice, educate at university level and contribute to innovation in sustainable exploitation and management of aquatic resources. DTU Aqua directly advises the Danish Ministry of Food, Agriculture and Fisheries and other public authorities. Scientists based in Latvia's Ministry also contribute to stock advice on the species.

International science:

Science-based fishery management advice at the international level is provided by the International Council for the Exploration of the Sea (ICES). ICES is a network of more than 1,600 scientists from 200 institutes (including DTU Aqua), linked by an intergovernmental agreement (the ICES Convention) to add value to national research efforts. Scientists working through ICES gather information about the marine ecosystem. Besides filling gaps in existing knowledge, this information is developed into unbiased, non-political fishery management advice.

ICES provide annual stock assessment and management advice in relation to Baltic Sea sprat fishery via its Baltic Fisheries Assessment Working Group (WGBFAS). ICES Stock Annex Reports provide a great deal of integrated advice at ecosystem level, in support of their shift towards a more holistic approach to managing Europe's seas.

Baltic Sea Advisory Council:

Also relevant to the management of sprat in the Baltic Sea is the Baltic Sea Advisory Council (BSAC). As previously stated the main objective of the BSAC is to provide advice on the management of Baltic fisheries, through its membership of representatives of the fishing industry and other non-governmental groups affected by the CFP, including NGOs, consumers and others.

There are organization (s) responsible for collecting data and assessing the fishery R4-R5; R8

M1.3:

The CFP is the primary instrument for sustainable fisheries management. As such it looks to address impacts of fishing on target stocks as well as impacts on other ecosystem components. Implementing an ecosystem approach to fisheries management has been set as one of the objectives of the CFP:

“...to ensure that negative impacts of fishing activities on the marine ecosystem are minimized and that aquaculture and fisheries activities avoid degradation of the marine environment.” (Article 2.3 CFP Reform).

The CFP contributes to the protection of the marine environment, to the sustainable management of all commercially exploited species, and to the achievement of good environmental status by 2020, as set out in Regulation (EU) No 1380/2013.

Objectives of the CFP are, *inter alia*, to ensure that fishing and aquaculture are environmentally sustainable in the long term and to apply the precautionary approach to fisheries management.

The Baltic Sea Multiannual Plan (MAP) references and endorses several regulations addressing the issue of sustainability:

- The United Nations Convention on the Law of the Sea provides for conservation obligations, including the maintaining or restoring of populations of harvested species at levels which can produce the maximum sustainable yield (MSY).
- At the World Summit on Sustainable Development at Johannesburg in 2002, the Union and its Member States committed themselves to act against the continued decline of many fish stocks. It is necessary to adapt exploitation rates of cod, herring and sprat in the Baltic Sea to ensure that the exploitation of those stocks restores and maintains them above levels that can produce MSY.

Denmark and Latvia are Member States of the European Union, and therefore in Community waters implement the CFP.

As part of DTU Aqua's mission statement they conduct research, provide advice and contribute to innovation in sustainable exploitation and management of aquatic resources.

Fishery management organisations are publicly committed to sustainability.

R3, R5-R6; R26

M1.4:

Denmark and Latvia are Member States of the European Union, and therefore in Community waters implement the CFP. Through Regionalisation a balanced representation of local stakeholders knows best how to apply EU rules in their respective areas. The main aim of the BSAC is to prepare and provide advice on the management of Baltic Sea fisheries in order to achieve a successful running of the EU's CFP.

Total allowable catches (TACs) are set for most commercial fish stocks, by the EU for member states following consultation with Council and Parliament. The EU prepares regulations, based on scientific advice from advisory bodies such as ICES and STECF. TAC's are then set annually by the European Council. Some multi-annual plans (MAP's) contain rules for the setting of TACs which are then shared between EU countries in the form of national quotas. For each stock a different allocation percentage per EU country is applied for the sharing out of the quotas. This fixed percentage is known as the relative stability key.

EU countries must use transparent and objective criteria when they distribute the national quota among their fishermen. They are responsible for ensuring that the quotas are not overfished. When all the available quota of a species is fished, by national law the EU country must close the fishery.

The Danish basic regulation on fisheries mentions several considerations in the allocation of fishing opportunities and addresses the balance between available resources and fishing capacity.

In Latvia fishing opportunities are allocated to companies on the basis of historical fishing rights. The National Board of Fisheries allocates quotas to the vessels fishing outside coastal waters and controls their utilization. Fishing Law (12.04.1995) sets the basis for fisheries legislation in Latvia and institutions responsible for fisheries management and control, as well as rules on fish resources management.

Fishery management organisations are legally empowered to take management actions

R2, R6-R9, R26-R30

M1.5:

The EU receives scientific advice on EU fisheries from its Scientific, Technical and Economic Committee for Fisheries (STECF). STECF is composed of independent scientists and experts representing a broad range of opinion and is systematically consulted before any proposals are drafted. On biological issues, STECF depends on advice from ICES for areas including the Baltic.

Advice provided by ICES includes stock assessments and deeper analysis on which the Commission bases both its annual recommendations for setting TACs and quotas, and more long-term proposals on how fisheries in European waters can be managed sustainably.

Increasingly ICES also provides a great deal of integrated advice at ecosystem level, in support of the shift towards a more holistic approach to managing Europe's seas. The BSAC also provides advice on the management of Baltic fisheries and consists of organisations representing fisheries and other interest groups affected by the CFP (e.g. environmental, organisations, and sports and recreational fisheries organisations).

In 2016 the BSAC recommended setting catch levels for Baltic stocks including sprat. Recommendations are set after consideration of biological advice and were presented to the Joint Working Group of the Baltic Sea Advisory Council in June 2015.

There is a consultation process through which fishery stakeholders are engaged in decision-making
R4, R8-R10, R16, R26

M1.6:

ICES provide annual stock assessment and management advice in relation to the Baltic Sea sprat fishery via its Baltic Fisheries Assessment Working Group (WGBFAS). Results are published annually on the ICES website. Sprat quotas for the EU fleet in the assessment area are available annually on DG Mare's website or through the EU's Eurolex server.

