FISHERY ASSESSMENT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL

FISHERY:	**Sprat (*Sprattus sprattus*)**
LOCATION:	**Subdivisions 22-32, Baltic Sea (Denmark)**
DATE OF REPORT:	**September 2015**
ASSESSOR:	**Sam Peacock**

1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME			
Name:			
Address:			
Country:		**Zip:**	
Tel. No.		**Fax. No.**	
Email address:		**Applicant Code**	
Key Contact:		**Title:**	
Certification Body Details			
Name of Certification Body:		**Global Trust Certification Ltd.**	
Assessor Name	**Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-certification**
Sam Peacock	Deirdre Hoare/Giles Bartlett	5	Initial
Assessment Period	July - September 2015		
Scope Details			
1. Scope of Assessment	IFFO Global Standard for Responsible Supply – Issue 1		
2. Fishery	Sprat (*Sprattus sprattus*)		
3. Fishery Location	Subdivisions 22-32, Baltic Sea (Denmark)		
4. Fishery Method	Primarily pelagic trawl, some demersal trawling		
Outcome of Assessment			
5. Overall Fishery Compliance Rating	Medium		
6. Sub Components of Low Compliance	Conditional approval of A3 and D1		
7. Information deficiency	None		
8. Peer Review Evaluation	Conditional approval		
9. Recommendation	Approve fishery (with conditions)		

2. QUALITY OF INFORMATION

Good; primarily ICES and EU websites and reports.

3. COMPLIANCE LEVEL ACHEIVED

Medium

Recommendation

Approve fishery, dependent on following conditions:

A3 A management plan (Baltic Multi Annual Plan (COM (2014) 614 of 6th October 2014) was proposed at the end of 2014 but has not yet been agreed, this is in the process of being debated at the EU Parliament and it is expected that the council of Ministers will agree the plan in early 2016. A medium compliance rating is awarded with the condition that the Multi Annual Plan is adopted by the Council of Ministers by June 2016.

D1 The TAC for the stock has exceeded the ICES advice in nearly every year since 2008. Although final landings are generally below the advice level, fishing mortality in 2014 was estimated to be above both precautionary and MSY reference points. Due to the uncertainty in the advice with year-to-year changes in the retrospective analysis of more than 100,000t and the TAC for 2016 has been set lower than the advice a medium compliance rating is awarded on the condition that TACs are set according to scientific advice and catches do not exceed TAC in future.

4. GUIDANCE FOR ONSITE ASSESSMENT

Based on HIGH compliance findings

Based on MEDIUM compliance findings

Based on LOW compliance findings

5. ASSESSMENT DETERMINATION

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, the fishery has been awarded medium compliance ratings in several sections for two main reasons.

Firstly, there is currently no management plan in place for the stock, meaning there are no explicit management objectives and evidence of an ecosystem approach to fishery management is limited. Secondly, although there appears to be an international agreement in place with regards to TAC-setting, TACs have been set considerably above the level advised by ICES in recent years. Although final landings generally fall short of the TAC due to the herring quota being filled in the joint component of the fishery, F_{lim} was exceeded in 2014.

As the level of fishing carried out is currently considered by ICES to be above the limit reference point, and no management plan has been agreed, the assessment team recommends that this fishery should not currently be

approved against the IFFO RS standard.
HIGH Compliance
A1, A2, B1, D2, E1, E2
MEDIUM Compliance
A3,B2, C1, D1, D3
LOW Compliance

SUMMARY OF LEVEL OF COMPLIANCE

	The Management Framework and Procedures	Stock assessment procedures and management advice	Precautionary approach	Management measures	Implementation
legal and administrative basis	A1				
Fisheries management should be concerned with the whole stock unit	A2				
Management actions should be scientifically based	A3				
Research in support of fisheries conservation and management should exist		B1			
Best scientific evidence available should be taken into account when designing conservation and management measures		B2			
The precautionary approach is applied in the formulation of management plans			C1		
The level of fishing permitted should be set according to management advice given by research organisations				D1	
Where excess fishing capacity exist, mechanisms should be in established to reduced capacity				D2	
Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment				D3	
A framework for sanctions of violation of laws and regulations should be efficiently exists					E1
A management system for fisheries control and enforcement should be established					E2

KEY: Low Compliance: Medium Compliance: High Compliance:

6. RATIONALE OF THE ASSESSMENT OUTCOME

A. THE MANAGEMENT FRAMEWORK AND PROCEDURE

LEVEL OF COMPLIANCE	
A1. The management of the fishery must include a legal and administrative basis for the implementation of measures and controls to support the conservation of the fishery.	
LOW	An administrative framework that ensures an efficient management of the fishery for its conservation is not established.
MEDIUM	An administrative framework that ensures an efficient management of the fishery for its conservation is somehow established, but there is evidence of not being efficient to ensure the conservation of the stock.
HIGH	A legal and administrative framework that ensures an efficient management of the fishery for its conservation is established and works efficiently toward the conservation of the stock.

