

BSAC 2020-2021/12

BSAC recommendations for the fishery in the Baltic Sea in 2021

The BSAC held a joint working group on 9th and 10th June 2020. After listening to a presentation of the ICES advice by ICES Vice-Chair of ACOM, Colm Lordan, the working group went through the Baltic stocks and began to formulate recommendations.

The BSAC recommends setting the catch levels for the Baltic stocks in 2021 at the values indicated in the table below. For all stocks, the recommendations are formulated and agreed after consideration of the biological advice, as presented by the ICES Vice-Chair of ACOM, Colm Lordan, to the Joint WG of the Baltic Sea Advisory Council on 9th and 10th June 2020.

Together with this paper are attached all the contributions from:

- Association of Fisheries Protection
- Confederation of Fishermen and Fish Processors of West Lithuania
- Danish Fishermen PO
- Danish Recreational Fishermen
- Federation of Finnish Fishermen's Associations
- German Angling Association
- German Cutter-and Coastal-Fishermen's Association
- Marine Ingredients Denmark
- The National Chamber of Fish Producers
- Swedish Fishermen PO
- NGO joint paper (WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation)
- WWF

	ICES advice on fishing opportunities 2021 ¹		BSAC recommendation for EU TAC 2021	BSAC minority positions
Cod SDs 22-24	<p>Commercial catches 2.960-7.724, recreational catches 1.315 tonnes</p> <p>EU MAP</p>	<p>ICES advises that when the EU multiannual plan (MAP) for the Baltic Sea is applied, catches in 2021 that correspond to the F ranges in the plan are between 4.275 tonnes and 9.039 tonnes. According to the MAP, catches higher than 5950 tonnes can only be taken under conditions specified in the MAP, whilst the entire range is considered precautionary when applying the ICES advice rule. Assuming recreational catches at 1315 tonnes, this implies a commercial catch at FMSY of 4635 tonnes, and a range of 2.960–7.724 tonnes.</p>	<p>F_{MSY} 4.635 t commercial catch</p>	<p>≤2.960 t²</p> <p>(lower F_{MSY} range) commercial catch</p> <p>5.385 t³ commercial catch</p>

¹ Note that reference is made to ICES headline advice only. More details and nuances may be found in the “Issues relevant for the advice” section of the ICES advice.

² CCB, FISH, WWF, FANC, EAA

³ Danish Fishermen PO

<p>Cod SDs 24-32</p>	<p>ZERO CATCH (NB Russian share 5% based on TAC for east and west – not relevant for zero advice) PA</p>	<p>ICES advises that when the precautionary approach is applied, there should be zero catch in 2021. This advice applies to all catches from the stock in subdivisions 24–32.</p>	<p>Rollover of by-catch quota 2.000 t</p>	<p>0 t⁴</p>
<p>Herring SDs 22-24</p>	<p>ZERO CATCH MSY approach</p>	<p>ICES advises that when the MSY approach is applied, there should be zero catch in 2021.</p>	<p>Rollover of 2020 TAC 3.150 t</p>	<p>0 t⁵</p>
<p>Herring SDs 25-29, 32, ex GoR</p>	<p>range 83.971 -138.183 <u>EU MAP FMSY 101.226 tonnes (9.5% to Russia)</u></p>	<p>ICES advises that when the EU multiannual plan (MAP) for the Baltic Sea is applied, catches in 2021 that correspond to the F ranges in the plan are between 83.971 tonnes and 138.183 tonnes. According to the MAP, catches higher than 111.852 tonnes can only be taken under</p>	<p>101.226 t</p>	<p>≤97.551 t⁶ Consider setting TAC in the lower F_{MSY} range (72.319 – 97.551t) 122.707 t⁷</p>

⁴ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

⁵ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

⁶ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

⁷ Danish Fishermen PO and Confederation of Fishermen and Fish Processors of West Lithuania

		conditions specified in the MAP		
Herring Gulf of Riga SD 28.1	FMSY EU MAP 35.771 t	ICES advises that when the EU multiannual plan (MAP) for the Baltic Sea is applied, the catches in 2021 that correspond to the F ranges in the plan are between 27 702 tonnes and 41.423 tonnes. According to the MAP, catches higher than those corresponding to FMSY (35.771 tonnes) can only be taken under conditions specified in the MAP	39.446 t	≤39.446 t⁸

