

EU request on a revision of the contribution of TACs to fisheries management and stock conservation for greater silver smelt (*Argentina silus*) in ICES Subarea 7, and for boarfish (*Capros aper*) in ICES divisions 8.b and 8.c

Advice summary

ICES is not in a position to advise on whether removing the TAC is likely to lead to unsustainable exploitation for greater silver smelt in Subarea 7, as well as for boarfish in divisions 8.b and 8.c.

ICES advises based on precautionary considerations that the TACs should be maintained until more information is available on the stock and the impact of the fishery.

Request

ICES is requested to analyse for Greater Silversmelt in subarea 7 (TAC currently covering subareas 5, 6 and 7) and Boarfish in subarea 8b and 8c (TAC currently covering subareas 6, 7 and 8) the role of the Total Allowable Catch instrument. It is asked to assess the risks of limiting the TAC for Greater Silversmelt to areas 5 and 6 and for Boarfish to areas 6 and 7 and 8a and 8d in light of the requirement to ensure that the stocks concerned are exploited sustainably in the short and medium term.

ICES is further requested to assess the potential contribution of the application of other conservation tools in absence of TACs for Greater Silversmelt in subarea 7 and for Boarfish in subarea 8b and 8c to the requirement that the stocks concerned are managed in a sustainable manner.

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 Northeast Atlantic waters are currently managed by more than 140 TACs. In the context of multiannual plans being introduced for demersal fish in the Baltic and North seas, as well as in Western waters, the EU landing obligation poses challenges for the management of these fisheries (e.g. choke fisheries). The EU, therefore, requested that ICES evaluate the potential risks of removing the TACs (in the following text, "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.

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 of the likely reaction to such measures by the fisheries concerned. ICES has not been able to perform systematic analyses of other conservation tools. This advice, therefore, 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. This 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 based, therefore, on the current fisheries pattern and do not address the potential impacts the implementation of the landing obligation may have on the fisheries.

A key question in those 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, where in some cases 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 done, therefore, only at the level of total catches.

Where an approach is sought that will contribute to the 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.

1. Greater silver smelt in Subarea 7

The TAC of greater silver smelt, which covers Subarea 7, applies to EU and international waters of subareas 5, 6, and 7 (ARU/567). Greater silver smelt in Subarea 7 is evaluated by ICES in an assessment unit covering ICES Division 6.b and subareas 7, 8, 9, 10, and 12 (aru.27.6b7-1012). Advisory units considered by ICES were revised in 2015, based on the distribution of the species in surveys and on the main fishing grounds.

The assessment of the unit aru.27.6b7-1012 is based on biomass trends from the Spanish Porcupine bank survey in divisions 7.b–c and 7.j–k. The survey index used for the assessment does not cover the full stock area, but it does correspond to the area where the bulk of the catch cumulated over the past 30 years was taken. The information available is insufficient to evaluate stock and exploitation status. ICES is not, therefore, in a position to advise on whether removing the TAC for greater silver smelt in Subarea 7 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 cannot assess the stock and exploitation status relative to maximum sustainable yield (MSY) and precautionary approach (PA) reference points, because the reference points are undefined. ICES advises that when the precautionary approach is applied, catches should be no more than 193 tonnes in each of the years 2020 and 2021.

Fisheries

Current catches of greater silver smelt in Subarea 7 are bycatch, with an average discard ratio of 92% in weight (2016–2018). Landings from the assessment unit aru.27.6b7-1012 have been a few tens of tonnes per year in the last decade. From 2019 the stock comes under the EU landing obligation. TACs and quotas are the primary management tools in Subarea 7.

Management measures

As the TAC covers subareas 5, 6, and 7 it is not possible to evaluate whether it was restrictive for Subarea 7. There are target fisheries for greater silver smelt in EU waters of divisions 5.b and 6.a, where the species is more abundant than in Subarea 7. As their quotas are fulfilled in those areas it is unlikely that, under the current TAC management, target fisheries would have any reason to fish the species in areas where it is less abundant.

Vulnerability

Greater silver smelt is relatively long-lived, with a longevity of over 20 years. The species is also aggregating, forming mesopelagic shoals that can be detected by acoustics and targeted with pelagic trawls.

The ecosystem importance of the species is not quantified. It is, however, a forage fish found in the diet of upper slope predators such as hake, monkfish, and demersal deep-water fish.

Knowledge gaps

The absolute level of the biomass in Subarea 7 is not known. The Porcupine Bank survey is indicative for relative abundance level compared to past abundance, but the effects of fishery on the abundance is unknown.

Potential risk to the stock of removing the TAC

If dense shoals occur in Subarea 7, pelagic fisheries could easily detect and exploit these at unsustainable levels. As active fisheries on shoals of greater silver smelt operate in Division 6.a, it is possible that aggregations of interest for fisheries also occur in Subarea 7 (at least seasonally), particularly in the northern part of the area (divisions 7.b–c).

Because the stock status and exploitation levels for greater silver smelt in Subarea 7 are unknown, ICES is 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.

2. Boarfish in divisions 8.b and 8.c

The information available is insufficient to evaluate stock and exploitation status. ICES is, therefore, not in a position to advise whether removing the TAC for boarfish in divisions 8.b and 8.c 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 cannot assess the stock and exploitation status relative to MSY and PA reference points, because the reference points are undefined. ICES advised in 2017 that when the precautionary approach is applied, catches of boarfish in area 6, 7, and 8 in each of the years 2018 and 2019 should be no more than 21 830 tonnes.

Fisheries

A TAC for European Union vessels in EU and international waters of ICES subareas 6, 7, and 8 was set for the first time for 2011. Prior to this the fishery was unregulated. There was full uptake of the TAC in 2011 and 2012. The TAC has, however, not restricted catches since 2013, although the most recent TAC is of the order of recent catches.

Since 2008, discards account for approximately 5% of total catches. Prior to the mid-2000s, the majority of boarfish catches were discarded as unwanted bycatch in both pelagic and whitefish fisheries.

Management measures

A number of provisions, including a closed season, area-specific closures, and a moving on regulation at the statistical rectangle level, exist in Irish law to avoid mixed catches (e.g. mackerel, herring).

Vulnerability

Boarfish are widely distributed and found at depths of up to 600 m. They form aggregations that are targeted by pelagic trawl. They are also a bycatch in both pelagic and demersal fisheries. Boarfish is a relatively long-lived species (up to 30 years), maturing at age 4–5, which would affect its ability to recover from overexploitation.

Knowledge gaps

The level of uncertainty associated with the current assessment and supporting data is high.

Potential risk to the stock of removing the TAC

Because the stock status and exploitation levels for boarfish in divisions 8.b and 8.c are unknown, ICES is not in a position to advise on 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.

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, 2017a). These were as follows:

1. Was the TAC restrictive in the past?
2. Is there a targeted fishery for the stock, or are the species mainly discarded?
3. Is the stock of large economic importance, or are 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?

Not all questions could be answered for some of the evaluated stocks. Questions 5 and 6 in particular could only partly be considered; this was primarily because in some areas TACs are applied to stocks that are only small bycatch on other fisheries. These stocks, therefore, have very limited information available on which to base the evaluation.

The overall risk for the stocks have also been considered in terms of their biology (aggregating, sex change, long lived, and low productivity) and in terms of their catchability (degree of population overlap with key fisheries, presence of refuges, and 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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