Determination: There are robust legal and administrative frameworks in place at the EU and Danish levels. H

Europe:

Denmark is a Member State of the European Union, and therefore in Community waters implements the Common Fisheries Policy (CFP). In force since 1983, the CFP aims to reconcile resource conservation with the preservation of income and jobs in coastal zones that offer few alternatives in terms of production or employment. It therefore covers not just resources but also markets and structures.

With regard to resource management, the CFP regulations comprise:

- 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.

The CFP also provides for the introduction of measures to rebuild, over a period of several years, stocks that are threatened in terms of sustainable harvesting, and for recourse to effort-related management rules to supplement TACs and quotas.

The CFP is periodically reviewed and reformed. The most recent CFP reform process was completed in 2013 and came into effect from the 1st January 2014. Key changes include:

- The introduction of an objective to 'ensure high long-term fishing yields for all stocks by 2015 where possible, and at the latest by 2020' (i.e. movement towards an MSY-based approach).
- The gradual (2015-2019) introduction on a fishery-by-fishery basis of a 'landing obligation', which effectively bans discarding.
- An overhaul of the management structure, including increased regionalisation and more extensive stakeholder consultation.

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 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.

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. The 20 member countries that fund and support ICES use this advice to help them manage the North Atlantic Ocean and adjacent seas. ICES provides annual stock assessment and management advice in relation to the Baltic Sea sprat fishery via its Baltic Fisheries Assessment Working Group (WGBFAS).

Baltic Sea AC

Also relevant to the management of sprat in the Baltic Sea is the Baltic Sea Advisory Council (BSAC), which was set up in March 2006 as a result of the 2002 CFP reform. The role of Regional Advisory Councils (RACs) was further refined by the 2013 reform. 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 eNGOs, consumers and others.

LEVEL OF COMPLIANCE	
A2. Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account fishery removals and the biology of the species.	
LOW	Fisheries management is not concerned with the whole stock unit over its entire area of distribution and do not take into account any of the matters listed in 'A1'.
MEDIUM	Fisheries management is concerned with matters listed in 'A1' but not entirely. Fisheries, in relation to 'A1' statement, should improve to ensure the long term conservation of the marine resource.
HIGH	Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account: • All fishery removals • The biology of the species

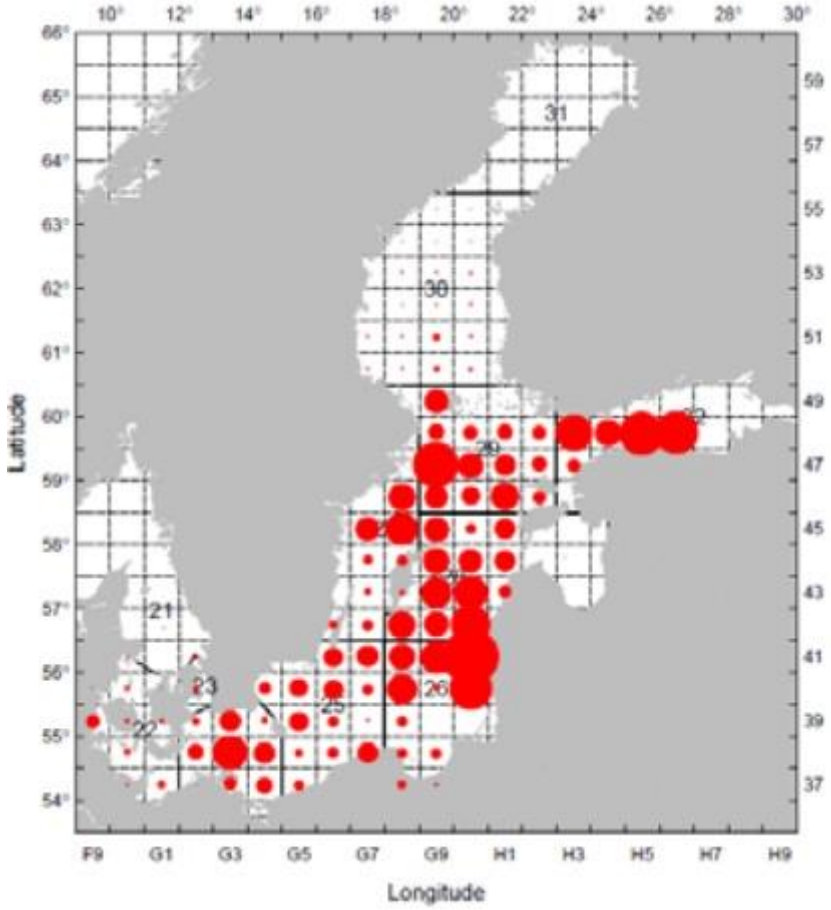
Determination: The stock management unit reflects the current best scientific understanding of the biological stock. Discard data are not currently available but discarding is generally thought to be limited. H

Sprat in the Baltic Sea has been assessed as a single stock since 1992. Around this time scientific studies were conducted to determine stock structure but no evidence was found to suggest heterogeneity in ICES Subdivisions 22-32. Prior to 1992 sprat in the Baltic was considered to be composed of three stocks: in Subdivisions 22-25, 26 & 28, and 27, 29, 30, 31, 32. Although sprat is present throughout the Baltic region, catches occur primarily in Subdivisions 26 (31% of catch), 28 (22%), 25 (16%) and 29 (15%).