⁸ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

Herring SDs 30-31	65.018 tonnes PA	ICES advises that when the precautionary approach is applied, catches in 2021 should be no more than 65.018 tonnes	65.018 t	≤65.018 t⁹
Sprat SDs 22-32	MAP F_{MSY} 247.952 t (222.958 EU TAC), F_{MSY} upper 316.833 and F_{MSY} lower 181.567 t (- 10.08% for Russia)	ICES advises that when the EU multiannual plan (MAP) for the Baltic Sea is applied, catches in 2021 that correspond to the F ranges in the plan are between 181.567 tonnes and 316.833 tonnes. According to the MAP, catches higher than those corresponding to FMSY (247.952 tonnes) can only be taken under conditions specified in the MAP	222.958 t	- ≤222.958 t Consider setting the TAC in the lower F _{MSY} range (163.265 – 222.958 t) ¹⁰ 284.896 t¹¹ 241.669 t¹²

⁹ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

¹⁰ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

¹¹ Danish Fishermen PO and National Chamber of Fish Producers

¹² Confederation of Fishermen and Fish Processors of West Lithuania

<p>Plaice SDs 22-32</p>	<p>SD 21-23: advice MSY approach 5.176 tonnes SD 24-32 advice PA: 3.297 tonnes</p>		<p>7.754 t</p>	<p>≤7.754 t¹³</p>
<p>Salmon SDs 22-31</p>	<p>116.000 individuals (total catch) - Russia 1.9%= 96.600 individuals PA</p>		<p>96.600 individuals</p>	<p>Consider a more precautionary TAC of 75.831 individuals¹⁴</p>
<p>Salmon SD 32</p>	<p>11.800 individuals (total catch) 9.800 – Russian catch 9.3% = 8.889 individuals</p>		<p>8.889 individuals</p>	<p>≤8.889 individuals¹⁵</p>

¹³ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

¹⁴ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

¹⁵ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

Please note that the recommendations relate to the TACs for the regulatory areas, not to the different stock components. Further explanation of how the recommendations for each stock have been reached is given in the text below.

Introduction to the work done by the BSAC

The tricky situation caused this year by COVID-19 has meant that the advice developed by the BSAC is more polarized and not as elaborated as in previous years. The recommendations presented here have been developed during and after the Joint Working Group held on 9th and 10th June 2020. A draft was sent by written procedure to the Working Group members and the Executive Committee members and was finalised and approved by the chair of the Executive Committee on 29th June 2020.

General comments

This year more than ever, the BSAC acknowledges that the Baltic is severely challenged, and two stocks are faced with zero catch advice. Moreover, due to COVID-19, ICES has delivered an abbreviated advice. The ICES advice sets fishing opportunities at specific mortality levels.

BSAC members are not in consensus on the levels that should be set for several of the stocks. However, there is agreement on the continued need to focus on the overall ecosystem, and the other factors that are affecting the well-being of certain stocks. Fishing is just one of the factors that are having an influence on the stocks. Several other challenging developments are occurring at the same time. The BSAC encourages the further development by ICES of its fisheries overviews, as well as taking into account ecosystem, multi-species considerations and food-web interactions. Science should make more effort to solve the problems of regime shift in the Baltic and age determination of cod in the Baltic. The BSAC recommends that the management measures, including seasonal and spatial closures that have been implemented for cod in 2020, should be evaluated by ICES no later than 20201.

If there is a systematic reduction in productivity of the whole ecosystem, there may be a need for an adaptation of fishing capacity and the whole structure of the sector. There is a need for a more substantial reflection on socio-economic aspects and other kinds of aid to convert or adapt the sector.

The observation from fisheries representatives is that scientific surveys could not be carried out so far this year due to COVID-19. As a result, there will be difficulties in terms of data for providing future advice. In the short term, it could be helpful to put more effort into sourcing and collecting data from commercial fisheries. It would be possible to hire some vessels to carry out data collection - under scientific management - in order to improve the data situation and to prevent inaccurate predictions, as has been the case for western Baltic cod in 2017 and 2018. The BSAC recommends that these possibilities are explored.

