

North Sea Advisory Council



NSAC Advice Ref.11-1718

TAC- and quota-based options for addressing the challenges of the Landing Obligation

This paper was approved by the NSAC Executive Committee via a written procedure on 3rd October 2018.

In this advice, the NSAC explores a number of options related to TACs and quotas and conditions for their application, which may be of use to address some of the challenges of implementing the Landing Obligation (LO) in the North Sea demersal fisheries. As principal stakeholders we urge the Commission and the Member States (individually and as part of the Scheveningen Group) to give due consideration to our advice throughout the coming months leading up to December Council 2018. We would appreciate ongoing dialogue during this period

Jurisdiction for managing the main demersal stocks in the North Sea is shared between the EU and Norway. This imposes a number of constraints on the EU's ability to implement measures to accompany and support the landing obligation, including its ability to mitigate chokes, especially where this involves TAC setting. To date, Norway has been cooperative and has encouraged the EU to implement measures to parallel its own discard ban. Cooperation cannot however be taken for granted and it will be important to keep the Norwegian dimension in mind, not least in the EU/Norway negotiations for a reciprocal fisheries agreement in 2019.

1.0 Introduction

- 1.1 As the NSAC has highlighted in its advice agreed on the 26th April 2018¹, extensive work has already been undertaken in the regional groups and in the advisory councils to identify the scale, location and frequency of choke risks in mixed fisheries,

¹ NSAC Advice Ref. 01-1718. Comments on the Implementation of the Landing Obligation in the North Sea Demersal Fisheries – Joint Recommendation for a Delegated Act for 2019.
<http://nsrc.org/wp-content/uploads/2015/12/01-1718-Comments-on-the-LO-NS-Demersal-Fisheries-Joint-Recommendation-for-2019.pdf>

and to find suitable solutions. In that first stage of NSAC advice regarding options for addressing the challenges of the full implementation of the LO from 1st January 2019, we have focused on choke mitigation options available in the Joint Recommendation for next year's North Sea demersal discard plan. As is widely recognised, the recently agreed Joint Recommendation can mitigate some choke risks but the discard plan for 2019 alone will not be capable of resolving all the potential choke risks for the North Sea demersal fisheries. 1.2 In this second stage of NSAC advice, we therefore explore a range of options related to TACs and quotas, which – alongside continued progress regarding selectivity improvements and avoidance of unwanted catches – could play an important role in mitigating some of the remaining choke issues. The options set out in this advice paper will require the attention of the Commission and the Member States at the coming Council meetings or at the very latest during this year's December Council negotiations. We reiterate that it will be crucial to make the best use of the months between now and the December Council to discuss and develop concrete steps to address the remaining issues, to avoid a situation where these discussions are postponed until the December Council meeting. The NSAC would like to contribute to, and be kept informed, throughout this process.

- 1.3 In the following sections we provide an overview of the TAC- and quota-related options that may help reduce choke situations, as well as conditions for their use. Finally, we present more detailed considerations in relation to specific stocks, which we have identified as potential chokes in our previous advice.² Please refer to that advice for further details and considerations regarding options available in the Joint Recommendation for these stocks, as well as regarding the choke identification and categorisation. As discussed therein, the ability of specific measures to mitigate choke problems heavily depends on the type of choke in question. In the present advice, we are therefore presenting conclusions regarding the ability of the various options based on our previous choke categorisation but try to outline how the conclusions may change if the choke category changes.

It is important to appreciate that the implementation of the landing obligation is taking place within a highly uncertain and dynamic context. Changes in the scientific perception of individual stocks can impact significantly on the ability to predict where chokes may arise and therefore which mitigation measures might be appropriate. As an example, North Sea cod, which had been judged a moderate choke risk in our previous advice, has been transformed into an acute choke risk by the June 2018 ICES advice. This may change yet again in light of further scientific advice this autumn. The legislative context is also partly in flux, with uncertainty regarding the regulatory regime, including exemptions, that will apply to vessels, right up to a few weeks before full implementation of the landing obligation on 1st January 2019. Technical measures and control rules are two major areas in which legislation has yet to be fully aligned with the landing obligation. These uncertainties also impact on the ability of the NSAC to provide accurate and relevant advice, in terms of identification and categorisation of potential chokes, and potential mitigation

² *Ibid.*

measures. It will be important to make due allowance for these uncertainties in the guidance issued to industry.

The choke categorisations presented in this advice, as well as any statements regarding the state of the stocks included in the stock-specific sections under 3.0, are based on 2017 ICES advice for the current year rather than the recent advice published in June 2018. This is because the June 2018 advice is subject to change later in the autumn. As illustrated above based on the example of North Sea cod, the conclusions drawn in this advice may therefore differ from those that would be drawn from June 2018 ICES advice. However, the stock-specific sections in this advice indicate where the situation, based on June 2018 advice, may be different from 2017 advice. In the interests of completeness, a comparison of the conclusions drawn based on 2017 and June 2018 advice is also summarised in the tables in Annex 1 and 2. It is important that decision-makers pay close attention to any potential changes to the category or potential impact of any identified choke risks in the light of new ICES advice to be published later in 2018.