The decision-making process is transparent, with processes and results publicly available.
R4, R10, R16

References

R1: European Commission DG MARE: Baltic Sea MAP:

https://ec.europa.eu/fisheries/cfp/control/who_does_what/baltic_sea_authorities_en

R2: EU Common Fisheries Policy overview: http://ec.europa.eu/fisheries/cfp/index_en.htm

R3: EU Common Fisheries Policy reform: http://ec.europa.eu/fisheries/reform/index_en.htm

R4: ICES, "Who we are": <http://www.ices.dk/explore-us/who-we-are/Pages/Who-we-are.aspx>

R5: DTU Aqua, "Mission, vision and tasks": http://www.aqua.dtu.dk/english/About/Mission_vision

R6: The Danish Agrifish Agency <http://agrifish.dk/about-us/>

R7: The State Environmental Service (SES), Ministry of Environmental Protection and Regional Development, Republic of Latvia <http://www.vvd.gov.lv/eng/about-us/>

R8: Baltic Sea Advisory Council, "about": <http://www.bsac.dk/ooizzCMS/DA/aboutthebsrac>

R9: Commission Delegated Regulation (EU) 2017/1575 of 23 June 2017 amending Delegated Regulation (EU) 2015/242 laying down detailed rules on the functioning of the Advisory Councils under the common fisheries policy https://eur-lex.europa.eu/eli/reg_del/2017/1575/oj

R10: STECF home page: <https://stecf.jrc.ec.europa.eu/>

Standard clauses 1.3.1.1, 1.3.1.2

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
<p>Evidence</p> <p>M2.1:</p> <p>Each Member State maintains an official website on fishery related control and reporting issues which are of benefit to the Commission, other Member States and the masters of fishing vessels in connection with the recovery of cod stocks in the Baltic.</p> <p>National websites contain <i>inter alia</i> information on:</p> <ul style="list-style-type: none"> • Description of control services and the resources available; • National control action programmes; • List of authorised vessels holding a special permit for fishing for cod in the Baltic Sea; • Fishing effort limitation schemes; • Contact details for the submission of logbooks and landing declarations when landing in that Member State • Lists of designated ports for landing of certain species and addresses for fulfilling notification requirements <p>Member States must apply effective, proportionate and dissuasive sanctions against natural or legal persons engaged in IUU or other illegal activities.</p> <p>The Danish Agrifish Agency is the competent authority with responsibility of enforcement of sanctions and penalties with respect to the prosecution of fishery rules in Denmark. State Environmental Service (SES), part of the Ministry of Environmental Protection and Regional Development, carries out fishing controls in marine waters under Latvian jurisdiction.</p> <p>The European Fisheries Control Agency (EFCA) mission is to promote the highest common standards for control, inspection and surveillance under the CFP. Its primary role is to organise coordination and cooperation between national control and inspection activities so that the rules of the CFP are respected and applied effectively.</p> <p>Joint Deployment Plans (JDP's) are established for fisheries/areas considered a priority by the Commission and the Member States concerned. They can refer either to European Union waters for which a Specific Control and Inspection Programme (SCIP) has been adopted or to International waters under the competence of a Regional Fisheries Management Organisation (RFMO), where EFCA is requested to coordinate the implementation of the European obligations under an International Control and Inspection Scheme.</p>			

In 2019 (Jan-Mar) a JDP was undertaken in EU Waters Subdivisions 22-32 (Baltic Sea) with the participation of inspection services and assets from competent authorities in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden.

There is an organisation responsible for monitoring compliance with fishery laws and regulations.
R6-R7; R11-R12, R15, R26

M2.2:

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. A maximum sanction of at least five times the value of fishery products obtained is provided for about the committing of the said infringement.

Since 2012, EU countries have been required to have a point system for serious infringements. Under the scheme, National Authorities are obliged to:

- 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 license for 2, 4, 8 or 12 months when a pre-set number of points have been accumulated in a 3-year period.

The Danish Agrifish Agency is the competent authority with responsibility of enforcement of sanctions and penalties with respect to the prosecution of fishery rules in Denmark. State Environmental Service (SES), part of the Ministry of Environmental Protection and Regional Development, carries out fishing controls in marine waters under Latvian jurisdiction.

A Latvian Administrative Penalty Code exists and is applied for violations of fishing rules. Where repeated violation of fishing regulations occurs, or fishing occurs without authorization fines range from 700€ up to 14,000€, gear can be confiscated, and fishing licenses suspended for up to three years.

There is an organisation responsible for monitoring compliance with fishery laws and regulations.
R2, R6-R7; R13-R14; R26

M2.3:

Joint Deployment Plans (JDP's) undertaken in 2018 in the Baltic involved competent authorities for fisheries control and protection vessels from Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden. The Report (Jan-Dec 2018) noted that a total of 3,172 inspections ashore were reported by Member States concerned, including 5 transport inspections. Inspection teams detected 50 apparent infringements on 49 fishing vessels.

A total of 33,143t of sprat were controlled during landings inspections. During the reporting period Member States reported 984 inspections at sea with a total of 20 apparent infringements detected on 16 fishing vessels. A total of 3,367t of Sprat were controlled during inspections at sea. No infringements were detected during landings inspections.

The % of at sea inspected F/V with apparent infringements was 1.6%; the % of on-land inspected F/V with apparent infringements was 1.5%.

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

R15

M2.4:

In practice, CFP control as carried out by the Member States' control authorities can be broken down into three broad areas: conservation, structures, and markets:

- Conservation measures cover issues such as quota management or the implementation of technical measures (e.g. mesh sizes). Inspections are used to ensure that the fishing gear on board vessels meets official norms and that the information entered in log-books.
- Structural policy plays a key role in the search for a balance between the fishing capacity of Member States, the fishing effort deployed, and the available fish resources. Checks are therefore necessary to establish that allocated days-at-sea have not been exceeded.
- Finally, national inspections are not limited to the catching sector, but also include all operations from landing and marketing to storage and transportation. Operators must, always, be in possession of proper documentation detailing the origin, nature, quantity and quality of fish involved in transactions, so that it can be cross-checked with data in log-books and from other sources, such as fish auctions.

As with the application of sanctions, the bodies responsible for control and enforcement are set up by individual EU states.

In Denmark since 2009, the EU has operated a scheme with realtime closures in the Northsea and Skagerrak in areas with presence of juvenile cod, haddock, whiting and saithe. Information from the Danish Fishing Agency (in English) regarding national implementation of EU legislation is currently under development on their website and not available during the time of drafting of this report.

In Latvia the Marine Environmental Board of the Ministry of Environment carries out fishing control in marine waters under Latvian jurisdiction, issues fishing licences, operates a vessel monitoring satellite centre and monitors fish landing at ports.

