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Date: 29 May 2017
Our reference: 1617/PAC 95
Subject: Rebuilding plan for herring in 6a and 7bc

Dear Mr Aguiar Machado,

I am pleased to submit to you in annex I a rebuilding plan for herring in area 6a and 7bc, jointly developed with Marine Scotland and the Marine Institute Ireland and unanimously endorsed by the Executive Committee.

We kindly ask the Commission to submit this rebuilding plan to the STECF for evaluation at its July meeting.

In case you have any questions please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'V. Ohms', is written in a cursive style.

Verena Ohms
Executive Secretary Pelagic AC



Annex I:

PELAC proposal for 6a-7bc herring rebuilding plan

Background

1. The two herring stocks in the ICES areas 6a and 7bc have been combined in the ICES benchmark workshop 2015 (ICES WKWEST Feb 2015) because there was insufficient information to split the survey and catch information into separate assessments pertaining to stocks for 6a North and for 6a South-7bc.
2. There is general agreement that the herring stocks in 6a North and for 6a South-7bc constitute separate stocks (ICES 2016a).
3. The ICES advice for 2016 and for 2017 has been for a zero TAC and the development of a rebuilding plan. "Fishing should not proceed unless accompanied by a stock recovery plan. Such a plan should include rebuilding targets and time lines as well as protections for each stock. This would also imply including a research component to resolve the lack of information on stock mixing and recruitment."
4. According to the most recent scientific assessment, the present low stock size of herring in 6a-7bc is likely to be mostly caused by natural factors with only a limited impact by the very low fishing mortality in the recent 5 years. The influence of the environment on herring productivity means that the biomass will always fluctuate (Dickey-Collas et al. 2010).
5. On 29 April 2016, ICES issued advice for a scientific monitoring fishery for herring in the area (ICES 2016b).
6. On the basis of the ICES advice, the European Union included the scientific monitoring fishery for herring in the regulation 2016/1252 of 28 July 2016, thereby establishing a scientific quota of 4170 tonnes in 5b, 6b and 6a North and 1630 tonnes in 6a South, 7bc. (EU 2016/0203).The same provision was made for 2017 ((EU 2017/127).

Objectives

The primary purpose of the 6a-7bc herring rebuilding plan is to:

1. Recover stock levels to the appropriate minimum biomass reference points as quickly as possible.
2. To improve the knowledge base for herring in 6a and 7bc, by
 - a. Utilizing any quota that is allocated for the combined 6a, 7bc herring stock, or the two constituting stocks during the rebuilding phase, solely for the purpose of scientific monitoring necessary to determine the status of the stocks and the ability to discriminate between the '6a North stock' and '6a South, 7bc stock'.
 - b. Providing the data and analyses undertaken during scientific monitoring under this rebuilding plan to relevant scientific expert groups for use in benchmarking the assessments methods for herring in 6a and 7bc, and as time series for future update assessments.
 - c. Determining appropriate biological reference points for the different stock components.

- d. Establish agreed harvest control rules to be used as the basis for future TAC setting.

Criteria and definitions

Article 1 subject matter

This plan pertains to the herring stocks in the following geographical areas:

- a) 6a North (including area 5b and 6b);
- b) 6a South and 7bc

Article 2 geographical definitions of stocks

For the purposes of this plan, the following geographical definitions of stocks shall apply:

- a) '6a North stock' means the autumn-spawning herring stock that spawns in the waters of 6a North.
- b) '6a South, 7bc stock' means the winter-spawning herring stock that spawns in the waters of 6a South and 7bc.
- c) 'Combined 6a, 7bc stock' means the combined stocks of 6a North autumn spawning herring and 6a South and 7bc winter spawning herring stocks.