On the interaction between plaice and cod, it is becoming clearer that plaice is becoming a target species rather than bycatch. The BSAC urges Member States to work more urgently on developing gears that are more selective and that enable the escape of cod. Recommendations on the use of selective gear have been developed, but still await evaluation from STECF and the Commission. The BSAC urges STECF / Commission to deal with the joint recommendations as a priority.

Cod SDs 22-24

In 2017 the prediction was that there would be approximately 50.000 t of western cod in 2019. In 2018 the prediction was raised to more than 70.000 t western cod in 2020. This year's advice shows an SSB of almost 20.000 t. There have thus been issues with the assessment of the western Baltic cod, with the modelling and with the revision of biomass showing a clear retrospective bias in the model. The biomass is nevertheless showing an increasing trend.

The BSAC recommends setting the 2021 TAC for western Baltic cod at F_{MSY} (5.950 t: commercial catch 4.635 t, recreational catch 1.315 t). This also takes into account the fact that this year, recreational catches will be substantially lower than expected due to COVID-19 this year.

The BSAC recommends that the measures applied in the recreational fishery should be proportionate to the measures in the commercial fishery.

The BSAC does not recommend any spawning closures. The BSAC continues to underline the need to monitor and evaluate any new or existing closures applied. The effect on the cod stock of the current protective measures must be evaluated in 2021. An evaluation should include the impact of the dispersion of fishing effort on other ecosystem elements and other waterbodies.

The BSAC refers to the management of SD 24 and asks for more access to cod fishery in SD 24, assuming there is no catch of the eastern cod in this area.

On the basis of the ICES advice, **the Danish fishermen**¹⁶ recommend setting the TAC for cod in the western area at 5.385 tonnes (referring to table 4 in the ICES advice, following scenario c, which assumes eastern Baltic cod catches in SD 24 to be limited to 10% of the total eastern Baltic cod status quo catch).

In line with the lack of observations that could indicate benefits of spawning closures in the fishery for cod, **the Danish fishermen**¹⁷ insist that the spawning closures on western cod are removed. Moreover, a way to allow for targeted cod fishing at least in the western parts of Subdivision 24 must be found.

The German small-scale fishermen¹⁸ recommend measures which aim at the recovery of the cod stock, including the closure of all trawl fishery for the protection of cod during the spawning season, in all areas where spawning occurs, as well as strengthened control.

The Polish fishermen¹⁹ recommend setting the 2021 TAC at 5.950 t (commercial catch 4.635 t and recreational catch 1.315 t). They underline the weak population structure, in which the stock consists of many small (not juvenile), but older individuals. In their opinion, these cod should be caught in order to reduce the pressure on the large individuals from the exploited year classes, which are very important for future generations. From a population perspective, a broader range of year classes should be exploited.

¹⁶ Danish Fishermen PO

¹⁷ Danish Fishermen PO

¹⁸ Association of Fisheries Protection

¹⁹ The National Chamber of Fish Producers

The group of OIG²⁰ members recommends that the TAC for 2021 should not exceed 2.960 tonnes (F_{MSY} lower) and under no circumstances should it exceed 4.635 tonnes (F_{MSY}), in line with the CFP and ICES headline advice. They note that the size of the strong year class from 2016 has been revised downwards again this year. In addition, all cod fishing should be closed in SD 24 due to the unavoidable catch of eastern Baltic cod in SD 24, for which ICES has advised a zero catch in both 2020 and 2021. The TAC should be caught only in SDs 22-23, outside the temporal fishery closure during the spawning time (February & March). They also recommend increasing monitoring and control on all vessels using active gears in all areas, but prioritised in cod concentration areas, combining both REM and traditional controls. They recommend continuing with the recreational measures agreed for 2020.

The recreational anglers²¹ recommend setting the TAC for 2021 at the lower F_{MSY} range of 2.960 t and F_{MSY} 4.635 t and with the same recreational measures as in 2020. In their view, the measures applied in the recreational fishery should be proportionate to the measures in the commercial fishery. So if the TAC is to be increased, the bag limit for recreational fishery should also be raised.