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

R13-R15; R26

References

R11 European Fisheries Control Agency: About: <https://www.efca.europa.eu/en/content/objectives-and-strategy>

R12 JDP-BS-2019-01 (the Baltic Sea campaign): <https://www.efca.europa.eu/en/content/reports-2019-1>

R13 Fisheries control authorities in the Baltic Sea area: 2pp
https://ec.europa.eu/fisheries/cfp/control/who_does_what/baltic_sea_authorities/

R14 CFP control and enforcement overview: http://ec.europa.eu/fisheries/cfp/control/index_en.htm

R15 JDP-BS-2018-01 (Baltic Sea): <https://www.efca.europa.eu/sites/default/files/atoms/files/2018%20-%20THE%20BALTIC%20SEA%20JOINT%20CAMPAIGN%20-%202012M%20REP%20WEB.pdf>

R16 BSAC recommendations for the fishery in the Baltic Sea in 2016, July 2015:

http://www.bsac.dk/archive/Dokumenter/Recommendations/2015/BSAC_2015_4BSACRecommendationsFishery2016FINAL.pdf

Standard clause 1.3.1.3

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. If the species fails any of these clauses it should be re-assessed as a Category B species.

Species Name		SPRAT (<i>Sprattus sprattus</i>)	
A1	Data Collection - Minimum Requirements		
	A1.1	Landings data are collected such that the fishery-wide removals of this species are known.	YES
	A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.	YES
Clause outcome:			PASS
Evidence			
A1.1: Although Sprat is present throughout the Baltic region, catches occur (2017 data) primarily in Subdivisions 26 (37%), 28 (21%), 25 (15%) and 29 (10%) (Figure 2). Management of the stock is supported by the collection of fishery-dependent and fishery-independent data, and by more general research on ecosystems and species which affect the stock. ICES has provided scientific advice to managers of the stock since 1988, and every year since 1991. Commercial catch data have been collected for several decades, and total landings estimates are available for every year back to the early 1970s. The species composition of mixed catches is defined by logbooks and by observers on board the larger vessels, but the amount of discarding is currently unknown. Age and length frequencies are calculated based on measurements taken from the catch, and natural mortality rates are estimated based on Stochastic Multispecies Simulations and the estimated size of the Baltic cod stock. The landings and sampling activity summary provided by ICES shows that the level of sampling activity by ICES subdivision exceeded the levels required by EC regulation. The availability of CPUE data appears to vary with only Denmark and Lithuania providing fishing effort information for 2014 but not since. Sprat in the Baltic Sea has been assessed as a single stock since 1992. Sprat catches in 2017 were 285, 701t. Landings data are collected such that the fishery-wide removals of this species are known. R18			

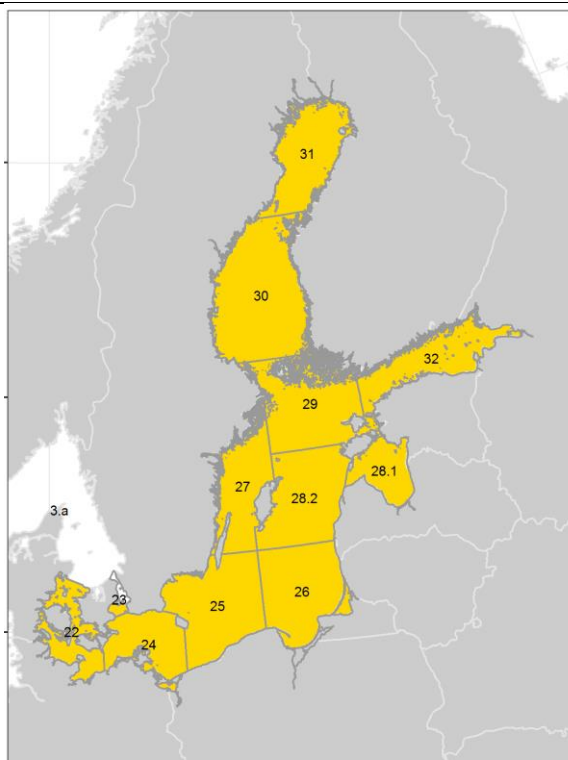


Figure 2 Geographical area covered by ICES advice (in yellow) **R17**

A1.2:

The most recent benchmarking for Baltic sprat (carried out in 2013) utilized three acoustic survey time-series: BASS tuning fleet index for Baltic sprat in the SDs 24–26 and 28 for the years 2001 – 2011, BIAS tuning fleet index for Baltic sprat in the SDs 22–29 for the years 1991 – 2011, and BIAS tuning fleet index for Baltic sprat recruitment (age 0) in the SD 22-29 for the years 1991 – 2011.

The 2017 stock assessment in addition used commercial catches (international landings, ages and length frequencies from catch sampling). Natural mortalities from the multispecies model (SMS) and regression of M against eastern Baltic cod SSB were also used.

Sufficient additional information is collected to enable an indication of stock status to be estimated R17-R18

References

R17 ICES Baltic Sea Ecoregion - Fisheries overview 2018

https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/BalticSeaEcoregion_FisheriesOverviews_2018_November.pdf

R18 ICES Baltic sea sprat advice, May 2018:

<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/spr.27.22-32.pdf>

Standard clause 1.3.2.1.1

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.	YES
	A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	YES
	A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	YES
	A2.4	The assessment is subject to internal or external peer review.	YES
	A2.5	The assessment is made publicly available.	YES
Clause outcome:			PASS
Evidence <p>A2.1:</p> <p>Commercial catch data have been collected for several decades, and total landings estimates are available for every year back to the early 1970s. The most recent benchmark assessment (ICES) for Baltic sprat was carried out in 2013. ICES has provided scientific advice to managers of the stock since 1988, and every year since 1991 (Figure 3).</p> <p>Discard data have not generally been available for inclusion in stock assessments, although efforts are underway to remedy this in future. Discards are estimated to be negligible in most countries, as undersized and lower quality fish can be used for fishmeal production. The most recent ICES advice on the stock has not included discards or bycatch in their assessment.</p> <p>It is expected that misreporting of catches occurs, as estimates of species composition of clupeid catches are imprecise in some mixed pelagic fisheries. This is considered when assessing sprat stocks.</p> <p>A stock assessment is conducted at least once every 3 years.</p> <p>A2.2:</p> <p>The spawning-stock biomass (SSB) is well above MSY Btrigger. The recent increase in SSB is attributable to the strong year class of 2014. The 2015- and 2016-year classes are estimated slightly below average, while the 2017-year class is estimated to be above average. Fishing mortality (F) has declined in recent years to just above FMSY:</p>			