- 1.4 It is worth noting that the use of high survival exemptions, including their implications and potential conditionalities, need to be given further consideration in their potential use for mitigating chokes. However, this goes beyond the scope of this current piece of advice, which is focused on TAC and quota-related options.

2.0 Overview of TAC- and quota-related options and conditions for their use

2.1 Setting TACs in a mixed fisheries context

The recently agreed North Sea Multiannual Plan (NSMAP) provides for the use of F_{MSY} ranges, which may in certain cases help alleviate choke risks. These upper ranges are subject to a number of conditions and constraints set out in the NSMAP, and therefore the MAP cannot help in some choke cases and will possibly for cod in 2019 increase the choke problem.

It is also important to consider the implications of using F_{MSY} ranges in a mixed fisheries context. The additional flexibility provided by these ranges for a particular stock may be constrained by other, more limiting stocks.

In mixed fisheries, it is inevitable that different stocks will have divergent levels of abundance. The NSAC recognises that TACs are the most direct way of limiting fishing mortality in commercial fisheries, but that their application in mixed fisheries can be problematic, especially where TACs for bycatch species restrict fishing opportunities for target species. Moreover, in certain cases setting the TAC towards the maximum advice level for one of the target stocks in the mixed fishery might result in either exceeding the maximum advised TAC level for another stock (or stocks), or in choking the fishery. Mixed fisheries advice could play an important role in this context. The new MAP will provide opportunities to use ICES mixed fisheries advice. However, it will be important that this process is clear and transparent. For example, it will need to take into account the fact that the mixed fisheries advice are

scenarios that need to be improved such as the assumption that fleets' fishing patterns and catchability are the same as the previous year and levels of quota distribution between MS (not related to RS) remaining the same from year to year.

Building legitimacy and public confidence in mixed fisheries advice is an important building block to the assessment and TAC setting process, which requires constant refinement to ensure advice is able to manage the multi-species nature of the demersal fleet. We therefore urge the Commission and the Member States to carefully explore the mixed fisheries advice provided by ICES and explain how it is or could be used to inform decision-making or safeguard the less abundant stocks while avoiding choke situations, for example by making any potential trade-offs and decisions taken on this basis explicit.

2.2 Removal of stocks from TAC management

Removal of TAC status is one option to deal with chokes. However, should such a pathway be pursued, it is pertinent that a clear process is followed to ensure TAC removal proposals follow the specified criteria as set out in NSAC advice paper 04-1718³. Please refer to this separate advice paper for more detailed recommendations and further background information on the purpose of setting TACs and the conditions for any potential removal of a specific TAC.

The MSY objective in Art. 2(2) of the CFP basic regulation applies to all harvested species, whether they are subject to a TAC or not. Therefore, the following considerations should be followed if the removal of a TAC is proposed:

- Carry out a scientific assessment, through ICES or STECF, of the situation and potential implications of TAC removal for sustainable exploitation and conservation of the relevant stocks, prior to any decision to remove TACs;
- Take into account the findings of this assessment, in particular regarding any conditions that need to be met in order to fulfil all the CFP's objectives;
- Propose and agree alternative measures and safeguards if needed and put these in place as soon as any TAC is removed, in line with the best available scientific advice;
- Monitor the effectiveness of such measures and review them regularly, to ensure that they fulfil their purpose, and continue monitoring and reporting on the state of the stock as part of the ICES advice cycle;
- Develop a mechanism to swiftly reintroduce a TAC or put in place relevant emergency measures, where scientific advice indicates that a stock is deteriorating following the removal of the TAC.

2.2 Footnotes in the TAC and Quota Regulation

³ Reference to TAC removal paper [04-1718 TACs and Conditions for their Removal](#)

The use of footnotes in TACs and quotas regulation could provide a flexible means to deal with specific types of chokes. However, their use is not without complexities.

In the past, footnotes linked to specific TACs have been used to allow for a certain percentage of the TAC to be used to cover bycatch of other stocks⁴.

The NSAC recognises that while footnotes could help mitigate certain choke situations, they should only be applied with caution and in line with the best available scientific advice in order to ensure they do not allow for unsustainable exploitation. For example, they can be helpful in choke category 1 or 2 situations, where the choke is not caused by an overall lack of quota in the system, but rather by a lack of quota at Member State- or fleet-segment level. Such issues would otherwise have to be solved through adjustments in the domestic quota allocation or international quota swaps or trade.

However, it is important to account for catches of other stocks under bycatch footnotes when setting TACs. These footnotes are therefore not a solution for category 3 choke situations. In particular, bycatch footnotes that are expressed as a percentage of the target TAC can allow for considerable volumes of bycatch (in addition to the catches allowed under the dedicated TAC for the bycatch stocks), especially where the target species TAC is much larger than the TAC for the bycatch stocks. This is usually the case in pelagic fisheries where such footnotes have previously been considered, for example to alleviate Category 2 chokes in certain Member States that lack quota for bycatch stocks.

In its evaluation of the potential impact of additional bycatch footnotes requested by certain Member States during December Council 2016, the STECF concluded that '*[t]he scale of the potential landings of bycatch species arising from pelagic footnote provisions presents very real risks in terms of biology, management and governance of the bycatch species*'.⁵ The report further highlighted that there is '*potential to significantly increase the mortality on non-targeted bycatch species to levels inconsistent with achieving F_{MSY} and to the extent that stock biomass could be reduced below safe biological limits*'.