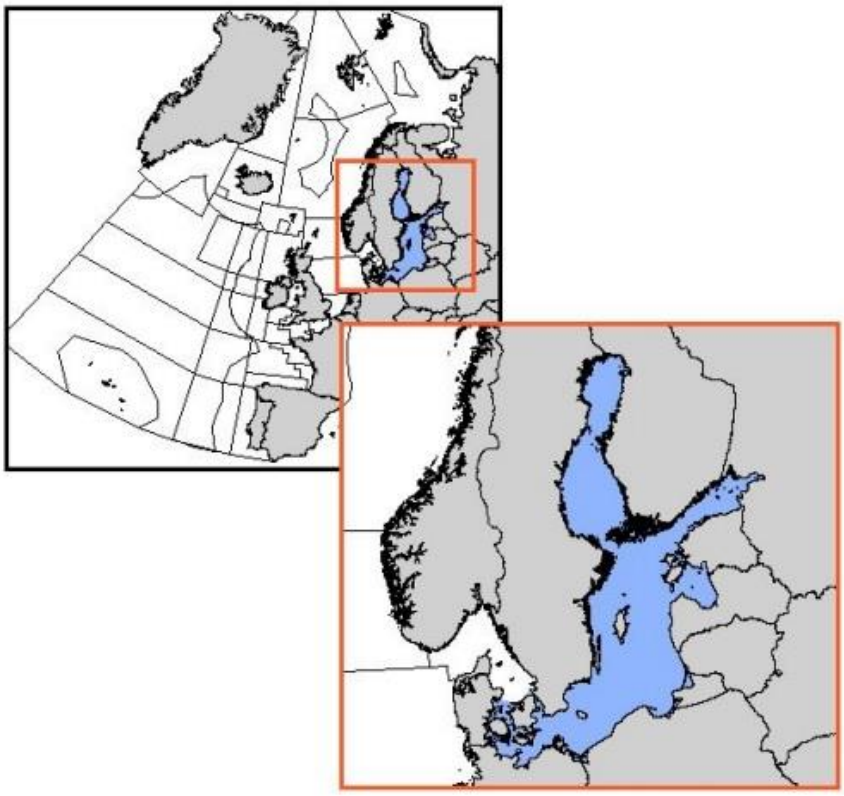
Discard data have not generally been available for inclusion in the stock assessments, although efforts are underway to remedy this in future. Discards are estimated to be negligible in most countries, as undersized

and lower quality fish can be used for fishmeal production; however in countries where sprat is caught for human consumption there may be significant discarding. The collection of sprat discard data is underway and such data will likely be included in future assessments.

The models used in stock assessments include consideration of the biological characteristics of the stock. Maturity data, including weight-at-age estimates, are calculated using information collected from catches. Natural mortality coefficients vary between years and ages and are based on the estimated size of the Baltic cod stock. The ICES WGBFAS stock annex also includes consideration of the role of the species in the Baltic ecosystem (see section D3).



Distribution of Sprat in the Baltic Sea, from the BIAS acoustic survey conducted in the 4th quarter of 2014. From the May 2015 ICES advice (R1)



Geographical area covered by the ICES advice (in blue), which also represents the best current scientific understanding of the biological stock. From the ICES Baltic sprat popular advice May 2015 (R17)

LEVEL OF COMPLIANCE	
A3. Management actions should be based on long-term conservation objectives	
LOW	Management actions are not based on long term management objectives.
MEDIUM	Management actions are based on long term management objectives. However the actions are not scientifically formulated.
HIGH	Management actions are based on long term management objectives, and actions are science based.

Determination: There are implicit long-term objectives for the Baltic sprat stock based on the requirements of the CFP. A management plan was proposed at the end of 2014 but has not yet been agreed, this is in the process of being debated and it is expected that the council of Ministers will agree the plan in early 2016. A medium compliance rating is awarded with the condition that this management plan is implemented in 2016.

The CFP is the primary instrument for sustainable fisheries management. As such it addresses the impacts of fishing on target stocks as well as impacts on other ecosystem components. Implementing an EAFM has been set as one of the objectives of the Common Fisheries Policy (Regulation(EU) No1380/2013) "…to ensure that negative impacts of fishing activities on the marine ecosystem are minimized..." and "…that aquaculture and fisheries activities avoid the degradation of the marine environment." (Article 2.3).

The CFP, specifically after the 2013 reform, presents some specific measures which should impulse the implementation of EAFM within European Fisheries. Among these measures are a) fishing at Maximum Sustainable Yield (MSY); b) avoid and reduce unwanted catches; and c) manage stocks by means of multi-annual plans. Specifically, for these plans, multiple stocks should be covered when those stocks are jointly

exploited (1380/2013).