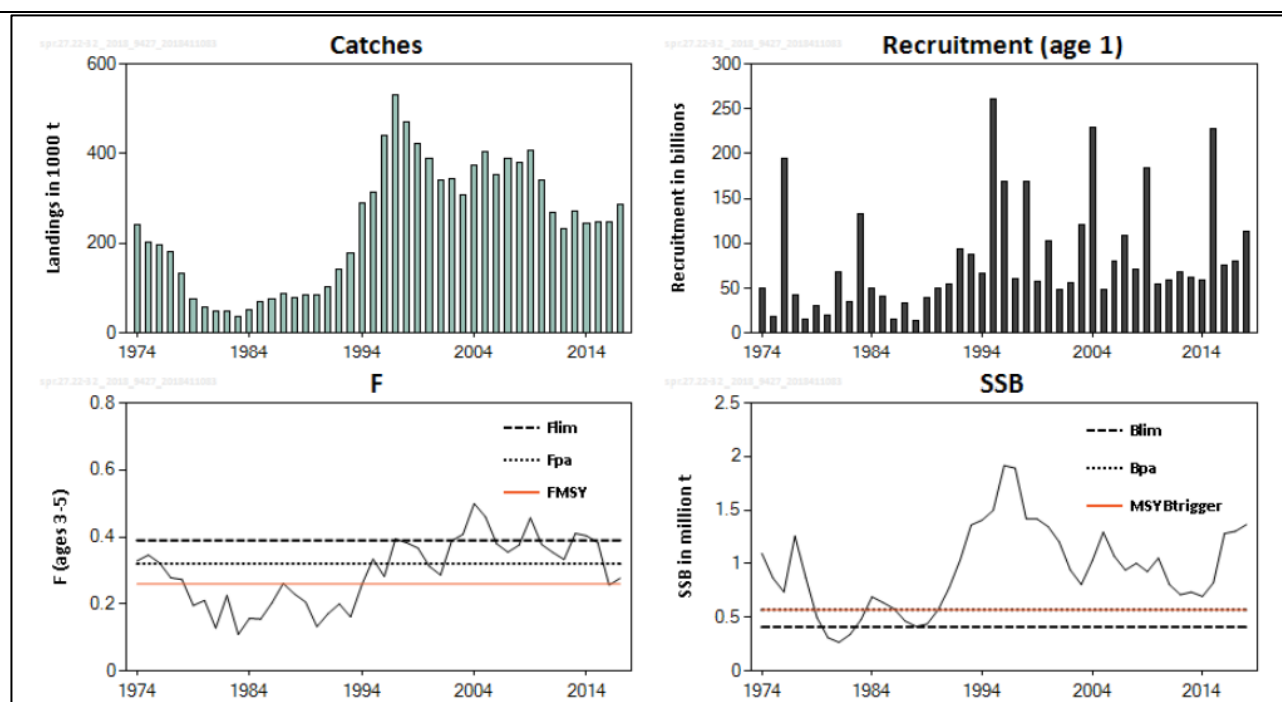


Figure 3: Sprat in subdivisions 22–32.

Summary of the stock assessment. SSB at spawning time in 2018 is predicted **R18**

ICES assess that fishing pressure on the stock is slightly above FMSY and below Fpa and Flim, while spawning stock size is above MSY Btrigger, Bpa, and Blim:

Table 1: Sprat in subdivisions 22–32. State of the stock and fishery relative to reference points **R18**

		Fishing pressure				Stock size			
		2015	2016	2017		2016	2017	2018	
Maximum Sustainable Yield	F_{MSY}	✗	✓	✗	Above	MSY $B_{Trigger}$	✓	✓	✓ Above trigger
Precautionary Approach	F_{pa}	✗	✓	✓	Harvested sustainably	B_{pa} B_{lim}	✓	✓	✓ Full reproductive capacity
	F_{lim}	✗	✓	✓			✓	✓	
Management plan	F_{ranges}	✗	✓	✗	Above	MSY $B_{trigger}$	✓	✓	✓ Above

FMSY ranges in the EU Baltic Sea multiannual plan (MAP) are consistent with ranges provided by ICES. These were evaluated to result in no more than 5% reduction in long-term yield compared with MSY. ICES advice according to the MAP is based on the provisions of the plan and is considered precautionary.

The ICES advice rule is used, i.e. F adjusted by the factor SSB/MSY Btrigger when SSB below MSY Btrigger. For this stock, the SSB in 2019 is above MSY Btrigger. In this situation, catch scenarios applicable under the MAP correspond to fishing mortalities between Flower and Fupper.

According to the MAP, catches corresponding to F higher than FMSY can only be taken under conditions specified in the MAP. It should only be possible to fix fishing opportunities to the upper limit if, on the basis of scientific advice or evidence, it is necessary for the achievement of the objectives laid down in this Regulation in mixed fisheries or necessary to avoid harm to a stock caused by intra- or inter-species stock dynamics, or in order to limit the year-to-year variations in fishing opportunities.

ICES also recommend that a spatial management plan is developed for fisheries that catch sprat, with the aim to improve cod condition.

The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy
R18

A2.3:

Advice provided by ICES includes stock assessments and deeper analysis on which the Commission bases both its annual recommendations for setting TACs and quotas, and more long-term proposals on how fisheries in European waters can be managed sustainably. Increasingly ICES also provides a great deal of integrated advice at ecosystem level, in support of the shift towards a more holistic approach to managing Europe's seas.

Based on the 2018 advice (published in May 2018) ICES advised that when the MAP is applied, catches in 2019 are between 225,752t and 311,523t. The agreed TAC for 2019 was 270,772t. According to the MAP, catches higher than those corresponding to FMSY (301, 125t) can only be taken under conditions specified in the MAP (A2.2), whilst the entire range is considered precautionary when applying the ICES advice rule.

In 2018, against an agreed TAC of 304,900t total landings reported to ICES were 308.827t. For this stock SSB in 2019 is above MSY Btrigger. In this situation, catch scenarios applicable under the MAP correspond to fishing mortalities between F_{lower} and F_{upper} .