It is essential to ensure that bycatches under such provisions do not increase fishing mortality of bycatch stocks above the scientifically advised levels. If such footnotes are to be considered, the following steps therefore need to be taken:

- Any additional catches provided for by footnotes should be accounted for;
- If Ministers consider it necessary to reserve a certain part of the TACs of the bycatch stocks to cover bycatches in fisheries targeting other stocks, they should base this on scientific advice on the appropriate amount to be reserved., for example considering current and anticipated bycatch levels. In line with STECF's existing recommendations,

⁴ For example, the current TAC for sprat and associated bycatches in the Skagerrak and Kattegat (SPR/03A.) contains a footnote allowing 5% of this TAC to be used to cover bycatches of haddock and whiting.

⁵ Scientific, Technical and Economic Committee for Fisheries (STECF) - 55th Plenary Meeting Report (PLEN-17-02); Publications Office of the European Union, Luxembourg. p. 57.
<https://stecf.jrc.ec.europa.eu/documents/43805/1780485/STECF+PLEN+17-02.pdf>

this should be done *'through a maximum permitted bycatch (tonnes) of the bycatch species and not on a % basis of the target species TAC'*.

2.3 Interspecies Flexibility

Interspecies flexibility⁶ may provide a route through which some choke risks may be mitigated. However, a lack of clarity remains as to how this approach would work in practice. For example, the NSAC is concerned about the potential impact it might have on relative stability and is unsure how this option can contribute to alleviating Category 3 choke issues in the light of the CFP's MSY objective which applies to all harvested stocks.

We also note that STECF has identified the risks of using interspecies flexibility⁷, particularly in view of the scope to use potentially large amounts of 'donor' or target species quota (up to 9%) to cover landings of non-target species (for example, a choke species). STECF concluded that this option should be considered a 'LO option of last resort'⁸.

There is an urgent need for more detailed guidelines (beyond general principles⁹) to be agreed by Member States, and for safeguards to be built into its application so as to ensure the sustainable management and for interspecies flexibility to be compatible with relative stability. The NSAC requests that any such guidelines developed by the Member States are shared with the AC, along with any other insights the Scheveningen group has on which Member States plan to apply it and how this will work in practise.

2.4 Quota swaps and allocation

Quota managers face new challenges in helping their members avoid the risk of chokes. International swaps and transfers between member states already play a significant role in moving unutilised quota to where it can be used. The liquidity of the swaps system may be reduced as member states retain quota previously transferred in order to deal with their own chokes. Nevertheless, against this background and whilst fully respecting relative stability, the NSAC urges member states to revisit how unutilised quota could be used to address choke risks - on a voluntary basis.

3.0 Summary of Position Per Species and Fishery

In the following section, we provide further details for how some of the options outlined above could be applied to mitigate choke issues for specific stocks, in line with the considerations and conditions presented in this first part of the advice.

⁶ Art. 15(8) of the CFP basic regulation (Regulation 1380/2013)

⁷ STECF PLEN-17-02, p. 52 onwards. See footnote 6 for full reference

⁸ *Ibid.*, p. 58.

⁹ Guidance document Interspecies Flexibility, <https://www.pelagic-ac.org/media/pdf/Guideline%20document%20ISF%20160302.pdf>

ICES advice influences the content of the tables and the TAC and quota related considerations, these will change through time to reflect the most recent advice available.¹⁰ Species for which a high survival exemption has been requested are not presented within the tables. Please note that catches of pelagic species in demersal fisheries could represent a choke risk for some MS but is not presented in the table.

¹⁰ Annex 1 and 2 provide an overview of how the choke situation for individual stocks might differ from our previous choke categorisation presented in NSAC Advice Ref. 01-1718, based on the June 2018 ICES advice.

Cod (<i>Gadus morhua</i>) Subarea 4, Division 7.d, and Subdivision 20 (North Sea, eastern English Channel, Skagerrak) Two different management areas – the North Sea and the Skagerrak	
Type of choke¹¹ Based on new ICES advice in June 2018, the situation may be worse than based on the 2017 advice for the current year, with a bigger deficit than previously anticipated. Moreover, according to this advice, the stock is now outside safe biological limits ($F > F_{pa}$; $SSB < B_{pa}$), impacting on the applicability of some of the choke mitigation options outlined below, should this situation be confirmed by the autumn advice. However, this is mid-year advice which may be subject to change.	
TAC- and quota-related considerations	
F_{MSY} ranges	ICES (2017) ¹² advise that this stock is being harvested sustainably ($F_{pa} > F > F_{MSY}$) and is at full reproductive capacity ($SSB > MSY B_{trigger}$). In line with the requirements set out in the North Sea multi-annual plan, the use of F_{MSY} ranges may help mitigate potential choking caused by cod. However, mixed fisheries interactions involving other stocks may constrain the flexibility provided by the F_{MSY} ranges for cod.
TAC setting and status	NSAC recommend that quantitative limits (TACs) are the most direct and effective way to constrain fishing mortality in commercial fisheries, especially on target stocks. Cod is one of a number of targeted species in the mixed demersal fishery in the North Sea and the Skagerrak, so TAC removal is not an option in this instance.
International swaps	This stock has been categorised as a type 2 or 3 choke, depending on the data source being utilised. If the stock presents a type 2 choke scenario in 2019, the international swap mechanism should help mitigate potential choking. If the stock presents a type 3 choke scenario, the swap mechanism will not be sufficient to fully mitigate choking.
Footnotes to TACs	The use of Footnotes may be appropriate within the guidelines described above.
Interspecies flexibility	

¹¹ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. Please refer to Annex 1 and 2 of the present advice for an update of the situation based on the ICES advice published in June 2018.