The recreational fishermen²² do not recommend a continuation of the spawning closures implemented in 2020. There is no scientific evidence that closures help the recovery of the cod stocks. Closures also have a catastrophic economic impact, especially on small-scale fisheries. Closures should be limited to scientifically documented spawning grounds. If data for spawning grounds are not available from ICES, the designation of such closed areas must be based on the knowledge from fishermen.

The German anglers²³ underline that the recreational fishery sector is already experiencing severe economic losses due to travel restrictions imposed by COVID-19. In their opinion, taking into account a slight improvement in the state of the western cod stock, the bag limit could be increased from five to six fish per angler and fishing day. Spawning protection and fishing are not mutually exclusive.

The German small-scale fishermen²⁴ recommend setting the TAC at F_{MSY} and propose an extension of the spawning closure for SD 22 to include January, so as to avoid more intensive fishing activities during the closure of other sub-divisions. It is fundamental to keep the coastal fishery alive in this small area.

Cod SDs 25-32

The BSAC clearly recognises that there has been a dramatic decrease in mean size and a decline in the condition of fish in the Baltic eastern cod stock. Natural mortality of the eastern cod is approximately 9 times higher²⁵ than fishing mortality, due to unfavourable environmental conditions in the Baltic ecosystem. With respect to the measures aimed at the recovery of the eastern cod stock, the BSAC is fully committed to focusing on this work together with BALTFISH.

²⁰ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation

²¹ European Anglers Alliance

²² Danish Recreational Fishermen

²³ German Angling Association

²⁴ Association of Fisheries Protection

²⁵ ICES advice 2020

At the same time, there is also an urgent need to evaluate the emergency measures that have already been introduced.

The BSAC underlines once again that there are no short-term solutions. The BSAC repeats the need to implement a long-term remedial plan. The problem needs to be approached in a holistic way, taking into account the cod stock, but also the people living from it. In setting the TAC, the BSAC thus continues to underline the need to mitigate the socio-economic consequences that a zero TAC will have on the fishing industry.

The BSAC thus recommends continuing to set the 2021 TAC as a by-catch TAC at 2.000 tonnes. This would mean stopping the targeted cod fishery, but it would allow for the continuation of an unavoidable by-catch of cod in other fisheries, such as flatfish, and some subsistence fishing. A total closure of the cod fisheries is not realistic, and it is a logical decision to allow other fisheries to continue. At the same time, efforts are needed to make sure that the by-catch quota is adhered to.

An inter-benchmark carried out on central Baltic herring and sprat has included updated figures on how much predation there is by cod on the two stocks. The ICES 2021 advice for sprat and central Baltic herring has already been updated to take into account latest scientific studies on the predation from cod. There is enough sprat and herring for the eastern cod, and the BSAC does not see the need for a spatial management of the sprat fishery. As presented in the BSAC recommendation for 2020 TACs, moving the sprat fishery to the north would have a severe impact on those coastal vessels that are too small to go to distant fishing grounds and which are becoming increasingly dependent on the sprat fishery throughout the year. More scientific research is needed in order to document and evaluate the benefits of spatial management for cod stocks. The BSAC recommends that ICES in 2021 evaluates the effects of current seasonal and spatial closures including the possible impact of displaced effort on other elements of the ecosystem.

The footnote 2 in the current TAC/quota regulation with respect to eastern Baltic cod, there are provisions on closures which have an impact on other fisheries using active gears. The BSAC continues to ask ICES for updates and to investigate the effect of these measures. As a minimum, exemptions for small scale vessels using static gears should be extended to small scale active gears fishing on local herring stocks close to the shore. Their summer fishery is important to the local community and economy.

The BSAC reiterates that the development and implementation of fishing gears that have a low bycatch risk for cod in other fisheries (i.e. flatfish) deserves top priority. Already encouraged by the acknowledgement of DG Mare that this is important, the BSAC continues to urge work into this.

The German small scale fishermen²⁶ recommend an assessment of the influence of parasites (liver worms) on the natural mortality of cod.

The Lithuanian fishermen²⁷ recommend that there should be some cod left for accidental by-catch, otherwise all the fishery will be stopped. It is impossible to avoid cod bycatches of cod in the industrial fishery, and further work should go into the development of more selective gear for all fleets in the Baltic Sea.

