

EU request for ICES to provide advice on a revision of the contribution of TACs to fisheries management and stock conservation for: whiting (*Merlangius merlangus*) in ICES Division 3.a, plaice (*Pleuronectes platessa*) in ICES Subarea 8 and Division 9.a, and northern prawn (*Pandalus borealis*) in ICES Division 4.a

Advice summary

- ICES advises that removing the EU TACs for the stocks of whiting (*Merlangius merlangus*) in ICES Division 3.a and plaice (*Pleuronectes platessa*) in ICES Subarea 8 and Division 9.a may generate a high risk of the stocks being exploited unsustainably.
- ICES advises that removing the EU TAC for the stock of northern prawn (*Pandalus borealis*) in ICES Division 4.a would likely generate a low risk of the stock being exploited unsustainably. ICES recommends that the catches of this stock should be monitored and that management measures should be reconsidered if catches exceed recent levels.

Request

ICES is requested to analyse for a list of stocks (as specified below) the role of the Total Allowable Catch instrument. It is asked to assess the risks of removing TAC for each case analysed in light of the requirement to ensure that the stock concerned remains within safe biological limits in the short and middle term. ICES is further requested to assess the potential contribution of the application of other conservation tools in absence of TACs to the requirement that the stock concerned remains within safe biological limits.

In cases where the uses of TAC should be continued, ICES is asked to analyse a possible approach to contribute to inter-annual stability of TACs.

Table 1 Stocks covered in this advice in response to the request.

ICES Stocks	ICES Stock code	EU TAC area
Southwestern waters: ICES subareas 8–10 and the CECAF areas		
1) Plaice in ICES Subarea 8 and Division 9.a	ple.27.89a	8, 9, and 10; Union waters of CECAF 34.1.1
Northwestern waters: ICES subareas 2–4		
2) Northern prawn in ICES Division 4.a	pra.27.4a	Union waters of 2a and 4
3) Whiting in ICES Division 3.a	whg.27.3a	3a

Elaboration and basis of the advice

Background

The establishment of total allowable catches (TACs) on a stock-by-stock basis as a management tool to control the exploitation of fish stocks within sustainable levels is widely used internationally. The various fisheries in northeastern Atlantic waters are currently managed by more than 140 TACs. In the context of the introduction of multiannual plans for demersal mixed fisheries in the Baltic and North seas and in Western waters, and the challenges posed by the EU landing obligation to the management of these fisheries (e.g. choke species), the EU requested ICES to evaluate the potential risks of removing the TACs (in the following “TACs” signifies “TAC management tool”) for a number of stocks and management units and to determine whether alternative instruments might adequately achieve the same goals.

Advice on stocks included in the EU regulation for setting of the fishing opportunities for certain deep-water fish stocks was released on 2 July 2018 (ICES, 2018a). Advice on the majority of other stocks was released on 20 September 2018 (ICES, 2018b). The current advice relates to the remaining three stocks in the request.

ICES advises on the risk of stocks being exploited unsustainably if TACs are removed. The basis and rationale for the advice are provided below for each stock.

ICES was requested to assess, in the absence of TACs, the potential contribution of the application of other conservation tools to the requirement that the stock in question remains within safe biological limits. The evaluation of potential impacts of technical measures on a stock is in many cases complicated to perform and requires knowledge on the likely reaction to such measures by the fisheries concerned. ICES has not been able to perform systematic analyses of other conservation tools; therefore, this advice only covers the risk to the stocks from removing the TACs.

The landing obligation may result in changes in the way the fisheries are operating, which could, in turn, lead to changes in the species and size composition of catches. ICES is not able to predict these changes. The assessments of the potential risk of removing the TACs are therefore based on the current fisheries pattern and do not address potential impacts on the fisheries of the implementation of the landing obligation.

A key question in the assessments forming the basis for the advice is whether the TACs have been restrictive. The analyses of TAC utilization have been done on a total catch/landing and management area level. ICES recognizes that although a TAC may not have been restrictive at the level of total catches/landings, the associated quotas allocated to EU Member States, fleet segments, or individual vessels may have been restrictive. This means that catches may increase if the TAC is removed, in some cases where the TAC has not been overshot. ICES does not have the information required to do a systematic analysis of the extent to which a TAC has been restrictive at quota levels; the assessments of the restrictiveness of the TACs are therefore done only at the level of total catches.