¹² <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/cod.27.47d20.pdf>

Conclusion

Potential choking of this stock is primarily driven by insufficient quota to accommodate catches in the mixed demersal fishery in both the North Sea and the Skagerrak.

According to ICES mixed fisheries advice from June 2017, cod is no longer the most limiting stock in the Greater North Sea mixed-fisheries model.¹³ However, mixed fisheries interactions with other stocks – whiting and haddock being the most limiting ones – may constrain the additional flexibility provided by the F_{MSY} ranges for cod, if the catch composition does not change. Note however, that the situation may be different for 2019 and beyond, depending on the development of the different stocks and selectivity patterns, and will need to be reviewed when new ICES advice becomes available.

Overall, the use of F_{MSY} ranges combined with the full utilisation of international quota swaps may provide an opportunity to alleviate potential choking while ensuring that the stock is being harvested sustainably and maintains full reproductive capacity.

¹³ ICES mixed fisheries advice (<http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/mix-ns.pdf>) presents a number of mixed fisheries scenarios, including a 'range' scenario which 'searches for the sum of differences between potential catches by stock under the "Min" and the "Max" scenarios within the F_{MSY} ranges' (Min = fishing effort stops when the quota for the most limiting stock has been caught up, causing underutilization of the single-stock advice possibilities of other stocks; Max = fishing effort stops when the all quotas have been caught up, causing overfishing of single-stock advice possibilities of most stocks).

Cod (in the Kattegat)	
<p>Type of Choke¹⁴ Possibly Category 2 or 3</p> <p>Based on new ICES advice in June 2018, the situation may be worse than based on the 2017 advice for the current year, with the anticipated surplus changed to a small deficit. However, this is mid-year advice which may be subject to change.</p> <p>It has been pointed out by the Danish and Swedish fishing industry that cod in the Kattegat appears to be one of the stocks in which official discard estimates and the experience in the fishery are at considerable variance. This suggests that although the official statistics indicate that there will be no choke or a category 2 choke, the reality is likely to be very different, and a category 3 choke should be prepared for.</p>	
TAC- and quota-related considerations	
F_{MSY} ranges	<p>ICES cannot assess the stock and exploitation status relative to MSY and precautionary approach (PA) reference points because the reference points are undefined.</p> <p>Cod in the Kattegat is not part of the NSMAP.</p> <p>Therefore, the use of F_{MSY} ranges is not relevant.</p>
TAC setting and status	<p>The ICES framework for “data-poor” stocks is applied when ICES is giving its advice for Kattegat cod.</p> <p>The NSAC recommends that quantitative limits (TACs) are the most direct and effective way to constrain fishing mortality in commercial fisheries, especially on target stocks.</p> <p>However, it has not been allowed for a number of years to target cod in the Kattegat. The TAC is only set as a bycatch quota, that does not reflect the actual outtake according to the fisheries. Therefore, alternative setting of the TAC should be considered.</p>
International swaps	Not relevant. The swap mechanism will not be able to mitigate choking given the TAC level.

¹⁴ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. Please refer to Annex 1 and 2 of the present advice for an update of the situation based on the ICES advice published in June 2018.

Footnotes to TACs	The use of footnotes may be appropriate within the guidelines described above.
Interspecies flexibility	Not relevant
Conclusion Potential choking of this stock is primarily driven by insufficient quota to accommodate catches in the mixed <i>Nephrops</i> /demersal fishery in the Kattegat. Overall, an alternative way of setting the TAC should be considered. This could be part of a management strategy for the demersal fisheries in the Kattegat.	

Hake (Merluccius merluccius - Union waters of IIa and IV (HKE/2AC4-C))	
Type of choke ¹⁵ Category 3	
Based on new ICES advice in June 2018, the situation may be better than based on the 2017 advice for the current year, with a potential surplus instead of a deficit (at overall stock level). However, this is mid-year advice which may be subject to change.	
TAC- and quota-related considerations	
F _{MSY} ranges	ICES (2017) ¹⁶ advise that this stock is being harvested sustainably (F at F _{MSY}) and is at full reproductive capacity (SSB > MSY B _{trigger}). Hake is not covered by the North Sea MAP but will be included in the Western Waters MAP. Since the WWMAP has not been agreed yet, there is currently no legal basis specifying criteria for the use of F _{MSY} ranges for hake, equivalent to those provided for in the NSMAP for other stocks. The use of F _{MSY} ranges ¹⁷ may help mitigate potential choking caused by hake, if the conditions and constraints set out in the relevant ICES advice are transposed into the WWMAP and followed. However, mixed fisheries interactions involving other stocks may constrain the flexibility provided by the F _{MSY} ranges for hake, but the NSAC is not aware of specific mixed fisheries advice including hake.
TAC setting and status	NSAC recommend that quantitative limits (TACs) are the most direct and effective way to constrain fishing mortality in commercial fisheries, especially on target species. Hake is one of a number of targeted species in the mixed demersal fishery in the North Sea, so TAC removal is not an option in this instance.
International swaps	The current swap mechanism has reduced the potential of this species to choke. However, is currently insufficient to avoid a category 2 type choke.