Article 3 definitions

For the purposes of this Plan, in addition to the definitions laid down in Article 4 of Regulation (EC) No 1380/2013, the following definitions shall apply:

1. 'Monitoring TAC' means the allocated TAC for herring in 6a and 7bc that will fulfil the obligations for appropriate monitoring of stock development and/or stock discrimination.
2. 'Catch sampling' means the collection and analysis of catch samples taken from a commercial fishery, in accordance with the EU Multi-annual programme for data collection (EC 2016_1251)
3. 'Genetic sampling' means the collection and analysis of genetic tissue samples from a commercial fishery or from research surveys with the aim of identification of distinct fish stocks.
4. 'Morphometric sampling' means the collection and analysis of morphometric images of fish body shape from commercial fisheries or from research surveys.
5. 'Monitoring plan' means the detailed approach and methods to be used to collect relevant and credible information on the herring stocks that are part of this rebuilding plan.
6. 'Survey period(s)' means the period(s) during which commercial fishing vessels are being used as research platforms to carry out research activities in the context of this rebuilding plan.
7. 'Survey area(s)' means the areas(s) where commercial fishing vessels are being used as research platforms to carry out research activities in the context of this rebuilding plan.
8. 'Research activities' refers to catch sampling, genetic sampling, morphometric sampling, acoustic surveying or any other activity that contributes to an enhanced understanding of stock status or stock discrimination.
9. ' F_{low} ' refers to the level of fishing mortality on the combined 6a, 7bc stock which when exceeded, triggers discussion on the need for an in-year reduction in the monitoring TAC (see article 5.5).

Recognising that it is not possible to determine the risk to stock status of alternative values of F_{low} , F_{low} is defined arbitrarily as the lowest previously observed fishing mortality ($F=0.06 = F_{low}$) as given in the ICES 2016b advice.

10. 'Spawning ground' refers to locations where there is evidence of herring spawning.
11. 'Spawning habitat' refers to preferred substrate used by herring during spawning.

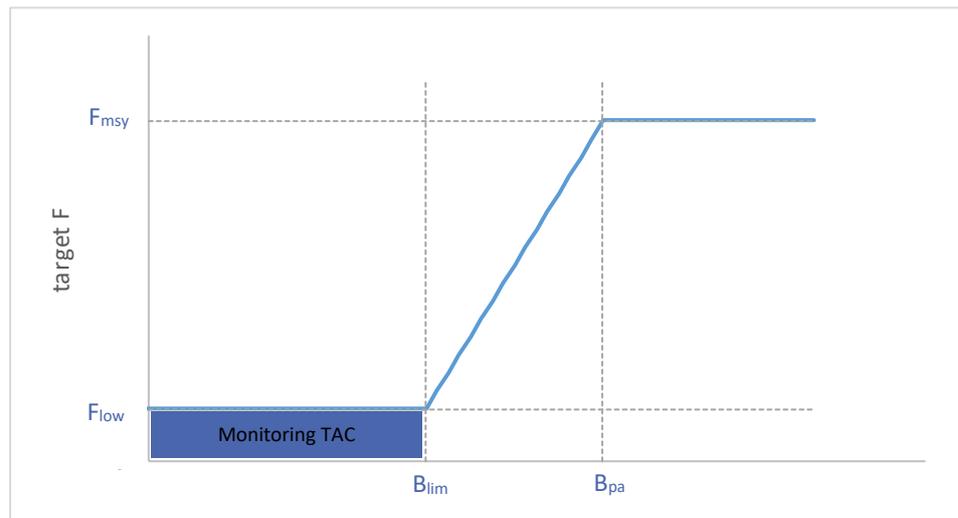
Article 4 reference points

1. The precautionary and MSY reference points for the two herring stocks in 6a North and 6a South-7bc are currently unknown because it is not possible to separate the stocks in the catch or the surveys. On the basis of the combined assessment (ICES 2016a) relevant reference points are:
 - a. The minimum spawning biomass level and the precautionary spawning biomass level for the combined herring stock shall be as follows: $B_{lim} = 250\ 000$ tonnes, $B_{pa} = 410\ 000$ tonnes. These values are based on the 2016 ICES advice.
 - b. B_{pa} is the rebuilding target for herring in 6a and 7bc.
 - c. The maximum fishing mortality associated with Maximum Sustainable Yield (F_{msy}) for the combined herring stock shall be as follows: $F_{msy} = 0.16$. This value is based on the 2016 ICES advice.
2. If the stock is perceived to be below B_{lim} , a monitoring TAC may be allocated for commercial vessels that carry out scientific research within the context of the monitoring plan (article 6).
3. The values of reference points can be adapted on the basis of new ICES advice for the combined stock or when separate assessments and advice are available for the two constituting stocks.

