

11.2.4 EU request to ICES on the effect of increased quota flexibility in 2015–2016 on pelagic stocks

ICES response

The proposed flexibility for the pelagic stocks would, if utilized, result in reduced F in 2015. If fully utilized the transfer of fishing possibilities to 2016 would result in an increase in F in 2016 of a similar magnitude to the flexibility (approximately +20% or +30%). Thus it is expected that if ICES MSY advice is followed for 2015 and 2016, F would have a greater than 50% probability of being below F_{MSY} in 2015 and a greater than 50% probability of being above F_{MSY} in 2016. ICES considers that the mean F over the two years would be similar to the F resulting from 100% of each annual TAC being taken in its respective year. This is likely to have a slightly positive, but effectively negligible impact on precautionary biomass considerations defined by the probability of $SSB < B_{lim}$ in 2015 and 2016.

For Northeast Atlantic mackerel and blue whiting stocks, there are concerns that F is already too high and needs to be reduced. Although not taking quota in 2015 would reduce F in 2015, banking this excess quota and not accounting for it in setting fishing opportunities for 2016 may result in very high F s in 2016, well above what is advised.

While a continued flexibility of 10% is unlikely to be of major concern, flexibilities of 20–30% carried forward over several years and not accounted for in the advice may be a problem if biomass is close to or below $MSY B_{trigger}$.

ICES has not provided MSY advice for Northeast Atlantic mackerel, blue whiting, North Sea horse mackerel, and herring west of Scotland and west of Ireland. For these stocks there are additional considerations given below.

Request

Background

To mitigate the effects of the Russian ban on the import of fisheries products, the European Commission has been asked to allow for an increase in the proportion of the 2015 quotas of mackerel, herring (including Celtic Sea herring), horse mackerel (western, southern, and North Sea), and blue whiting that can be carried over to 2016.

Request

ICES is asked, as a matter of urgency, to assess the level of risk to those stocks (in terms of the fishing mortality exceeding F_{MSY}), if the amount of the 2015 TAC that will not be fished in 2015 and may be carried over to 2016, is increased from the current limit of 10% to either (a) 20% or (b) 30%.

This arrangement is exceptional and would apply only for one year; i.e. from 2015 to 2016.

For the purpose of this calculation, ICES should assume that the long-term management arrangements currently in place regarding the fixing of TACs for these stocks will be adhered to unchanged in 2016.

Elaboration on the response

After clarification with the European Commission the following stocks are considered in this request:

- blue whiting (*Micromesistius poutassou*) in Subareas I–IX, XII, and XIV;
- herring (*Clupea harengus*) in Subareas I, II, V and Divisions IVa and XIVa (“Norwegian spring-spawning herring”);
- herring (*Clupea harengus*) in Subarea IV and Divisions IIIa and VIId (“North Sea herring”);
- herring (*Clupea harengus*) in Division VIIa North of 52°30'N (“Irish Sea herring”);
- herring (*Clupea harengus*) in Divisions VIIa South of 52°30' N and VIIg,h,j,k (“Celtic Sea herring”);
- herring (*Clupea harengus*) in Divisions VIa and VIIb,c (“west of Scotland and west of Ireland herring”);
- horse mackerel (*Trachurus trachurus*) in Divisions IIIa, IVb,c, and VIId (“North Sea horse mackerel”);
- horse mackerel (*Trachurus trachurus*) in Subarea VIII and Divisions IIa, IVa, Vb, VIa, and VIIa–c,e–k (“Western horse mackerel”);
- horse mackerel (*Trachurus trachurus*) in Division IXa (“Southern horse mackerel”);

- mackerel (*Scomber scombrus*) in Subareas I–VII and XIV and Divisions VIIIa–e and IXa (“Northeast Atlantic mackerel”).

Currently ICES does not evaluate risk or probability of catch options resulting in F_s that exceed F_{MSY} , or in SSB less than B_{lim} ; rather ICES provides deterministic catch options and identifies the most likely outcome in terms of values of F and SSB. ICES has examined the current estimated SSB and potential changes in SSB for the relevant stocks; for Northeast Atlantic mackerel, blue whiting, North Sea herring, Norwegian spring-spawning herring, Celtic Sea herring, Western horse mackerel, and Southern horse mackerel SSBs are not expected to be of any immediate concern. Based on the current state of these stocks an examination of the stock–recruitment plots supports the view that the flexibility of 20% or 30% banking of TAC in 2015, and the borrowing of TAC in 2016, will not impact the expected mean recruitment of these stocks for 2017. To evaluate the impact of changes in target F due to the suggested flexibility, ICES examined the yield-per-recruit curves for these stocks, where available (ICES, 2014a, 2014b), and concluded that the curves are reasonably linear, close to the values of F_{MSY} . Thus, a reduced yield followed by a balanced increase in yield is unlikely to substantively change the mean F over the period.