¹⁵ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. Please refer to Annex 1 and 2 of the present advice for an update of the situation based on the ICES advice published in June 2018.

¹⁶ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/hke.27.3a46-8abd.pdf>

¹⁷ ICES (2016). EU request to ICES to provide F_{MSY} ranges for selected stocks in ICES subareas 5 to 10. According to the most recent ICES advice from 15 March 2018

(http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2018/Special_requests/eu.2018.04.pdf)

the ranges for hake are still up to date.

http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special_Requests/EU_FMSY_ranges_for_selected_Western_Waters_Stocks.pdf

Footnotes to TACs	
Interspecies flexibility	
Conclusion Potential choking of this stock is primarily driven by insufficient quota to accommodate catches in the Scottish mixed demersal fishery. The use of F_{MSY} ranges would alleviate choking to a certain degree but it is doubtful whether it would prevent choking. Obstacles to moving quotas between management areas may still result in chokes.	

Ling (ICES area 3a-bcd) Ling (ICES 4) ¹⁸	
Type of Choke ¹⁹ Category 3	
TAC- and quota-related considerations	
F _{MSY} ranges	Not relevant, defined as a non-target species in the NSMAP
TAC setting and status	<p>The advice from ICES for Ling (<i>Molva molva</i>) is given for the entire ICES areas of 6-9, 12, 3a and 4a. However, in the EU Regulation this is divided into several TACs, including a TAC for the Skagerrak and the Kattegat.</p> <p>The TAC for ling was introduced in 2003 and catches have been stable since. The TAC in 3a is less than 1 percent of the total TAC for the stocks covered by the ICES advice. Due to the small part of the stock in this area it is not economically viable to scientifically determine the exact conditions of this part of the stock nor does it seem to make biological sense to have a separate quota for this fishery.</p> <p>More than 90 percent of ling in the area 3a is traditionally caught in the Skagerrak and the present quota is normally exhausted within the first half of the year.</p> <p>Potential removal of this TAC may be appropriate within the guidelines described above.</p>
International swaps	The current swap mechanism is not sufficient to alleviate the potential choking of this species due to restrictions on the movement of quota between stock management areas.
Footnotes to TACs	The use of footnotes may be appropriate within the guidelines described above.
Interspecies flexibility	Possibility.
<p>Conclusion</p> <p>Potential choking of this stock is primarily driven by insufficient quota to accommodate catches in the mixed <i>Nephrops</i>/demersal fishery and the fisheries for <i>Pandalus borealis</i>.</p> <p>The inability to move quota between certain management areas means that international</p>	

¹⁸ Ling IV is a Category 2 choke. Current de minimis exemption will probably not be sufficient to alleviate the potential choking of the fishery for TR1 fleets targeting saithe in the North Sea.

¹⁹ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. No new advice from ICES is available, therefore we cannot provide an update on the choke situation.

swaps will not fully mitigate choking.

Potential removal of stocks from TAC management or use of footnotes may be appropriate within the guidelines described above.

Plaice (<i>Pleuronectes platessa</i>) in Subarea 4 (North Sea) and Subdivision 20 (Skagerrak) (PLE/2A3AX4). Two different management areas – the North Sea and the Skagerrak.	
Type of choke ²⁰ Category 4 (or possibly 2) Based on new ICES advice in June 2018, there may be a bigger surplus than previously anticipated. However, this is mid-year advice which may be subject to change.	
TAC- and quota-related considerations	
F _{MSY} ranges	ICES assess that fishing pressure on the stock is below FMSY, Fpa, and Flim; spawning-stock size is above MSY Btrigger, Bpa, and Blim.
TAC setting and status	An EU multiannual management plan (MAP) has been proposed for this stock (EU,2016). This plan is not adopted by Norway, thus, not used as the basis of the advice for this shared stock. ICES is requested by the EC to provide advice based on the MSY approach and to include the MAP as a catch option. NSAC recommend that quantitative limits (TACs) are the most direct and effective way to constrain fishing mortality in commercial fisheries, especially on target stocks. Plaice is one of a number of targeted species in the mixed demersal fishery in the North Sea and the Skagerrak, so TAC removal is not an option in this instance.
International swaps	This stock has been categorised as a type 4 or possible 2 choke. If the stock continues to present a type 2 choke scenario in 2019, the international swap mechanism should help mitigate potential choking at a Member State level.
High Survival issues	Plaice has a proven potential for high survival, given already existing high survival exemptions that are in place in the North Sea and other regions. However, survival tests in the beam trawl fisheries, carried out by various member states, show high variations. The mean survival rate in the beam trawl seems to lie between the 15 and 20 per cent, with trips showing

²⁰ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. Please refer to Annex 1 and 2 of the present advice for an update of the situation based on the ICES advice published in June 2018.