ICES recommends that a spatial management plan for the clupeid stocks in Subdivisions 25 & 26 be developed. Additionally, although the EU component of the fishery is managed largely in line with the ICES advice (and therefore implicitly follows the MSY and precautionary approaches), and there is ostensibly an agreement in place that the Russian quota is 10% of the TAC, the combined TAC almost always totals more than the ICES advice.

In October 2014 an EC proposal for establishing a multi-annual plan for cod, herring and sprat in the Baltic Sea was published. The plan was developed through stakeholder consultation and impact assessments, and included the following explicit management objectives in relation to the Baltic sprat stock:

- Achieve the target fishing mortality of 0.26-0.32 by 2015;
- Maintain a minimum spawning biomass of 570,000t.

The proposed management plan has not yet been put in place, and at the time of this assessment it is being debated in the EU Parliament. The expectation is that the EU Parliament will approve the plan in Spring 2016.

B. STOCK ASSESSMENT PROCEDURES AND MANAGEMENT ADVICE

LEVEL OF COMPLIANCE	
B1. Research in support of fisheries conservation and management should exist.	
LOW	Research to support the conservation and management of the stock, non-target species and physical environment does not exist
MEDIUM	Research to support the conservation and the management of the stock, non-target species and physical environment exists, however research programmes could be significantly improved to decrease scientific advice uncertainty.
HIGH	Research to support the conservation and the management of the stock, non-target species and physical environment exist, and existent research is considered most adequate for the long term conservation of the target, non-target and physical environment

Determination: 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 sufficient for the informed management of the stock.

H

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

Fishery-dependent research

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 (i.e. 1 sample per 2,000t of catch, 100 length measurements and 50 age readings per sample) in 2014. The availability of CPUE data appears to vary, with only Denmark and Lithuania providing fishing effort information for 2014.

Fishery-independent research

The most recent benchmarking for Baltic sprat (carried out in 2013) utilised three acoustic survey time-series:

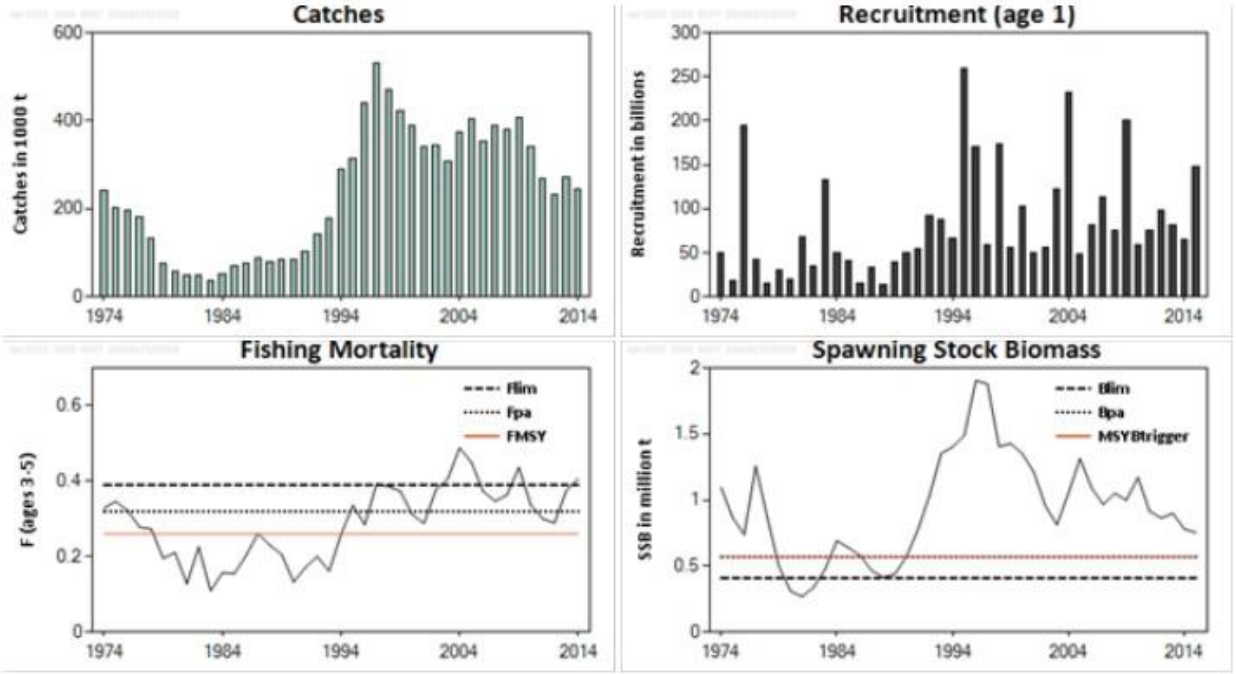
BASS tuning fleet index for Baltic sprat in the SDs 24–26 and 28 for the years 2001 – 2011, BIAS tuning fleet index for Baltic sprat in the SDs 22–29 for the years 1991 – 2011, and BIAS tuning fleet index for Baltic sprat recruitment (age 0) in the SD 22-29 for the years 1991 – 2011. The 2015 stock assessment used three tuning data sets from acoustic surveys: International Acoustic Surveys in autumn in 1991-2014; in May in 2001-2014; and acoustic surveys covering age 0 sprat in Subdivisions 22-29 in 1991-2014.