Regarding possible approaches to contribute to interannual stability of TACs for stocks where the TAC should be maintained, ICES notes that the advice provided on fishing opportunities for stocks in categories 1 and 2 does not currently include any interannual stability constraint. For stocks in these categories, stability constraints could be investigated through management strategy evaluations (MSEs). For stocks in categories 3 and 4, the advice rule used by ICES to provide advice on fishing opportunity incorporates a stability constraint. In addition, for most of these stocks, as well as for those in categories 5 and 6, the advice provided is the same for two or more years.

Southwestern waters: ICES subareas 8–10 and the CECAF areas

1) Plaice in ICES Subarea 8 and Division 9.a

ICES advises that the stock status and exploitation levels for the plaice stock in Subarea 8 and Division 9.a are unknown. ICES is therefore not in a position to advise whether removing the TAC for plaice in Subarea 8 and Division 9.a is likely to lead to unsustainable exploitation. ICES advice, which is based on precautionary considerations, is that the TAC should be maintained.

Stock status

ICES advised in 2018 that when the precautionary approach is applied, wanted catches in each of the years 2018 and 2019 should be no more than 194 tonnes. ICES cannot quantify the corresponding total catches. Landings have been relatively stable over the time period. The available information is insufficient to evaluate stock trends and exploitation status.

Fisheries

The price of plaice in this area is relatively low and the landings are also low. Therefore, the stock is not of large economic importance.

No information on the targeting of plaice in Subarea 8 and Division 9.a was made available. In neighbouring areas, plaice are mostly caught as a bycatch in fisheries targeting sole. The fishing effort for sole in Subarea 8 and Division 9.a is not expected to increase if this stock is managed at F_{MSY} . However, it is unknown whether the plaice catches are mainly taken by the fisheries targeting sole.

Management measures

The TAC area covers ICES subareas 8, 9, and 10 and EU waters of CECAF area 34.1.1. All plaice landings inside the TAC area are taken from the stock area (Subarea 8 and Division 9.a).

The TAC has always been two or three times as high as the landings. In some years, Portuguese landings may have been restricted by quota. ICES has only provided catch advice for this stock since 2016, and in that time the TAC has been set nearly twice as high as the advised catches.

Discard data are sparse but discard levels appear to be low (< 10%).

A multi-annual plan for sole in divisions 8.a and 8.b (EU, 2006) sets out the procedure for setting the sole TAC and specifies effort limitations. This plan probably impacts on the fisheries catching plaice in that area.

Knowledge gap

There is no assessment of the status of this stock and EU Member States involved in the fishery have made no attempt to develop one. No information on the fisheries (effort, targeting) was provided for the present special request.

Potential risk to the stock of removing the TAC

Plaice in this area is probably a minor bycatch and the TAC does not generally appear to restrict landings. It seems unlikely that a target fishery will develop in the absence of a TAC.

Because the stock status and exploitation levels for plaice in Subarea 8 and Division 9.a are unknown, ICES is not in the position to advise whether removing the TAC is likely to lead to unsustainable exploitation. ICES advice, which is based on precautionary considerations, is that the TAC should be maintained.

Northwestern waters: ICES subareas 2–4

2) Whiting in ICES Division 3.a

ICES advises that the stock status and exploitation levels for whiting in Division 3.a are unknown. ICES is therefore not in a position to advise whether removing the TAC is likely to lead to unsustainable exploitation. ICES advice, which is based on precautionary considerations, is that the TAC should be maintained.

Stock status

Whiting in Division 3.a is a category 5 stock (ICES, 2012) and has no analytical assessment and no reference points. Advice is given based on the precautionary approach. The latest catch advice of 400 tonnes was given in 2017 and is effective for 2018 and 2019. The agreed TAC has been 1050 t since 2008.

Fisheries

There is no targeted fishery for the stock.

This stock is mainly caught by Denmark, with significantly lower catches by Sweden and Norway. Around 60% of the catch comes from the Danish small-mesh industrial fisheries and the rest comes from the international demersal trawl fleet. In some years discards have been substantial.