	<p>no survival and trips showing survival well above 50 per cent.</p> <p>Because the existing data gaps and available research show a potential high survival for plaice and taking into account possible higher survival rate with gear modifications and improvements in gear selectivity in the near future NSAC suggests a temporary (3 years) high survival exemption for plaice in the beam trawl fisheries with meshes between 80 – 120 mm in the North Sea conditional to a package of measures and incentives.</p>
Footnotes to TACs	The use of footnotes may be appropriate within the guidelines described above.
Interspecies flexibility	Interspecies flexibility remains an option with this stock
<p>Conclusion</p> <p>The use of F_{MSY} ranges combined with the full utilisation of international quota swaps may provide an opportunity to alleviate potential choking while ensuring that the stock is being harvested sustainably and maintains full reproductive capacity.</p> <p>Potential choking of this stock is primarily driven by Economic reasons. Despite the effort that has been put in reducing unwanted catch and understanding survival rates of plaice caught with different gears in different conditions, there will be no total solution available to secure a workable implementation of the landing obligation in the BT2 and TR2 without severe economic impact. Given the high volumes of undersized plaice fishing activities will become uneconomic and the handling process would ask for extra crew (+20 to 30 per cent), leading to further additional costs.</p>	

Saithe (<i>Pollachius virens</i>) in subareas 4 and 6, and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)	
Type of choke ²¹ Category 2 or 3 Based on new ICES advice in June 2018, the situation may be better than based on the 2017 advice for the current year, with a bigger surplus than previously anticipated. However, this is mid-year advice which may be subject to change.	
TAC- and quota-related considerations	
F _{MSY} ranges	ICES (2017) ²² advise that this stock is being harvested sustainably ($F_{pa} > F > F_{MSY}$) and is at full reproductive capacity ($SSB > MSY B_{trigger}$). In line with the requirements set out in the North Sea multi-annual plan, However, mixed fisheries interactions involving other stocks (Mainly Hake, Haddock and Whiting) may constrain the flexibility provided by the F _{MSY} ranges for Saithe.
TAC setting and status	The NSAC recommends that quantitative limits (TACs) are the most direct and effective way to constrain fishing mortality on target stocks. A significant amount of saithe is caught in a directed fishery. However, saithe is also one of a number of targeted species in the mixed demersal fishery in the North Sea, so TAC removal is not an option in this instance.
International swaps	This stock has been categorised as a type 2 or 3 choke. If the stock continues to present a type 2 or 3 choke scenario in 2019, the international swap mechanism should help mitigate potential choking at a Member State level.
Footnotes to TACs	There is no obvious use of footnotes other than to limit catches by Norway
Interspecies flexibility	Interspecies flexibility remains an option with this stock
Conclusion Potential choking of this stock is primarily driven by insufficient quota to accommodate	

²¹ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. Please refer to Annex 1 and 2 of the present advice for an update of the situation based on the ICES advice published in June 2018.

²² <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/pok.27.3a46.pdf>

catches in the mixed demersal fishery.

According to ICES mixed fisheries advice from June 2017²³, the mixed-fisheries situation in the Greater North Sea in 2017 presented higher potential for quota mismatch compared to what had been observed in the previous years, as the 2017 TAC for Northern Shelf haddock was highly restrictive while the 2017 TAC for saithe supported an increase of fishing mortality for that stock. A similar set of circumstances may once again present itself in 2019. This mismatch may impact the mixed fisheries significantly going forward, although the precise level of opportunities for 2019 is unknown at this time.

Overall, the use of F_{MSY} ranges combined with the full utilisation of international quota swaps may provide an opportunity to alleviate potential choking while ensuring that the stock is being harvested sustainably and maintains full reproductive capacity.

²³ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/mix-ns.pdf>

Seabass

Members of the NSAC understand that there is a possibility that Seabass may not be included in the landings obligation and this is being discussed within the Commission and member states, to be decided, at the latest, at the December Council.

However, if Seabass is included, the following issues would be pertinent.

- Seabass may become a choke species and prematurely close many demersal fisheries in the North Sea targeting other species. Additionally, as seabass is not managed under a TAC and quota, certain mitigation tools are not available, as they are for TAC & quota stocks.
- If the landing obligation also applied to the recreational fisheries, catches of seabass would have to be landed and recorded by recreational anglers.
- The long-standing conservation measures which ban commercial fishing for seabass in Ireland and are implemented under national legislation would contravene the Landing Obligation and would have to be rescinded as they would be incompatible with European legislation.
- All catches of seabass will have to be landed and catches exceeding the catch limit may not be sold for human consumption, which could be misunderstood by fishermen and the public.
- Whether the LO applies or not to seabass from January 2019, it will be important for fishers and commercial buyers to have clear guidance and legal certainty of the rules.