Quality of Assessment

The ICES WGBSAF report includes consideration of the quality of the stock assessment. This mentions the following potential sources of uncertainty:

- In the mixed fishery for herring and sprat, the reported landings for each species could be imprecise, which would in turn influence estimates of stock size and fishing mortality.
- Predicted SSB is very sensitive to the assumed year class strength.
- Some aspects of the assessment still relate to the previous assumption that sprat in the Baltic consisted of three biological stocks.
- The assessment has shown a historical tendency to underestimate SSB and overestimate fishing mortality. Revisions of these are due to some extent to revisions of cod predation mortality estimates.

In the opinion of the assessment team these do not represent significant shortcomings in the data collection and stock assessment activities carried out in support of sprat management.



Baltic Sea sprat stock assessment summary. SSB at spawning time in 2015 is predicted. From the May 2015 ICES advice (R1).

LEVEL OF COMPLIANCE

B2. Best scientific evidence available should be taken into account when designing conservation and management measures.

LOW	Scientific advice is not taken into account when designing conservation and management measures.
MEDIUM	Scientific advice is taken into account, when designing conservation and management measures. However some areas of discrepancy are identified that could have a significant impact in the long term conservation of the marine environment.
HIGH	Scientific advice is taken into account, when designing conservation and management measures, in a comprehensively manner.

Determination: ICES research and advice is the primary source of scientific information for developing fishery conservation and management measures. The organisations supporting the CFP are structured to ensure the inclusion of best available scientific evidence in the decision-making process. However, the ICES advice has not been strictly followed, most notably with the lack of a management plan and the exceeding of recommended quota levels. M

The European Commission 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 to a great extent on advice from ICES for the North-East Atlantic, North Sea and Baltic Sea. The advice provided by ICES includes the 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.

STECF plays a leading role in helping the Commission to formulate policies ranging from long-term plans to emergency closures, by providing an authoritative and highly targeted scientific opinion which goes well beyond the purely biological dimension and can be made available at short notice. It also provides extensive economic and social advice, not only on the impact of policy proposals, but also as a support for better management (for instance, on the impact of discarding), or on fleet dynamics and economic performance. STECF is therefore the key organisation

The previous management plan for sprat in the Baltic was terminated in 2006, and ICES has been recommending that a new spatial management plan should be developed since at least 2012. Although such a plan has been proposed, it has not yet been implemented. Additionally, due at least in part to the apparent lack of international coordination on quotas, the TAC for the stock has exceeded the ICES advice in every year since 2008 except 2013.

C. THE PRECAUTIONARY APPROACH

LEVEL OF COMPLIANCE

C1. The precautionary approach is applied in the formulation of management plans.

LOW	The precautionary approach is not applied in the formulation of management plans.
MEDIUM	The precautionary approach is applied, however not all uncertainties are taken into account.
HIGH	The precautionary approach is applied, taking into account uncertainties relating to the dynamic of fish population (recruitment, mortality, growth and fecundity), and the impact of the fishing activities, such as discards and by-catch of non-target species as well as on the physical environment (Habitats).

Determination: Despite broad commitments to the precautionary approach and the categorisation of sprat as a category 1 stock, fishing pressure exceeded F_{lim} in 2014 and SSB estimates have been steadily falling for a decade. At this time a medium compliance rating is appropriate. M

The EU CFP makes a broad commitment to the application of the precautionary approach, and ICES advice is provided largely on the same basis. Stocks are ordered into six main categories according to the level of

scientific information available, from category 1 stocks where full quantitative assessments are possible, to categories 5 and 6 stocks which have little or no data beyond total landings. Advice for stocks in higher categories is more conservative and precautionary than for those in lower categories which are better understood. Where there is a change in the level of uncertainty in the understanding of a stock, this can result in a change in categorisation. Sprat is considered a Category 1 stock, with a full quantitative assessment conducted. Reference points have been defined for the stock based on the MSY and precautionary approaches (see below).

The sprat stock is currently estimated to have a biomass well above both B_{lim} (410,000t) and $B_{trigger}/B_{pa}$ (570,000t), estimated to be around 700,000t (from the graph in section B1). However, fishing pressure has been above F_{MSY} for several years, and is estimated to have been above F_{lim} in 2014. SSB estimates have shown a fairly consistent downward trend since around 2006, and it seems likely that without a management plan or international agreement on total quota this trend may continue.

Framework	Reference point	Value	Technical basis	Source
MSY approach	F_{MSY}	0.26		ICES (2015b)
	MSY $B_{trigger}$	570 000 t	Assumed at B_{pa}.	ICES (2015b)
	Multispecies F_{MSY}	0.25–0.32	0.25–0.35 constrained to F_{pa}. Multispecies model SMS. One of several options giving a high sustainable yield of sprat, as well as of herring and cod due to low to moderate predation from cod.	ICES (2013)
Precautionary approach	B_{lim}	410 000 t	Stock–recruitment relationship (biomass which produces half of the maximal recruitment in a Beverton–Holt model).	ICES (2013)
	B_{pa}	570 000 t	B_{lim} × 1.4.	ICES (2013)
	F_{lim}	0.39	Consistent with B_{lim}.	ICES (2013)
	F_{pa}	0.32	Consistent with B_{pa}.	ICES (2013)
Management plan	SSB_{MGT}	Not defined.		
	F_{MGT}	Not defined.		