In the context of the request ICES makes the following observations:

- For North Sea herring, Norwegian spring-spawning herring, Celtic Sea herring, Western horse mackerel, and Southern horse mackerel the proposed flexibility would, if utilized, result in reduced F in 2015. The change in F will be of a similar order as the proposed level of flexibility of either –20% or –30%. The transfer of fishing possibilities to 2016 would result in an increase in F in 2016 of a similar magnitude (approximately +20% or +30%) if these transferred TACs are fully utilized. F would thus be expected to have a greater than 50% probability of being below F_{MSY} in 2015 and a greater than 50% probability of being above F_{MSY} in 2016. ICES considers that the mean F over the two years would be similar to the F that would result from 100% of each annual TAC being taken in its respective year.
- There is concern that for the Northeast Atlantic mackerel and blue whiting stocks the catches are at risk of exceeding fishing mortality limits. F in 2014 was high for both stocks, estimated to be above F_{pa} . The TAC in 2015 (calculated as the sum of autonomous quotas) has been set 36% and 50% higher than ICES advises in its advice on the management strategies for Northeast Atlantic mackerel and blue whiting, respectively. According to the short-term forecasts in this year’s advice (ICES, 2015a, 2015b), this sum of quotas leads to an $F > F_{lim}$ for both stocks, resulting in a much higher than 50% probability of $F > F_{MSY}$. The banking of up to 30% of this quota for transfer to, and subsequent utilization in 2016 would result in a very much higher probability of the two stocks, Northeast Atlantic mackerel and blue whiting, exceeding F_{MSY} in 2016.
- In 2015 the situation for North Sea horse mackerel was very uncertain and ICES based its advice on the precautionary approach. ICES advice for 2015 was thus for a significant reduction in catch of greater than 20% (ICES, 2015c). In this specific case where the advice is for “a significant reduction in catch”, the advice has no specific F -based advice. The objective is a reduction in catch, and as such the banking of quotas for use in 2016 is not in line with the underlying objective of the advice.
- For herring in Divisions VIa and VIIb,c (west of Scotland and west of Ireland) the ICES advice was for zero catch in 2016 (ICES, 2015d). Under such circumstances banking a part of the quota from 2015 to be taken in 2016 is not compatible with zero catch advice.
- For all stocks with non-zero catch advice, the proposed flexibility, if utilized, is expected to result in a slightly higher biomass on 1 January 2016 than would be expected from a complete taking of the TAC in 2015. In terms of biomass the flexibility described is likely to have a slightly positive, but effectively negligible impact on precautionary considerations defined by the probability of $SSB < B_{lim}$ during the two years.

ICES catch advice for 2016, given in 2015, did not account for any banked TAC for these stocks being taken in 2015. The flexibility advice given here also assumes that no not-utilized 2014 TAC will be carried forward into 2016. Carrying forward a

quota for a number of years and then taking the quota without explicitly accounting for this in a forecast may lead to a much higher F in the year of utilization than intended.

Suggestions

The advice on flexibility provided by ICES in 2014 (ICES, 2014c, 2014d) was given as a ‘one-time advice’ in response to the request that stated: “This arrangement is exceptional and would apply only for one year; i.e. from 2014 to 2015”. The present request contains a similar clause (see above): “This arrangement is exceptional and would apply only for one year; i.e. from 2015 to 2016.” While a continued flexibility of 10% is unlikely to be of major concern, flexibilities of 20–30% carried forward over several years and not accounted for in the advice may be a problem if biomass is close to or below MSY_{Btrigger}. If a requirement for flexibility is to continue at this level, ICES would need information on the magnitude of banked quota at the end of the year in which it has been banked as this information needs to be correctly included in the intermediate year assumptions ICES uses in its catch advice.

Sources and references

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ICES. 2015b. Blue whiting (*Micromesistius poutassou*) in Subareas I–IX, XII, and XIV (Northeast Atlantic). *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 9, Section 9.3.8.

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ICES. 2015f. Herring (*Clupea harengus*) in Division VIIa North of 52°30'N (Irish Sea). *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 5, Section 5.3.17.

ICES. 2015g. Herring (*Clupea harengus*) in Divisions VIIa South of 52°30' N and VIIg,h,j,k (Irish Sea, Celtic Sea and Southwest of Ireland). *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 5, Section 5.3.18.

ICES. 2015h. Horse mackerel (*Trachurus trachurus*) in Subarea VIII and Divisions IIa, IVa, Vb, VIa, VIIa–c,e–k (Northeast Atlantic). *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 9, Section 9.3.18.

ICES. 2015i. Horse mackerel (*Trachurus trachurus*) in Division IXa (Atlantic Iberian Waters). *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 7, Section 7.3.13.