Options for mitigating the choke risk of seabass in the fisheries appear to be limited. The ACs concluded that:

- Quota flexibilities do not apply;
- Interspecies flexibility does not apply;
- Research trials²⁴ and technical development work have taken place assessing various gear adaptations, including the avoidance of known seabass “hotspots”, which have reportedly reduced the “unwanted” catches of seabass. However, the ACs consider that further advances in selectivity or further reduction of the bycatch of the magnitude required to mitigate the choke risk, seem unlikely in the near future;
- Avoidance measures on seabass aggregation have been the main tool to minimise commercial catches of seabass. Seabass have a wide distribution and are highly migratory, depending on season, water temperature and population size, which limits the scope for using area closures beyond known nursery sites²⁵, but real time information, collated and made available to the fishery, could enable fishers to more effectively avoid areas in which seabass are aggregating.
- High survival in some gears (e.g. hook and line) and *de minimis* exemptions are

²⁴ For Example: Reis, E. G. and Pawson, M. G., 1992. "Determination of gill net selectivity for bass (*Dicentrarchus labrax* L.) using commercial catch data". Fisheries Research, 13: 173-187.

²⁵ Pawson, M. G., Pickett, G. D. and Smith, M. T., 2005. The role of technical measures in the recovery of the UK seabass (*Dicentrarchus labrax*) fishery 1980 - 2002. Fisheries Research, 76, 91 - 105.

unlikely to present a sufficient solution, in this case;

The environmental OIGs on the NSAC note whether or not seabass is exempt from the LO in 2019, the OIG members believe concrete measures are needed to improve selectivity and avoidance and remote electronic monitoring (such as CCTV) should be applied across all Member States and on all vessels that are identified by control experts (EFCA) as being of medium, high or very high risk of either noncompliance with the landing obligation, or non-compliance with requirements to avoid prohibited species or stocks such as seabass.

Whiting (<i>Merlangius merlangus</i>) in Subarea 4 and Division 7.d (North Sea and eastern English Channel)	
Type of choke ²⁶ Category 2 or 3	
Based on new ICES advice in June 2018, the situation may be better than based on the 2017 advice for the current year, with a smaller deficit than previously anticipated. However, this is mid-year advice which may be subject to change.	
TAC- and quota-related considerations	
F _{MSY} ranges	ICES (Nov 2017) ²⁷ advise that this stock is being harvested sustainably ($F_{pa} > F > F_{MSY}$) and is at full reproductive capacity ($SSB > MSY B_{trigger}$). In line with the requirements set out in the North Sea multi-annual plan, the use of F _{MSY} ranges may help mitigate potential choking caused by Whiting. However, mixed fisheries interactions involving other stocks (mainly saithe, Hake, and Haddock) may constrain the flexibility provided by the F _{MSY} ranges for whiting.
TAC setting and status	The NSAC recommends that quantitative limits (TACs) are the most direct and effective way to constrain fishing mortality on target stocks. Whiting is one of the species in the mixed demersal fishery in the North Sea, so TAC removal is not an option in this instance.
International swaps	This stock has been categorised as a type 2 or 3 choke. If the stock continues to present a type 2 or 3 choke scenario in 2019, the international swap mechanism should help mitigate potential choking at a Member State level.
Footnotes to TACs	There is no obvious use of footnotes other than to limit catches by Norway
Interspecies flexibility	Interspecies flexibility remains an option with this stock
Conclusion	
Potential choking of this stock is primarily driven by insufficient quota to accommodate	

²⁶ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details. Please refer to Annex 1 and 2 of the present advice for an update of the situation based on the ICES advice published in June 2018.

²⁷ [http://www.ices.dk/sites/pub/Publication Reports/Advice/2017/2017/whg.27.47d.pdf](http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/whg.27.47d.pdf)

catches across a range of fisheries.

According to ICES mixed fisheries advice from June 2017²⁸, For 2018, assuming a strictly implemented discard ban (corresponding to the “Minimum” scenario), whiting would be the most limiting stock, being estimated to constrain 24 out of 42 fleet segments.

Overall, the use of F_{MSY} ranges combined with the full utilisation of international quota swaps provides little scope to alleviate potential choking while ensuring that the stock is being harvested sustainably, maintaining full reproductive capacity.

Improved selectivity may provide a partial solution in a number of fisheries

²⁸ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/mix-ns.pdf>

Whiting (<i>Merlangius merlangus</i>) in Subarea 3a (The Skagerrak and the Kattegat)	
Type of choke ²⁹ Category 2 or 3	
TAC- and quota-related considerations	
F _{MSY} ranges	ICES do not perform an analytical assessment of this stock, mainly explained by lack of knowledge about exchange with neighbouring areas. Whiting occur regularly in the Baltic, but it is not known to what extent Baltic whiting mix with IIIa whiting or if they are all part of one population. Therefore, scientific advice is given based on ICES' internal precautionary rules, the whiting in the Skagerrak and the Kattegat is not part of the NSMAP. Therefore, the use of F _{MSY} ranges is not relevant.
TAC setting and status	Whiting in IIIa is mainly caught as bycatch in the pelagic fishery for herring and sprat, or in the demersal trawl fishery for <i>Nephrops</i> . There is no directed fishery for whiting. Potential removal of stocks from TAC management may be appropriate within the guidelines described above.
International swaps	This stock has been categorised as a type 2 or 3 choke. If the stock continues to present a type 2 or 3 choke scenario in 2019, the international swap mechanism will not help mitigate potential choking at a Member State level.
Footnotes to TACs	Footnotes is already used for bycatches of whiting in the fisheries for sprat and could be used for other stocks as well within the guidelines described above.
Interspecies flexibility	Interspecies flexibility remains an option with this stock
Conclusion	
Potential choking of this stock is primarily driven by insufficient quota to accommodate catches across a range of fisheries.	
Given the small amount of catches it seems appropriate to consider alternative ways of management given that the present TAC unavoidably leads to chokes.	
Potential removal of stocks from TAC management or footnotes may be appropriate within	