Baltic Sea sprat – reference points and their technical basis. From the May 2015 ICES advice (R1)

	Fishing pressure				Stock size			
		2012	2013	2014		2013	2014	2015
Maximum Sustainable Yield	F_{MSY}	✗	✗	✗	Above	MSY $B_{trigger}$ ✓	✓	✓	Above trigger
Precautionary approach	F_{pa}, F_{lim}	✓	○	✗	Harvested unsustainably	B_{pa}, B_{lim} ✓	✓	✓	Full reproductive capacity
Management Plan	F_{MGT}	-	-	-	Not applicable	SSB_{MGT} -	-	-	Not applicable

State of the Baltic sprat stock, 2012 – 2014, in relation to MSY-based and PA-based reference points. From the May 2015 ICES advice (R1)

D. MANAGEMENT MEASURES

LEVEL OF COMPLIANCE	
D1. The level of fishing permitted should be set according to management advice given by research organisations.	
LOW	The level of fishing permitted is not set according to management advice given by research organisations.
MEDIUM	The level of fishing permitted is higher than management advice given by research organisations. However, the difference is not considered to have a significant impact of the sustainability of the stock

HIGH	The level of fishing permitted is set according to management advice given by research organisations.	
	Determination: The TAC for the stock has exceeded the ICES advice in nearly every year since 2008. Although final landings are generally below the advice level, fishing mortality in 2014 was estimated to be above both precautionary and MSY reference points. A medium compliance is awarded due to the uncertainty in the advice with year-to-year changes in the retrospective analysis of more than 100,000t. Also the TAC for 2016 has been set lower than the advice but a condition should be applied that catches do not exceed TAC in future. Historically, the Baltic sprat TAC was set considerably higher than the ICES advice. In recent years the severity of this over-setting has reduced, but still persists. Information provided by Marine Ingredients Denmark indicates that there is an agreement in place whereby Russia is permitted a 10% share of the TAC, although the information available from the EU and ICES websites suggests the share may be slightly larger than this. Whatever the process by which the TAC is reached, it is consistently higher than the level recommended by ICES. BSAC has expressed concerns over the inconsistency in stock size estimates, with year-to-year changes in the retrospective analysis of more than 100,000t. This may, in part, explain why the total landings in 2014 were lower than the ICES advice yet still estimated in the 2015 assessment to be above F_{lim} (see C1). BSAC suggests a number of potential reasons for this variability, including the extent and timing of the acoustic survey. In any case, its ultimate conclusions appear not to deviate substantially from ICES, with the BSAC quota recommendation for 2016 being 213,581t against the ICES recommendation of 205,000t.	M

Year	ICES advice	Predicted catch corresponding to advice	Agreed TAC	ICES catch
1987			117.2	88
1988	Catch could be increased in Subdivisions 22–25	-	117.2	80
1989		72	142	86
1990		72	150	86
1991	TAC	150	163	103
1992	*Status quo* F	143	290	142
1993	Increase in yield by increasing F	-	415	178
1994	Increase in yield by increasing F	-	700	289
1995	TAC	205	500	313
1996	Little gain in long-term yield at higher F	279	550	441
1997	No advice	-	550	529
1998	*Status quo* F	343	550	471
1999	Proposed F_{pa}	304	467.5	421
2000	Proposed F_{pa}	192	400	389
2001	Proposed F_{pa}	314	355	342
2002	Proposed F_{pa}	369	380	343
2003	Below proposed F_{pa} (TAC should be set on central Baltic herring considerations)	300	310	308
2004	Below proposed F_{pa} (TAC should be set on central Baltic herring considerations)	474	420	374
2005	TAC should be set on central Baltic herring considerations	< 614	550	405
2006	Agreed management plan	439	468	352
2007	< F_{pa}	< 477	454*	388
2008	< F_{pa}	< 432	454*	381
2009	< F_{pa}	< 291	399*	407
2010	< F_{pa}	< 306	380*	342
2011	< F_{pa}	< 242	322.7**	268
2012	MSY transition scheme	< 242	255.1**	231
2013	F< F_{msy}	< 278	278**	272
2014	MSY approach	< 247	267.9**	244
2015	MSY approach	< 222	240.2**	
2016	MSY approach (F=0.26)	≤ 205		

* EU autonomous quota, not including Russian catches.

** TAC is calculated as EU + Russian autonomous quotas.

Baltic Sea sprat, ICES advice, TAC and final landings 1987 – 2016. From the May 2015 ICES advice (R1).