²⁶ Association of Fisheries Protection

²⁷ Confederation of Fishermen and Fish Processors of West Lithuania

The Danish fishermen²⁸ take note that the mortality originating from the fishery is a mere fraction of the natural mortality. The lack of recruitment drives the stock down, not the fishery. Why the recruitment is as low as described by ICES (and confirmed by observations from fishing vessels) is not well described. The Danish fishermen are convinced that it is a combination of several factors: cod is affected by seals, both through direct predation and through seal borne parasites, taking so much energy from the cod that they do not have enough to produce eggs; oxygen deficit caused by eutrophication; pollution; lack of vitamin B is known to have a negative effect on spawning success.

The Polish fishermen²⁹ do not recommend any figure for the TAC, because in their view, the TAC should be set at such a level as to not disturb any other fishery where cod by-catch occurs. Taking into consideration species dependency, they believe that increasing the TAC for sprat to the upper F_{MSY} level will improve the situation of the eastern cod (a problem of predation of sprat on cod eggs). They strongly request ICES or the Commission to provide information about the predicted biomass of cod when higher catches of sprat are taken.

The group of OIG³⁰ members recommends that the TAC for 2021 should be set at zero in SDs 25-32 and zero in SD 24 based on the ICES advice on fishing opportunities, which states that "ICES advises that when the precautionary approach is applied, there should be zero catch in 2021. This advice applies to all catches from the stock in subdivisions 24-32. They also recommend that a rebuilding plan for eastern Baltic cod be developed, taking into account all threats on the stock, including eutrophication, pollution, climate change, habitat loss as well as the general state of the Baltic Sea ecosystem. To recover and safeguard Baltic fish stocks, including eastern Baltic cod, setting a TAC must be supported with additional conservation measures.

If the Commission and Council decide to continue the measures agreed by the Council for eastern Baltic cod for 2020, then the group of OIG members recommends the following additional measures for 2021:

- Increased monitoring and control on all vessels using active gears in all areas but prioritised in cod concentration areas, combining both REM and traditional controls;
- Ensure that any exemptions from the LO are subject to increased at-sea monitoring and control;
- Introduction of more selective fishing gears to avoid cod bycatch in the flatfish fishery;
- A spatial closure to cover the entire area in the Bornholm Basin and additionally a closure of demersal fisheries in the entire of SD 26, which would have limited implications for EU flatfish fisheries, while protecting a substantial part of the eastern Baltic cod stock.

The group of OIG members further recommends restrictions on the sprat fishery in SDs 25-26 in order to redistribute the sprat fishery to the northern areas (SDs 27-29 & 32) to improve the food availability for cod.

Herring SDs 22-24

The BSAC cannot agree to setting a zero TAC for 2021. The BSAC repeats and underlines the need to take into account the socio-economic consequences of a zero advice on the fishing industry.

²⁸ Danish Fishermen PO

²⁹ The National Chamber of Fish Producers

³⁰ Coalition Clean Baltic, WWF, the Fisheries Secretariat, Finnish Association for Nature Conservation, European Anglers Alliance.

The BSAC calls for a more sustainable solution for the fish and the fishermen allowing the limited and small scale directed fishery in the Baltic to survive, while also allowing the Baltic and 3A herring and sprat fisheries to continue. Several fisheries and communities rely on the western Baltic herring as a component in the targeted fisheries for sprat and other herring stocks.

The BSAC recommends that the 2021 TAC for herring in this management area should be a rollover of the 2020 TAC of 3.150 tonnes.

The Polish fishermen³¹ recommend that if the TAC for western herring is set as a by-catch, as is the case for the eastern Baltic cod, it should not disturb the fisheries for other species, such as sprat.

The BSAC agrees that measures to protect the western Baltic Herring in adjacent waters should be explored. As indicated in the ICES advice, the stock migrates through 3A and the North Sea. Measures to allow for area flexibility for the herring and sprat fisheries in 3A could minimize the risk of catches of WBSS in those fisheries. As these fisheries are outside the remit of the BSAC, the BSAC encourages the Commission to engage with the relevant ACs on exploring these options.

The German fishermen have reported that they have also seen an increase in CPUE during recent years as well as an increase in mean length.