²⁹ This categorisation should be treated with caution, as outlined on p. 4 of the introduction of NSAC Advice Ref. 01-1718 (see footnote 1 for full reference). See Annex IA and IB of that advice for data used for choke categorisation, and the stock specific sections for further details.

the guidelines described above.

4.0 Summary and Conclusions

1. Selectivity and avoidance strategies can help to reduce choke risks
2. Exemptions for 2019 contained in the Joint Recommendations submitted by the Scheveningen Group will also contribute to mitigating choke risks
3. However, selectivity, avoidance and exemptions contained in the JR will not wholly remove the risk of choke in a number of North Sea demersal fisheries
4. Further options may need to be considered at political level to mitigate chokes in a way that is consistent with the objectives of the CFP
5. The advice contained within this document suggests a number of measures available to deal with specific chokes
6. It also describes the limit beyond which the Commission and co-legislators will hold responsibility for dealing with the remaining choke issues in mixed fisheries
7. The NSAC stands ready to engage with the Commission and co-legislators on the type of additional measure required to reduce the choke problem to manageable proportions. Throughout, we consider that the interests of transparency and effectiveness, the NSAC should be centrally involved in all deliberations on the way forward.
8. Implementing the landing obligation will, of necessity, require a number of trade-offs between desirable objectives. Pragmatic management decisions will require cognisance of ecological and sustainability goals as well recognition of socio-economic and practicality factors. As principle stakeholders, it will be important that the NSAC is fully involved in the process leading to such complex management decisions.

Annex 1 ICES Catch and landings advice for 2018 and 2019 for selected species

Stock	Situation based on ICES advice for 2018		Updated situation based on ICES advice (from June 2018) for 2019						Conclusion for 2019 situation based on comparison of 2019 advice with 2017 catch/landings
	Catch advice 2018 minus catch 2016	Landings advice 2018 minus landings 2016	Catch 2017	Landings 2017	Catch advice 2019	Landings advice 2019	Catch advice 2019 minus catch 2017	Landings advice 2019 minus landings 2017	
North Sea cod ¹	2514	-2515	46725	37994	28204	22331	-18521	-15663	situation worse: large deficit based on new advice
Kattegat cod ²	251	-45	552	294	494	NA	-58	NA	situation worse re: catch: surplus changed to small deficit
Northern hake ³	-3309	-3470	111770	104670	142240	128236	30470	23566	situation better: big surplus instead of deficit
Northern ling	-3172	-2476	NA	NA	NA	NA	NA	NA	no change, because there is no new advice
North Sea plaice ⁴	6531	4307	113184	74217	139052	92523	25868	18306	situation better: bigger surplus
North Sea saithe ⁵	39745	35618	95165	88686	139978	130275	44813	41589	situation better: bigger surplus
North Sea whiting ⁶	-7568	-2055	29344	15361	25302	13298	-4042	-2063	situation better: smaller deficit, but still deficit
Skagerrak & Kattegat whiting ⁷	-1260	-373	NA	NA	NA	NA	NA	NA	no change, because there is no new advice

1. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/cod.27.47d20.pdf>

2. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/cod.27.21.pdf>

3. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/hke.27.3a46-8abd.pdf>

4. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/ple.27.420.pdf>

5. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/pok.27.3a46.pdf>

6. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/whg.27.47d.pdf>

7. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/whg.27.3a.pdf>

Annex 2 State of the stock and fishery relative to reference points from ICES advice for 2018 and 2019 for selected species

Stock	Situation based on ICES advice for 2018		Updated situation based on ICES advice (from June 2018) for 2019	
	SSB	F	SSB	F
North Sea cod	SSB > MSY Btrigger	Fmsy < F < Fpa	Bpa > SSB > Blim	Fpa < F < Flim
Kattegat cod	undefined	undefined	undefined	undefined
Northern hake	SSB > MSY Btrigger	F < Fmsy	SSB > MSY Btrigger	F < Fmsy
Northern ling	undefined	F < Fmsy proxy	NA (no update)	NA (no update)
North Sea plaice	SSB > MSY Btrigger	F < Fmsy	SSB > MSY Btrigger	F < Fmsy
North Sea saithe	SSB > MSY Btrigger	F < Fmsy	SSB > MSY Btrigger	F < Fmsy
North Sea whiting	SSB > MSY Btrigger	Fmsy < F < Fpa	SSB > MSY Btrigger	Fmsy < F < Fpa
Skagerrak & Kattegat whiting	undefined	undefined	NA (no update)	NA (no update)
Sea bass	SSB < Blim	undefined	SSB < Blim	F < Fmsy



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