ICES Technical Service
Celtic Seas, Greater North Sea and Baltic Sea ecoregions
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EU standing request on catch scenarios for zero TAC stocks 2020

Service summary

ICES has provided estimates of the likely catches of a number of stocks for which a zero catch advice for 2021 was advised in 2020.

The stocks for which ICES provided further information for 2021 are:

Cod (*Gadus morhua*) stock in subdivisions 24–32
Cod (*Gadus morhua*) in Subdivision 21 (Kattegat)
Cod (*Gadus morhua*) in Division 6.a (West of Scotland)
Cod (*Gadus morhua)* in divisions 7.e–k (Celtic Sea)
Herring (*Clupea harengus*) in divisions 6.a and 7.b–c (West of Scotland, West of Ireland)
Herring (*Clupea harengus*) in divisions 7.a South of 52°30'N, 7.g–h, and 7.j–k (Irish Sea, Celtic Sea, and southwest of Ireland)
Western Baltic spring-spawning herring (*Clupea harengus*)
Whiting (*Merlangius merlangus*) in Division 6.a (West of Scotland)
Whiting in Division 7.a (Irish Sea)

Request

EU DGMARE has requested ICES to evaluate the following:

For by-catch and for target stocks where ICES is advising zero TACs but the stock is caught in mixed-fisheries with other species where non-zero catches are advised, where possible ICES will provide the EU with illustrative catch scenarios that are consistent with the advice for the main target species in the fishery.

Where the zero TAC advice is given for a target stock subject to a MAP the catch scenarios for the zero TAC stock should include scenarios consistent the F_{MSY} range in the target stock (e.g. F_{MSY}, $F_{MSY\ Lower}$ and intermediate values) and quantify the corresponding changes in biomass[*]*. Scenarios should therefore also be produced that give, as a minimum, a stable biomass and increasing biomass if F_{MSY} ranges do not*[†]*. This may involve carrying out mixed fisheries forecast or providing F-multipliers consistent with the advice for the target stocks or where forecasts are not possible the catch scenario should be based the best available scientific information. Where possible ICES should provide catch scenarios which include changes in fishing pattern if they considered likely by ICES.*

For stocks where ICES is advising zero TACs but where a monitoring fishery would be useful to monitor stock development, where possible ICES will provide catch scenarios for a monitoring TAC. This should be the minimum level of catches needed to provide sufficient data for ICES to continue providing scientific advice on the state of this stock.

Basis of the advice

This technical service was completed using the ICES data sources including catch composition by fleet and, where available, the results of both single-species and mixed-fisheries forecasts.

For cod.27.7e–k, where there is an operational mixed-fisheries model, the catch of cod and catches in the target stock (had.27.7b–k) and a bycatch stock (whg.27.b–k) were explored under different F scenarios for the target stock in F_{Cube}.

Where no mixed-fisheries model was available (cod.27.6a, cod.27.24–32, cod.27.21, whg.27.6a, whg.27.7a) landing and effort data were used to determine the target stocks in the main métiers with bycatches of those stocks. The relative

* This is because the safeguards in the MAPs are measured in rebuilding of biomass, not fishing mortality levels.
† E.g. northern seabass 2020 catch advice (from June 2019), where both F_{MSY} and $F_{MSY\ lower}$ yielded negative biomass for a stock slightly above B_{lim}.

change in fishing mortality advised in the single-species advice for the main target stocks in the area, together with expert knowledge of technical interactions, was also used to estimate the amount of bycatch stock likely to be caught.

For her.27.20–24 ICES provided estimated catches and SSB of western Baltic spring-spawning herring *(Clupea harengus*), under the assumption that only the fleets that target other species or stocks will be fishing in 2021.

For her.27.6a7bc ICES provided forecasts of catch and SSB under two different uptake scenarios for the monitoring TAC in 2020.

For Celtic Sea herring (her.27.irls) ICES provided a catch scenario consistent with the monitoring TAC in the single-stock advice sheet.

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