There is a standing EU request on catch scenarios for zero TAC stocks 2020 for western Baltic spring-spawning herring (*Clupea harengus*), which is in a separate sheet. This has given additional catch scenarios for the WBSS in SDs 20-24. There is also an advice on medium-term scenarios, presenting constant catch in 2020-2022 in Table 4, page 3 ICES advice sheet). The BSAC welcomes the medium-term scenarios as a helpful addition to the advice. This advice provides an additional option to continue the fishery at a precautionary level, keeping the stock and fishery alive.

The BSAC also congratulates ICES for organising the workshop WKREBUILD on rebuilding plans, with western Baltic herring being one of the case studies. The BSAC and PELAC have been working together to identify a rebuilding plan for the stock and ICES has tried to help, but not yet reached the goal. Further work is anticipated on the rebuilding plan for WBSS. The BSAC is fully committed to participating in this work.

The group of OIG³² members recommends that the TAC for 2021 should be zero. They point out that this is the third year in a row that ICES advises a zero TAC based on the MSY approach.

The group of OIG members notes that ICES assesses that fishing pressure on the stock is above F_{MSY} and F_{PA} . The SSB is estimated to be below B_{LIM} and has been below B_{LIM} since 2007. Recruitment has been low since the mid-2000s and at a historic low for the last five years. All catch scenarios, including zero catch, result in SSB remaining below B_{LIM} in the short-term (2022) and probably until 2023.

³¹ The National Chamber of Fish Producers

³² WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance.

Herring SDs 25-29, 32, ex GoR

The BSAC recommends that the 2021 EU TAC for herring in the central Baltic management area should be 111.852 tonnes, which is in line with one of the scenarios in the ICES advice (in accordance with the MAP F_{MSY}).

The corresponding TAC in the central Baltic management area for 2021 would be calculated as 111.852 tonnes minus the Russian catch (9.5%) + 314 tonnes – 4.377 tonnes = 101.226 tonnes.

The fisheries representatives are concerned about the fact the inter-benchmark has led to another revision of the stock size in January 2020. This translates into an advice for a lower TAC, whereas the recruitment in recent years had been the highest observed. They underline the uncertainty behind the ICES advice. The advice also leads to constant decreases and increases in TACs, and this is difficult for the fishery to adapt to. In the ICES advice, provision of food for the cod has already been taken into account, so there is no need to add a precautionary amount.

The BSAC recommends carrying out a full benchmark in order to update the assessment models. A key issue is also to carry out an evaluation of the measures in place to protect the cod – including the closure in SDs 25 and 26 from May to August and which de facto close the sprat and herring fisheries.

The Danish fishermen and processors³³ recommend setting a TAC at 122.707 tonnes, which is a decrease of 20% compared to the 2020 TAC.

The Lithuanian fishermen³⁴ are surprised that ICES recommends such a drastic reduction in the TAC for central herring. In their opinion, it would be an optimal solution to also reduce the 2020 TAC by 20%.

The group of OIG³⁵ **members** recommends that the TAC for 2021 should not exceed 97.551 tonnes (F_{MSY}). They recommend that the TAC should be set in the lower F range i.e. between F_{MSY} LOWER (72.319 tonnes) and F_{MSY} (97.551 tonnes). From both ICES figures is deducted an assumed 9.5% Russian share, and then added 514 tonnes for Gulf of Riga herring taken in SD 28.2 and deducted 4.189 tonnes for Central Baltic herring taken in Gulf of Riga (28.1).

This recommendation takes into consideration an ecosystem-based approach to fisheries management, taking into account dynamics between the stocks of eastern Baltic cod and herring. Additionally, the ICES advice indicates that the central Baltic herring biomass is expected to decline in the coming years.

Herring SD 28.1 Gulf of Riga

The BSAC recommends that the 2021 TAC for herring in this management area should be set at 35.771 tonnes, in accordance with the MAP F_{MSY} . The corresponding TAC in the Gulf of Riga management area for 2021 would be calculated as 35.771 tonnes – 514 tonnes + 4189 tonnes = 39.446 tonnes.

³³ Danish Fishermen PO and Marine Ingredients

³⁴ Confederation of Fishermen and Fish Processors of West Lithuania

³⁵ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance.

Herring SDs 30-31

The **BSAC** recommends setting the 2021 TAC for herring in this management area as a rollover of the TAC 2020 of 65.018 tonnes, in accordance with the precautionary approach.