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

R18

A2.4:

Expert groups such as the Baltic Fisheries Assessment Working Group (WGBFAS) provide scientific advice and summaries of information on the sprat fishery. The latest report was published in 2018. Working Groups conduct analyses that underpin ICES advice. Working Groups are guided by steering groups; all terms of reference are reviewed and signed off by science and advisory committees.

Fisheries overviews summarize fishing activities at ICES ecoregions, including which countries are catching what species, various fishing methods being used, and how stocks are managed. The most recent Baltic Sea overview was published in Nov 2018.

Assessments are subject to internal or external peer review.

R18-R19; R26

A2.5:

ICES operate a transparent assessment framework (TAF); an online open resource of annual ICES stock assessments. All data input and output are fully traceable and versioned. The open framework enables anyone to easily find, reference, download, and run the assessment from any stage in the process leading to the published ICES advice for a given stock.

Assessments are made publicly available on the ICES website.

R20

References

R19 ICES 2018 Baltic Fisheries Assessment Working Group (WGBFAS) Sprat in the Baltic Sea:

<http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2018/WGBFAS/09%20WGBFAS%20Report%202018%20-%202007%20Sprat%20in%20the%20Baltic%20Sea.pdf>

R20 ICES TAF : https://www.ices.dk/marine-data/assessment-tools/Pages/transparent-assessment-framework.aspx
<i>Standard clause 1.3.2.2, 1.3.2.1.2, 1.3.2.1.4</i>

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
<p>Evidence</p> <p>A 3.1-A3.2:</p> <p>Historically the Baltic sprat TAC had been set considerably higher than ICES advice. In recent years the severity of this over-setting has reduced but persisted until 2017 when the TAC was set in line with scientific advice. In 2018, against an agreed TAC of 304,900t (Russian quota 42,600t) and ICES advice in the range 219,152t - 301,722t (with catch higher than 291,715t only under conditions specified in the MAP) total landings were 308,827t. The agreed EU TAC for 2019 (270,772t) does not include Russia's autonomous quota.</p> <p>Member States having a direct management interest are Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland and Sweden. Management and control measures (such as the setting of TAC's for Member States are outlined in the EU MAP (2016). Third Countries that have been allocated a quota for sprat include Russia and Finland.</p> <p>According to data uploaded to Inter Catch, total (EU and Third Countries) sprat catches in 2017 were 285,701t against an EU TAC of 260,993 which was 95% exhausted. Finnish catches decreased by 5% compared to 2016 levels. The Russian TAC of 42,600t for 2017 was 91% exhausted. There is yet no international agreement in place with regards to TAC settings for this species in the Baltic.</p> <p>Previously, BSAC had expressed concerns over inconsistency in stock size estimates, with year-to-year changes in the retrospective analysis of more than 100,000t. This may, in part, also explain why total landings in recent years have been lower than the ICES advice. BSAC suggests several potential reasons for this variability, including the extent and timing of acoustic surveys. BSAC final conclusions appear not to deviate substantially from ICES.</p> <p>The CFP includes provisions to limit, and historically reduce, total fishing capacity through a combination of subsidizing fishery exits and restricting new entries. The entry-exit regime, which applies to most EU Member State vessels, is one of the main pillars of the European-wide fishing capacity management system. As a rule, the capacity of EU fleets cannot increase with respect to its levels on 1 January 2003 for those EU 15 Member States and on their accession date for Member States which acceded to the Community after 2003.</p> <p>It is also likely that the fishery is limited by the herring quota, which is usually fully utilised. In either case, excess capacity is clearly not leading to excess fishing pressure in the Baltic sprat fishery at present (Table 2).</p>			

There is a mechanism in place by which total fishing mortality of this species is restricted. Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment R18-R19

Table 2. Baltic Sea sprat, ICES advice, TAC and final landings ICES 2018 advice: **R18**

Year	ICES advice	Catch corresponding to advice	Agreed TAC	ICES catch
1987	Catch could be increased in subdivisions 22, 24, and 25 <i>Status quo</i> F for subdivisions 27 and 29–32		117200	88200
1988	Catch could be increased in subdivisions 22–25	-	117200	80300
1989	Catch could be increased for subdivisions 26 and 28 <i>Status quo</i> F for subdivisions 27 and 29–32	72000	142000	85800
1990		72000	150000	85600
1991	TAC	150000	163000	103200
1992	<i>Status quo</i> F	143000	290000	142100
1993	Increase in yield by increasing F	-	415000	178100
1994	Increase in yield by increasing F	-	700000	288800
1995	TAC	205000	500000	312600
1996	Little gain in long-term yield at higher F	279000	550000	441000
1997	No advice	-	550000	529400
1998	<i>Status quo</i> F	343000	550000	470800
1999	Proposed F_{pa}	304000	467005	422600
2000	Proposed F_{pa}	192000	400000	389100
2001	Proposed F_{pa}	314000	355000	342200
2002	Proposed F_{pa}	369000	380000	343200
2003	Below proposed F_{pa} (TAC should be set on central Baltic herring considerations)	300000	310000	308300
2004	Below proposed F_{pa} (TAC should be set on central Baltic herring considerations)	474000	420000	373700
2005	TAC should be set on central Baltic herring considerations	< 614000	550000	405200
2006	Agreed management plan	439000	468000	352100
2007	< F_{pa}	< 477000	454000*	388900
2008	< F_{pa}	< 432000	454000*	380500
2009	< F_{pa}	< 291000	399000*	407100
2010	< F_{pa}	< 306000	380000*	341500
2011	< F_{pa}	< 242000	322700**	267900
2012	MSY transition scheme	< 242000	255100**	235000
2013	$F < F_{MSY}$	< 278000	278000**	272400
2014	MSY approach	< 247000	267900**	243800
2015	MSY approach	< 222000	240200**	247200
2016	MSY approach ($F = 0.26$)	≤ 205000	243000**	246500
2017	MSY approach ($F = 0.26$)	≤ 314000	303593**	285701
2018	MAP target F ranges: F_{lower} to F_{upper} ($F = 0.19–0.27$), but F higher than $F_{MSY} = 0.26$ only under conditions specified in MAP	219152–301722, but catch higher than 291715 only under conditions specified in MAP	304900**	
2019	MAP target F ranges: F_{lower} to F_{upper} ($F = 0.19–0.27$), but F higher than $F_{MSY} = 0.26$ only under conditions specified in MAP	225752–311523, but catch higher than 301125 only under conditions specified in MAP		

*Agreed TAC includes Russia autonomous quota

A 3.3:

Since 1982 the stock has never been estimated to be below the limit reference point or proxy. Controls are in place to cover issues such as quota management or the implementation of technical measures (e.g. mesh sizes) should the stock fail

Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy.