Year	ICES advice	EU quota	Implied Russian quota	TAC
2011	< 242,000t	288,766t	33,934t	322,700t
2012	< 242,000t	225,237t	29,863t	255,100t
2013	< 278,000t	249,978t	27,022t	278,000t
2014	< 247,000t	239,979t	27,921t	267,900t
2015	< 222,000t	213,581t	26,619t	240,200t

Baltic Sea sprat, quota summary. ICES advice and TAC taken from the May 2015 ICES advice (R1). EU quota taken from the EU website (R18). Russian quota calculated from EU quota and final TAC.

LEVEL OF COMPLIANCE	
D2. Where excess fishing capacity exist, mechanisms should be in established to reduced capacity to allow for the recovery of the stock to sustainable levels.	
LOW	Mechanisms to allow for recovery of the stock to sustainable levels are not established.
MEDIUM	Mechanisms to allow for recovery of the stock to sustainable levels are somehow established. However there is no evidence of the efficiency of the methods used.
HIGH	Mechanisms are established to reduce capacity to allow for the recovery of the stock to sustainable levels and there are

	evidences of recovery.

Determination: Mechanisms are established to manage European fishing capacity, both in general and (through the application of an annual quota) specifically in the case of the Baltic Sea sprat fishery. H

The EU CFP includes provisions to limit, and historically reduce, total fishing capacity through a combination of subsidising fishery exits and restricting new entries. The entry-exit regime, which applies to the majority of EU Member State vessels, is one of the main pillars of the European-wide fishing capacity management system. The entry-exit regime applies separately to the capacity measured in terms of gross tonnage, and power (in kilowatts). Any entry of capacity into the fleet of a Member State has to be compensated by the previous exit of at least the same amount of capacity. As a general rule, the capacity of the national fleets cannot increase with respect to its levels on 1 January 2003, for 'EU 15' Member States and on the accession date for Member States which acceded to the Community after 2003. The second pillar of the fishing capacity management system is the rule that capacity leaving the fleet with public aid cannot be replaced. Such capacity, expressed both in tonnage and power, is subtracted directly from the maximum fleet capacity of each Member State. Capacity reductions supported with public aid are therefore permanent.

Stock-specific capacity limitation is applied primarily through the annual sprat quota. As annual landings have repeatedly fallen below the TAC in recent years, it is clear that either there is insufficient fleet capacity to catch the quota, or the fishery is limited by other factors. It is 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.

LEVEL OF COMPLIANCE	
D3. Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment.	
LOW	There are no management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment.
MEDIUM	There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. However it is not science based.
HIGH	There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. Measures are based on scientific information.

Determination: Information is limited on the impacts of the fishery on the Baltic ecosystem and ETP species. If the current version of the multiannual management plan is implemented, along with the ecosystem-based management approach within, the scoring of this section should be revised. M

Non-target species

The 2013 revision of the CFP introduced a landing obligation to ensure that all catch, including bycatch, of species managed through TACs and quotas is landed in EU fisheries. This obligation is being introduced on a fishery-by-fishery basis and has been applicable in the Baltic sprat fishery since 1 January 2015. The decision to apply the landing obligation as early as possible was made in consultation with industry groups and on the advice of scientific organisations. The 2015 ICES advice reports that bycatch in the fishery represents less than 5% of the total catch at present. The main species caught in conjunction with sprat in the Baltic is herring, which is subject to a separate TAC the filling of which has limited the sprat fishery in previous years.

Ecosystems

The ICES WGBFAS stock annex for Baltic sprat includes a section examining the ecosystem components of fishery management. This section primarily considers the effects of the ecosystem on sprat populations, in particular environmental influences on spawning and recruitment, and the impact of cod predation on

natural mortality rates. Information on the impacts of sprat removals on the ecosystem appears to be limited, although the proposed multiannual plan notes that there are some indications that the biological interactions between cod, herring and sprat may indicate that higher fishing pressures than currently advised may be sustainable (although also notes that the STECF have advised more research be conducted). The proposed plan also includes a number of other commitments to following the ecosystem approach to fisheries management, but as noted in section A2 this plan has not yet been put in place.

ETP species

Marine mammals and seabirds in EU waters are currently protected by a set of directives, conventions (e.g. Bern Convention and the Habitats Directive) and multilateral international agreements. Information provided by Marine Ingredients Denmark suggests that there is little to no interaction between the fishery and seabirds or ETP species.

Physical environment

Pelagic trawling is generally considered to have virtually no impact on the benthic environment, although some interactions have been reported.

E. IMPLEMENTATION

LEVEL OF COMPLIANCE	
E1. There should be a framework for sanctions of violation of Laws and regulations.	
LOW	A framework for sanctions of violation of Laws and regulations do not efficiently exist.
MEDIUM	A framework for sanctions of violation of Laws and regulations do exist but do not work efficiently.
HIGH	A framework for sanctions of violation of Laws and regulations exists and is proven to be efficient.

Determination: A framework for sanctions of violations exists and is generally considered to work efficiently.

H

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.