The **BSAC** takes note of the lack of reference points for this stock. The BSAC encourages the Member States to improve data collection to provide more data from surveys for this stock next year and improve the assessment. It takes note of the fact that there will be a workshop with the purpose of producing a full analytical assessment for the stock.

Sprat SDs 22-32

The **BSAC** recommends setting the total 2021 EU TAC for sprat at 230.156 tonnes, corresponding to a 10% increase in the 2020 TAC. This TAC is within the range recommended by ICES. So it would thus give an EU MAP F_{MSY} of 222.958 t. Fishermen report that catches have been very good; some vessels already caught their quota in February. In terms of ecosystem approach the BSAC would like to know what the eastern Baltic cod quota would be if fishery for sprat were increased to $F_{MSY\ UPPER}$. In terms of an ecosystem approach, it is important to pay attention to the species inter-dependency.

The BSAC recommendations for central Baltic herring and sprat take into account the fact that sprat eats the eggs and larvae of cod, so it makes good sense to fish sprat in the spawning grounds of the cod³⁶.

The **BSAC** does not see the need for a spatial management of the sprat fishery. An inter-benchmark carried out on central Baltic herring and sprat has included updated figures on how much predation there is by cod on the two stocks. The ICES 2021 advice for sprat and central Baltic herring has already been updated to take into account latest scientific studies on the predation from cod. There is enough sprat and herring for the eastern cod, and the BSAC does not see the need for a spatial management of the sprat fishery. As presented in the BSAC recommendations for the 2020 TACs, moving the sprat fishery to the north would have a severe impact on those coastal vessels that are too small to go to distant fishing grounds and which are becoming increasingly dependent on the sprat fishery throughout the year. More scientific research is needed in order to document and evaluate the benefits of spatial management for cod stocks. The BSAC recommends that ICES in 2021 evaluates the effects on current seasonal and spatial closures including the possible impact of displaced effort on other elements of the ecosystem.

The **Danish fishermen**³⁷ and processors³⁸ would like to see a TAC in line with the upper limit in ICES advice; 316.833 tonnes minus Russian share of 10.08% (284.896 tonnes). However, as sprat is often caught in a mixture with herring, and the TAC for this stock is likely to be reduced, the Danish fishermen can accept a TAC of 222.958 tonnes, which equals the F_{MSY} advice, minus the Russian share of 10.08%.

³⁶ Marine Ingredients provided the report: Managing a crucial link in ocean food webs, p.34
http://www.bsac.dk/getattachment/Meetings/BSAC-meetings/BSAC-Joint-WG/Littlefishbigimpact_revised_12june12.pdf.aspx?lang=en-GB

³⁷ Danish Fishermen PO

³⁸ Marine Ingredients

They also observe that sprat is known to have a potential for predated heavily on cod eggs, and question why some argue for a closure of sprat fishing in cod spawning areas. The sprat stock is several times higher than it was in the years when cod was abundant in the eastern area. A closure of sprat fishing in cod areas in order to feed the cod may well have the counterproductive effect that sprat prevents recruitment to the cod stock.

The Lithuanian fishermen³⁹ are of the opinion that the TAC for sprat should be increased by 15%, compared to the TAC in 2020 (241.669 tonnes) so as to avoid extreme variations from year to year.

The Polish fishermen⁴⁰ draw attention to the catches of good quality sprat in SDs 25 and 26 by all Polish fleet segments (approx. 85%). They also underline the strong dependency of sprat on the cod stock which is in a worse state. Further limitation of clupeid (sprat, herring) catches will increase predation on cod eggs and larvae in the Baltic, which may be an important factor hampering cod stock recovery. Any recommendation to move the pelagic fleet to the north does not have any scientific background.

The group of OIG⁴¹ members recommends that the TAC for 2021 should not exceed 222.958 tonnes (F_{MSY}). They recommend that the TAC should be set in the lower F range i.e. between $F_{MSY\ LOWER}$ (163.265 tonnes) and F_{MSY} (222.958 tonnes). For both is deducted from the ICES advised figures an assumed Russian share of 10.08%.