R13-R14; R18-R19; R26

References

Standard clause 1.3.2.1.3

A4	Stock Status - Minimum Requirements		
	A4.1	<div>The stock is at or above the target reference point, OR IF NOT:</div> <div>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:</div> <div>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</div>	PASS
	Clause outcome:		PASS
Evidence			
<p>A 4.1:</p> <p>The result of the latest ICES report has shown that the stock is in good condition. The spawning-stock biomass (SSB) is well above MSY Btrigger. The recent increase in SSB is attributable to a strong year class of 2014. The 2015- and 2016-year classes are estimated to be slightly below average, while the 2017-year class is estimated to be above average.</p> <p>Fishing mortality (F) has declined in recent years to just above FMSY. In 2019-2020 the stock is predicted to stay at recent levels of 1.3 million tonnes if exploited at FMSY. The EU component of the Baltic Sea sprat fishery is managed within the CFP framework and as such is subject to research, control and enforcement typical of European fisheries. Scientific understanding of the stock appears to be good, and ICES has made annual management and quota recommendations for nearly 30 years. However, there is as yet no international agreement in place with regards to TAC - setting for this species in the Baltic.</p> <p>The stock is at or above the target reference point R18; R26</p>			
References			
Standard clause 1.3.2.1.4			

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. In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

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. A Category C species does not meet the minimum requirements of clause C1 should be re-assessed as a Category D species.

Species Name		Herring <i>Clupea harengus</i>	
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
Evidence			
C 1.1:			
Annual stock assessments are carried out by ICES, and TACs set according to scientific advice. Discards are considered low and the by-catch of sprat and juvenile cod is unknown.			
Fishery-dependent and –independent data are collected for the stock, and a stock assessment is conducted annually by ICES. In general, the level of research appears to be enough for the informed management of the stock. Spawning-stock biomass (SSB) decreased until 2001 and then increased, and it has been above MSY Btrigger since 2007. Fishing mortality (F) increased until 2000 and then decreased, remaining below FMSY since 2004. Recruitment in 2015 is estimated to be the highest of the whole time-series.			
Commercial catches (international landings, age distributions from catch sampling) in 2016 totalled 201,000 (against an agreed TAC of 206,605t) and in 2017 216,000t against an agreed TAC of 220,629t).			
Fishery removals of the species in the fishery under assessment are included in the stock assessment process			
R21			
C1.2:			
Preliminary investigations indicate that Stocks of western Baltic spring-spawning herring and central Baltic herring are mixing in Subdivisions 24-26 (Southern Baltic Figure 2). This assessment covers Sub-Divisions 25-32 (Central Baltic). This is not considered in the current assessment but should be investigated further. Species misreporting of herring has occurred in the past and there are again indications that it is a problem in some nations.			
For Subdivisions 25-29 and 32, excluding the Gulf of Riga (central Baltic Sea) Spawning-stock biomass (SSB) decreased until 2001 and then increased, and it has been above MSY Btrigger since 2007. Fishing mortality (F) increased until 2000 and then decreased, remaining below FMSY (2004-2014). F has been above FMSY since 2015. Recruitment in 2015 is estimated to be the highest of the whole time-series:			

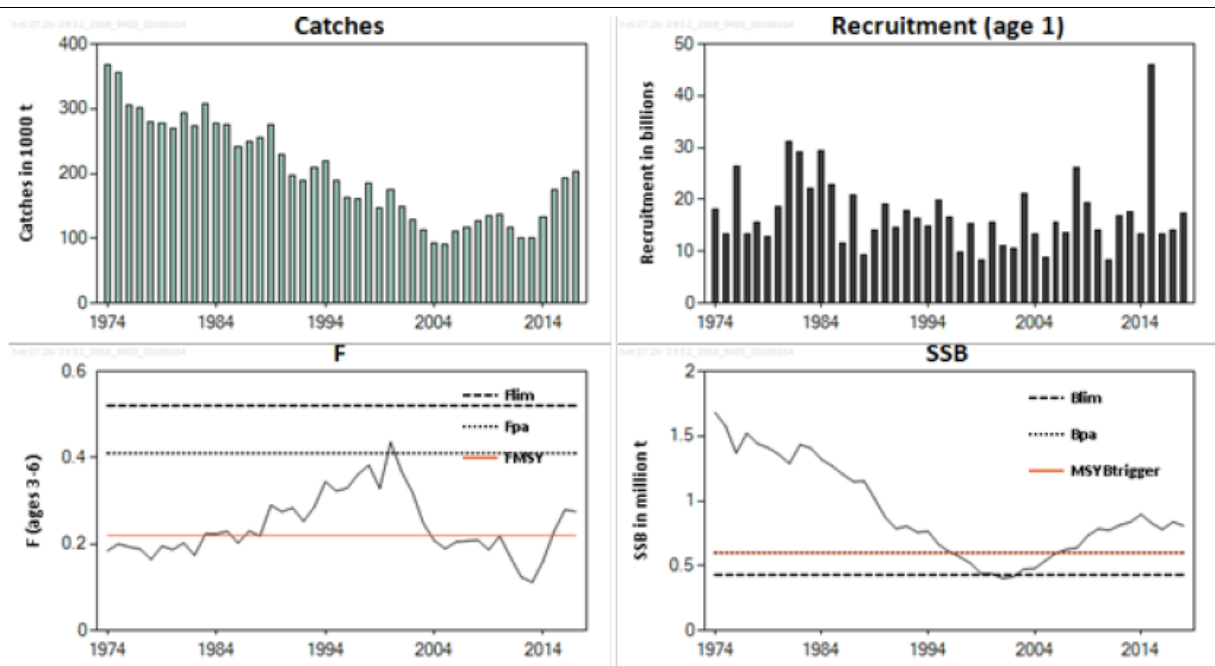


Figure 4: Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga.
Summary of the stock assessment. (SSB in 2018 is predicted). **R21**

ICES assess that fishing pressure on the stock is above FMSY and below Fpa and Flim; spawning stock size is above MSY Btrigger, Bpa, and Blim:

Table 3: Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga.
State of the stock and fishery relative to reference **R21**

		Fishing pressure				Stock size			
		2015	2016	2017		2016	2017	2018	
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_{ranges}	✓	✓	✓	Within range	MSY $B_{trigger}$	✓	✓	✓ Above

A high variability between years in the survey index, in the last years due to the large year class of 2014, is the likely cause of the downward revision of SSB and upward revision of fishing mortality for the recent years. However, applying stochastic models (in this case SAM) to the data shows that these revisions are within the uncertainty bounds of these SAM estimates.