The stock is of low economic value. The total value of the human consumption landings in the period 2011–2016 was from 100,000€ to 300,000€ and the average price in the same period was less than 1€/kg.

Management measures

Landings in the period since 2003 have been lower than the TAC.

The small-meshed fishery has been managed by TAC and bycatch limit restrictions. Minimum target species percentages in combination with maximum bycatch percentages for species such as for herring, cod, haddock, saithe, and whiting have been set.

Knowledge gap

Whiting in Division 3.a follows the framework for Category 5 stocks.

Potential risk to the stock of removing the TAC

Whiting catches in Division 3.a have greatly declined in recent decades, which could indicate a decline in the stock biomass. ICES advises that the stock status and exploitation level for whiting in Division 3.a. are unknown and therefore it is not possible to judge whether a removal of the TAC is likely to lead to unsustainable exploitation. It is therefore recommended, based on precautionary considerations, that the TAC be maintained.

3) Northern prawn in ICES Division 4.a

The TAC area (Union waters of Division 2.a and Subarea 4) covers a larger area than the stock area (Division 4.a). ICES advises that removing the EU TAC for northern prawn would generate a low risk of the Fladen Ground stock being exploited unsustainably. The conclusions are valid, as long as northern prawn catches are negligible and northern prawn remains largely a bycatch species in fisheries on the Fladen Ground.

Stock status

The northern prawn stock at the Fladen Ground (Division 4.a) is considered data-limited and is classified as a category 6 stock. There has been no directed fishery for northern prawn in this area since the early 2000s and no catches since 2006. Interview information from the fishing industry obtained in 2004 gives the explanation that the decline in the fishery was caused by low northern prawn abundance, low prices on the small northern prawn that are characteristic of the Fladen Ground, and high fuel prices.

ICES provides triennial management advice for this stock. The latest advice for the stock, issued in 2015 and valid for the years 2016, 2017, and 2018, was that catches should not increase unless there was evidence that this would be sustainable. ICES has advised zero catches since 2013. Nevertheless, a TAC of 2500–5000 tonnes has been set for the EU waters of Division 2.a and Subarea 4.

The available information is insufficient to evaluate stock trends over time.

Fisheries

The stock is no longer targeted and northern prawn occurs as bycatch in other fisheries, for instance in the Norwegian Norway pout fishery. The present level of catches is very low.

Northern prawn is of high economic importance and value in other areas, but has not been targeted at Fladen Ground since the early 2000s.

Knowledge gap

There is no assessment of the status of this stock. No information on the fisheries (effort, targeting) was provided for the present special request.

Potential risk of fishery to the removal of TAC

ICES concludes that the risk to this stock of having no catch limits is currently considered to be low. The conclusions are valid, as long as northern prawn catches remain negligible and northern prawn remains largely a bycatch species in fisheries on the Fladen Ground. In the absence of a TAC for the Fladen Ground northern prawn stock, a monitoring and assessment system will be required to evaluate the state of the stock.

Methods

To evaluate each stock included in the request, six questions pertaining to the fishery were examined. A similar approach was used to respond to an EU request on a combined dab and flounder TAC and potential management measures besides catch limits in 2017 (ICES, 2017). These were as follows:

1. Was the TAC restrictive in the past?
2. Is there a targeted fishery for the stock or is the species mainly discarded?
3. Is the stock of large economic importance or is the species of high value?
4. How are the most important fisheries for the stock managed?
5. What are the fishing effort and stock trends over time?
6. What maximum effort of the main fleets can be expected under management based on F_{MSY} (ranges) for the target stocks, and has the stock experienced similar levels of fishing effort before?

For some of the stocks evaluated, not all questions could be answered. Questions 5 and 6 in particular could be treated only partly, primarily because in some areas TACs are applied to stocks that are only taken as a small bycatch in other fisheries and which have very limited information available that an evaluation might be based on.

In addition, the overall risk for the stocks have been considered in terms of their biology (aggregating, sex change, long lived, low productivity) and in terms of their catchability (degree of population overlap with key fisheries, presence of refuges, ability to be directly targeted).

Knowledge gaps and current management measures were also considered when evaluating the risk to the stocks of removing the TACs.

Sources and references

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