The group of OIG members also recommends restrictions on the sprat fishery in SDs 25-26 in order to redistribute the sprat fishery to the northern areas (SDs 27-29 & 32) to improve food availability for cod, in line with the ICES advice.

In addition, they note that there is evidence that Baltic pelagic fisheries have misreported official catches, with sprat catches regularly recorded as herring in 2019. This means catches of sprat might be higher than those officially reported.

Salmon SDs 22-31

The BSAC recommends following the ICES advice in setting the 2021 TAC for salmon in SDs 22-31. When the precautionary approach is applied, total commercial sea catch should be no more than 116.000 salmon, assuming no change in recreational effort. Applying the same catch proportions estimated from observations in the 2019 fishery, the catch in 2021 would be split as follows: 106.000 salmon projected landings (91%; i.e. 83% reported, 7% unreported, and 1% misreported) and projected discards of 10.000 salmon (9%; previously referred to as discards). This would correspond to commercial landings of 96.600 salmon. Taking into account the 1.9% share for Russia, this would give an EU TAC of 94.765 salmon.

The BSAC welcomes the change in regulations banning sea trout fishing beyond a 4-mile baseline in the Baltic offshore area and which have succeeded in decreasing misreported catch from 32% in the previous year to 1%.

³⁹ Confederation of Fishermen and Fish Processors of West Lithuania

⁴⁰ The National Chamber of Fish Producers and the Association of Fishermen's of Sea – PO

⁴¹ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance.

The group of OIG members⁴² recommends that the TAC for 2021 should be set at a more precautionary level than the ICES advice, and suggest that the Commission and Council consider a TAC of 75.831 salmon. This is based on Scenario 3 of the ICES advice catch scenarios section. Where ICES calculates reported projected landings of 77.300 salmon (see ICES 2020 – Table 2) based on a 20% decrease in catch from ICES advice (Scenario 1), and minus an assumed Russian share of 1.9%.

The group of OIG members⁴³ is concerned about the effectiveness of the measures used to decrease misreporting. They also highlight that the ICES advice states that fisheries on mixed stocks that encompass weak wild stocks present particular threats, and should be kept as close to zero as possible. Moreover, the recent ICES review of the draft multiannual plan for Baltic salmon concluded that the approach previously used deviates from the objective of achieving MSY for several of the river stocks. ICES notes that maintaining a noticeable mixed-stock sea fishery with the current fishing patterns, then it must be accepted that some rivers will be below the level where they are capable of producing MSY, and some rivers may even go extinct. The group of OIG members states that this is not an acceptable policy and that more precaution is needed on TAC setting until there is published evidence that these measures are effective and suitably controlled.

Salmon SD 32

The BSAC recommends that the 2021 TAC for salmon in SD 32 should be 8.889 individuals.

The group of OIG⁴⁴ members recommends that the 2021 TAC should not exceed 8.889 salmon. This is based on the ICES advice for the reported commercial landings of 9.800 salmon, minus an assumed Russian share of 9.3%. They emphasise that the fishery should only target the reared fin-clipped salmon, in order to keep fisheries-related mortality on wild salmon as low as possible, in accordance with the ICES advice on fishing opportunities for 2021.

Plaice in SDs 22-32

The BSAC recommends setting the 2021 TAC for plaice in SDs 22-32 at 7.754 tonnes.

This is based on the ICES F_{MSY} catch scenario for plaice in SDs 21-23 and the ICES precautionary approach advice for plaice in SDs 24-32.

Plaice is now becoming a targeted species, and this must be taken into account. It will change the basis of the advice in terms of MSY and the provision of ranges. The message is repeated to work on developing more selective gears in order to avoid by-catch of cod in the flatfish fisheries.

The group of OIG⁴⁵ recommends that the Commission and the Council consider a TAC lower than 7.754 tonnes for plaice, more selective fishing gears to avoid cod by-catch in the flatfish fisheries and spatial closures of SDs 24 and 26 in order to avoid unnecessary by-catch of eastern Baltic cod, where ICES advises zero catch.

⁴² WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

⁴³ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

⁴⁴ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

⁴⁵ WWF, CCB, Fisheries Secretariat and Finnish Association for Nature Conservation, European Anglers Alliance

They recommend enhanced catch monitoring and control on all vessels in the targeted flatfish fishery because of the high volumes of cod by-catches.