Since 1 January 2012, EU countries have been required to have a point system for serious infringements. Under the scheme, national authorities:

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

Points are attributed to the fishing licence that is linked to a vessel, so they will stay with the vessel even when it is sold on to a new owner. Monitoring the number of cases detected and the nature and the level of the sanctions imposed is a key part of the Commission's task of ensuring a level playing field for all EU fishers. 2008 Council Regulation (EC) No 1005/2008 established a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing. Through EU Fishery Policy and Regulations, Member States must apply effective, proportionate and dissuasive sanctions against natural or legal persons engaged in IUU

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

In the event of a repeated infringement within a five-year period, the Member States shall impose a maximum sanction of at least eight times the value of the fishery products obtained by committing the serious infringement.

Infringements of CFP rules are dealt with by the Member State concerned. In Denmark the Danish Agrifish Agency is the competent authority with responsibility of enforcement of sanctions and penalties with respect to the prosecution of fishery rules.

LEVEL OF COMPLIANCE	
E2. A management system for fisheries control and enforcement should be established.	
LOW	A management system for fisheries control and enforcement is not established.
MEDIUM	A management system for fisheries control and enforcement is established but do not work efficiently.
HIGH	A management system for fisheries control and enforcement is established and work efficiently.

H

Determination: Management systems for fisheries control and enforcement are established and are generally considered to work effectively.

To ensure that the rules of the CFP are followed in practice, the policy also includes a control system with the necessary tools to enforce them. This system is designed to:

- ensure that only the allowed quantities of fish are caught
- collect the necessary data for managing fishing opportunities
- clarify the roles of EU countries and the Commission
- ensure the rules are applied to all fishers in the same way, with harmonised sanctions across the EU
- ensure that fisheries products can be traced back and checked throughout the supply chain, from net to plate

The system was laid down in the Control Regulation (Council Regulation (EC) No 1224/2009) which entered into force on 1 January 2010. Europe-wide coordination of control and enforcement activities is provided by the European Fisheries Control Agency (EFCA), which aims to ensure the uniform and effective application of the rules of the CFP by the Member States.

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 actually 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, at all times, 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 the

individual EU states; in Denmark the responsible authority is the Danish Agrifish Agency.

7. KEY STAKEHOLDERS

8. REFERENCES

R1 – ICES Baltic sea sprat advice, May 2015: http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/spr-2232.pdf

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R3 – ICES WGBFAS report 2015, Sprat stock annex: http://www.ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/spr-2232_SA.pdf

R4 – European Parliament Directorate-General for Internal Policies, Policy Department B, "Fisheries in Denmark", September 2013: http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/513972/IPOL-PECH_ET(2013)513972_EN.pdf

R5 – EU Common Fisheries Policy overview: http://ec.europa.eu/fisheries/cfp/index_en.htm

R6 – EU Common Fisheries Policy reform: http://ec.europa.eu/fisheries/reform/index_en.htm

R7 – ICES, "Who we are": http://www.ices.dk/explore-us/who-we-are/Pages/Who-we-are.aspx

R8 – DTU Aqua, "Mission, vision and tasks": http://www.aqua.dtu.dk/english/About/Mission_vision

R9 – EU fishing capacity management: http://ec.europa.eu/fisheries/cfp/fishing_rules/fishing_fleet/index_en.htm

R10 – CFP control and enforcement overview: http://ec.europa.eu/fisheries/cfp/control/index_en.htm

R11 – CFP Infringements and Sanctions: http://ec.europa.eu/fisheries/cfp/control/infringements_sanctions/index_en.htm

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R13 – EFCA, about: http://efca.europa.eu/pages/home/about_objectives.htm

R14 – EFCA annual report, 2013: http://efca.europa.eu/pages/docs/basic%20docs/GeneralReports/ANNUAL%20REPORT%202013_EN.pdf

R15 – Baltic Sea Advisory Council, "about": http://www.bsac.dk/ooizzCMS/DA/aboutthebsrac

R16 – STECF home page: https://stecf.jrc.ec.europa.eu/

R17 – ICES Baltic sprat popular advice, May 2015: http://www.ices.dk/sites/pub/Publication%20Reports/Advice/Popular%20advice/spr-2232_popular.pdf

R18 – Historical EU quotas: http://ec.europa.eu/fisheries/cfp/fishing_rules/tacs/index_en.htm

R19 – Baltic fisheries landing obligation discard plan, 2014: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.370.01.0040.01.ENG

R20 – BSAC recommendations for the fishery in the Baltic Sea in 2016, July 2015: http://www.bsac.dk/archive/Dokumenter/Recommendations/2015/BSAC_2015_4BSACRecommendationcsFishery2016FINAL.pdf

R21 - REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL 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 https://mymail-emea.saiglobal.com/owa/redir.aspx?C=i3ZrqbUtk0GtLFS764SWyB_1-3BJD9MIRB9bxCEr9UuVW0onxfrj-TxwIE0XrxvEa8p6myuF0UE.&URL=http%3a%2f%2fwww.europarl.europa.eu%2fmeetdocs%2f2014_2019%2fdocuments%2fcom%2fcom_com(2014)0614_%2fcom_com(2014)0614_en.pdf