In the assessment and advice, the central Baltic herring stock is caught both in and outside the central Baltic Sea (Figure 2). The TAC (sum of EU and Russian autonomous quotas) is set for herring caught in the central Baltic management area, which includes also a small amount of Gulf of Riga herring caught in the central Baltic Sea but excludes central Baltic herring caught outside the central Baltic Sea.

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy) **R21**

References

R21 ICES advice (2018) Herring (*Clupea harengus*) Subdivisions 25–29 and 32 (central Baltic Sea, excluding Gulf of Riga) <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/her.27.25-2932.pdf>

Standard clauses 1.3.2.2

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
<p>Evidence:</p> <p>F1.1-F1.3:</p> <p>Recording of the catch of seabirds and mammals has been undertaken in some Baltic Sea fisheries, usually where there is perceived risk of such bycatch. Seabirds can become entangled in gillnets or hooked on longlines. Seals can be caught in submerged trap nets and harbour porpoises entangled in gillnets. Pelagic trawlers or purse seines do not cause any bycatch of birds or mammals in the offshore fishery in the Baltic Sea.</p> <p>The Working Group on Bycatch of Protected Species (WGBYC) met in Iceland (May 2018). Highlights from the 2018 meeting include review of ongoing bycatch mitigation research projects, bycatch risk assessments for harbour porpoise and common dolphin and review of the compiled inventory of various sampling programmes that provide information on bycatch of protected species at the national level.</p> <p>Member States are obliged to conform to EU Regulation 1004/2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy (Data Collection) by submitting data on observer programmes where fisheries are known to interact with ETP species.</p> <p>Observer programs for ETP species in some of the countries involved in sprat fishery reported no bycatch of any ETP species (Baltic Sea) in recent years.</p> <p>Gillnetters, especially the smaller ones that usually operate closer to the shore occasionally can have large numbers of birds in the nets. Other studies have shown that fishing nets, set nets, have caused considerable mortality for long-tailed ducks; velvet scoters common eiders and others.</p> <p>At least four species of marine mammals can be found in the Baltic Sea: Grey seal; Harbour seal; Ringed seal and a small population of Harbour porpoise. HELCOM agreed in 2006 on a Recommendation of the ‘Conservation of seals in the Baltic Sea’; a regional agreement on joint management principles, management units for the different seal populations, limit reference levels for the respective management unit, and coordinated monitoring programmes.</p> <p>Seal status is considered not good in most parts of the Baltic Sea according to HELCOM’s integrated assessment. Fishing for herring and/or sprat could be impacting seal and porpoise nutrition, but the magnitude</p>			

compared with other factors is unknown. Regular reports are provided on HELCOM's Baltic Sea Action Plan (BSAP) the objective of which is to restore good ecological status of the Baltic marine environment by 2021. The Plan, adopted by all the coastal states and the EU in 2007, provides a concrete basis for HELCOM work. It incorporates the latest scientific knowledge and innovative management approaches into strategic policy implementation and stimulates multilateral cooperation around the Baltic Sea region. HELCOM report that seals are generally protected, but hunting is permitted in some countries, restricted to populations above a limit reference level and with a positive growth rate.

The Baltic is an important overwintering ground for seabirds and sea ducks and nine of nineteen species breeding in the area are decreasing in numbers, while the status of many of the rest is uncertain. Ecosystem changes have impacted on the breeding success of the common guillemot whereas bycatch in fishing gear, particularly set nets, has impacted on the numbers of long-tailed ducks, velvet scoters and others.

Drowning in fishing gear can be a strong pressure on populations of divers, grebes, cormorants, auks, mergansers and ducks, especially in wintering areas with high densities of water birds. Diving water birds are especially vulnerable to being entangled in gill nets and other types of nets. Information has been provided by ICES to the EU on the effects of fishing gears on bird populations in the Baltic. According to the Control Regulation all interactions with ETP species must be recorded. This obligation is monitored by EFCA and National Fisheries Control authorities during inspections at sea and in port.

Further information available on these indicators, monitoring undertaken to date and assessment of ETP species status is available in HELCOM's State of the Baltic Report was updated in 2018 and is available at <http://stateofthebalticsea.helcom.fi/biodiversity-and-its-status/>

There is no substantial evidence that the fishery has a significant negative effect on ETP species
R22-R25; R31

References

R22 HELCOM, 2018. State of the Baltic Sea –Second HELCOM holistic assessment 2011-2016. <http://stateofthebalticsea.helcom.fi/>

R23 Fishsource Baltic Sea European Sprat https://www.fishsource.org/stock_page/1833

R24 Dagys M et al (2009) Action C1 – Assessing and reducing impact of fishery by-catch on species of community interest. Final report. LIFE Nature project “Marine Protected Areas in the Eastern Baltic Sea” Reference number: LIFE 05 NAT/LV/000100. 48pp

http://www.balticseaportal.net/media/upload/File/Deliverables/Action%20reports/C1_final_report.pdf