Article 5 TAC setting procedures

1. In the case that the spawning stock biomass of the combined stock is forecast to be above or equal to MSY $B_{trigger}$ (equivalent to B_{pa}) on 1 January of the year for which the TAC is to be set, the TAC shall be fixed to a catch estimated based on a fishing mortality of F_{msy} .
2. In the case that the spawning stock biomass of the combined stock is forecast to be less than MSY $B_{trigger}$ and larger than B_{lim} on 1 January of the year for which the TAC is to be set, the TAC shall be fixed that is consistent with a fishing mortality given by the harvest control rule:

$$F = F_{low} + [(SSB - B_{lim}) * (F_{msy} - F_{low}) / (B_{pa} - B_{lim})]$$



3. In the case where SSB is assessed to be below B_{lim} a monitoring TAC may be allocated for the purpose of scientific monitoring.
4. A monitoring TAC will be set at a status quo level (presently 5 800 tonnes).
5. The monitoring TAC, may be adjusted downwards within year, if the report from the Herring Assessment Working Group provides new information on stock status or the impact of the monitoring TAC on herring in 6a and 7bc.

Article 6 Monitoring plan

1. A monitoring plan will be established for the duration of the rebuilding plan or as long as the stock remains below B_{lim} .
2. The monitoring plan will outline the research priorities and activities that will be carried out when utilizing the monitoring TAC.
3. The monitoring plan will be closely coordinated between scientific institutes, management and stakeholder organizations from those countries who have a fishery interest.
4. Research activities will be carried out according to scientific protocols and procedures.

Article 7 Conditions of the monitoring fishery

1. Derogation of the landing obligation will be granted to industry vessels conducting scientific survey work in the survey area(s) during the survey period(s).
2. Vessels participating in the scientific survey work will be permitted to catch herring in specified areas for the purpose of taking scientific samples during the survey period.
3. Collection and use of information for stock status and stock discrimination
 - a. Data collected from the surveys will be stored in existing established data archiving system, the same as other scientific surveys. The data will be held at Marine Scotland Science (Aberdeen) and the Marine Institute (Galway)
 - b. Access to the data will be granted on the basis of a reasoned request, through permission of the data custodian(s). In principle, no reasonable request for access will be denied in so long as it relates to the scientific analysis and gives due consideration to the data owners.

- c. The data and outcomes of the analyses of research activities will be submitted to the relevant scientific expert groups in ICES and STECF for consideration in improving the assessments of the herring stocks, through benchmark process and use in update assessments.

Article 8 Biological and Ecosystem considerations

1. Vessels will take measures to avoid vulnerable species likely to encounter pelagic fishing gears. On observation of: Basking shark - *Cetorhinus maximus*¹ or Kemp's ridley turtle – *Lepidochelys kempi*², a vessel will cease fishing operations and move away at least 2 nautical miles.
2. All bycatch of seabirds, seals, elasmobranchs and cetaceans will be counted, measured and included in the survey database.
3. Protection of herring spawning grounds
 - a. Spatial and temporal characteristics of herring spawning grounds should be identified.
 - b. Activities that have an impact on the spawning habitat of herring should not occur unless the effects have been assessed and shown not to be detrimental.
4. The 4° meridian divides 6a north herring from the North Sea stock. It is not clear if this boundary is appropriate, as it bisects some of the spawning grounds. Given the ongoing work on stock identity, it would be important for ICES to review the basis of the 4° line for herring.
5. There have been many reports on increases in the number of predators in area 6a and 7bc which could affect the natural mortality of herring. Documentation of such effects on natural mortality is an important part of the understanding of stock dynamics.

Article 9 End of the rebuilding phase

The rebuilding plan will be superseded by a long term plan for the stock(s) when according to ICES SSB is above Bpa for 3 consecutive years.

References

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¹ Protected under Schedule 5 of the Wildlife and Countryside Act 1981 (Scotland)

² Habitats Regulation 1994 (Schedule 2, European Protected Species)

fishing vessels, in certain non-Union waters <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R0127>

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