Standard clause 1.3.3.1

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
Evidence F2.1 – F 2.3 <p>Abrasion of the seabed by mobile bottom-contacting fishing gears has been investigated to describe the extent, magnitude, and effects of fishing on benthic habitats. Mobile bottom-contacting gears are primarily used in the southern areas of the Baltic Sea. There are demersal trawling activities for sprat in some parts of the Baltic. However, fishing effort data by fishing gear is sparse. Only Denmark and Lithuania uploaded fishing effort data for 2014 into the Inter-Catch in 2015. No new fishing effort data were provided in 2016 and 2017. Russia provided updated data on fishing effort and CPUE for Subdivision 26 in 1995–2017.</p> <p>Pelagic trawling is generally considered to have virtually no impact on the benthic environment, although some interactions have been reported. The sprat fisheries for industrial purposes generally use pelagic or light bottom trawl and thus habitat impacts are low.</p> <p>ICES now provide a great deal of integrated advice at ecosystem level, in support of the shift towards a more holistic approach to managing Europe's seas. Little is known at the regional scale about the sensitivity of different Baltic Sea organisms and communities to fishery-induced impacts. A qualitative approach to address this was elaborated by ICES in 2016. A mechanistic, quantitative assessment procedure based on biological principles is now under development.</p> <p>The EU funded MARELITT Baltic project has been working to reduce the impact of derelict fishing gear (ghost nets) in the Baltic Sea. The project to date has covered many aspects of the problem: mapping, retrieval, recycling and prevention. A handbook called The Baltic Sea Blueprint was presented during a recent conference in Sweden. The handbook is a roadmap on how to approach derelict fishing gear in a sustainable way.</p> <p>The Natura 2000 network is based on the Birds Directive adopted in 1979 (amended in 2009; Directive 2009/147/EC) and the Habitats Directive adopted in 1992 (Directive 92/43/EEC). These directives provide legal protection to sites. By 2013, 64% of Natura 2000 sites in the Baltic Sea had also been designated as HELCOM Marine Protected Areas (MPAs).</p> <p>If the fishery is known to interact with physical habitats, there are measures in place to minimize and mitigate negative impacts.</p> <p>R22, R25</p>			
References R25 MARELITT Baltic project https://www.marelittbaltic.eu/			
<i>Standard clause 1.3.3.2</i>			

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

Evidence

F3.1-F3.3:

The ICES WGBFAS stock annex (2018) for herring includes a section examining the ecosystem components of fishery management. This section primarily considers the effects of the ecosystem on fish populations, environmental influences on spawning and recruitment, and the impact of cod predation on natural mortality rates of herring and sprat.

Information on the impacts of sprat removals on the ecosystem appears to be limited, although the MAP notes that there are some indications that interactions between cod, herring and sprat may indicate that higher fishing pressures than currently advised may be sustainable in some areas (although ICES also notes that STECF have advised that more research be conducted). The MAP also includes several other commitments to follow the ecosystem approach to fisheries management (EAFM).

In the Baltic, multispecies analyses indicate that trade-offs exist between fishing on cod or herring and sprat. Increased fishing pressure on cod may increase the risk of a low cod stock size, thereby reducing cod predation on sprat and herring and allowing great survival and growth of these two-prey species.

Increased fishing pressure on herring and sprat may have a negative impact on the condition and growth of cod (by reducing the forage available for cod) and result in lower cod yields. The magnitude of the interaction between the species depends on spatial and temporal overlap among the three stocks (Figure 5).

Restrictions on sprat catches taken in the main cod area could be established as part of an ICES proposed spatial management plan (SMP). Redistribution of the fishery to northern areas (subdivisions 27–32) may also reduce the density-dependent effect i.e. increase growth for clupeids in the area:

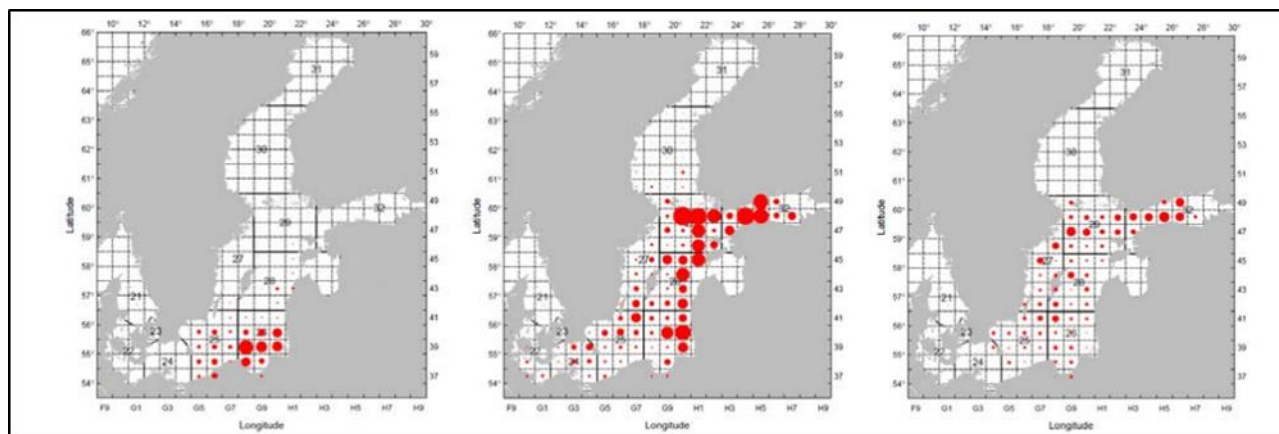


Figure 5 Sprat in subdivisions 22–32. Left panel: Distribution of eastern Baltic Sea cod from the bottom trawl survey (BITS, in number h–1) in the 4th quarter 2017; middle panel: Baltic sprat from the acoustic survey (BIAS, numbers) in the 4th quarter 2017; and right panel: Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga, from the BIAS survey (BIAS, numbers) in the 4th quarter 2017. The cod panel includes fish ≥ 30 cm, while herring and sprat panels include ages between 1 and 8. Figures are based on number of individuals; not on biomass. **R18**

Management of the stock is supported by the collection of fishery-dependent and fishery-independent data, and by more general research on ecosystems and species which affect the stock. ICES has provided scientific advice to managers of the stock since 1988, and every year since 1991.

Most of the Baltic Sea fish stocks with reference points are fished at or below FMSY. Multispecies analysis indicates that there is a trade-off between fishing on cod, or on herring and sprat in the central Baltic.

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 **R18, R22, R27**

References

R26 REGULATION (EU) 2016/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007 <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1139&from=EN>

R27 Denmark Fisheries Act (2004): http://www.fao.org/fishery/shared/faolextrans.jsp?xp_FAOLEX=LEX-FAOC026268&xp_faoLexLang=E&xp_lang=en

R28 Lative Fishing Law (1995): <http://www.vzp.gov.lv/>

R29 Danish Fishery Agency: Control <https://fiskeristyrelsen.dk/english/fishery-control-and-enforcement/>

R30 Fisheries Control Latvia: http://www.fao.org/fishery/docs/DOCUMENT/fcp/en/FI_CP_LV.pdf

R31 ICES REPORT WGBYC 2018: Report from the Working Group on Bycatch of Protected Species (WGBYC)

http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2018/WGBYC/wgbyc_2018.pdf

R32 Russia's Federal Agency for Fishery (Rosrybolovstvo) <http://government.ru/en/departments/243/>

Standard clause 1.3.3.3