

**Second revision of revised rebuilding plan for herring in areas VIa South and VIIb,c**

**Proposed rebuilding plan for herring in areas VIa South and VIIb,c**

**Submitted by**

**The Pelagic Regional Advisory Council**

**To**

**The European Commission**

**September 2013**

The Pelagic RAC has agreed on a proposed rebuilding plan for herring in areas VIa South and VII b,c. This is a second revision of the plan sent to the European Commission by the Pelagic RAC in September 2011 for evaluation by STECF at its November 2011 meeting. It was not sent to ICES for evaluation. The initial plan did not meet with favour from STECF, in 2011. In response, the Pelagic RAC proposed a revised improved plan. This revision took into account the new scientific advice published at the end of June 2012. The criticisms of the original plan by STECF (2012) are addressed as shown in the table below. The plan accommodated information from an uncertain assessment, avoiding the criticism that the previous plan could not be precautionary without an accepted assessment being available. However the Pelagic RAC is most anxious that a benchmarked assessment be carried out without delay as it considers that the present situation with the assessment is unsatisfactory.

<b>Criticism by STECF in November 2011</b>	<b>How addressed in 1<sup>st</sup> and 2<sup>nd</sup> revisions</b>
A clause that allows for reducing the catch to zero if necessary, is required	Article 2, allows for linear reduction of TAC to zero when $SSB < B_{trigger}$
It seems unlikely that the PRAC proposed fixed TAC of 4,471 t will limit catch to the TAC.	Articles 5 and 6, to deal with boundary catches, mortality on emigrant fish in VIaN
A fixed TAC could not be relied upon to reduce F	Article 2, allows for linear reduction of TAC to zero when $SSB < B_{trigger}$
Proposed rule could not be classed as precautionary without an accepted assessment	Article 3 provides for a precautionary TAC penalty (analogous to ICES buffer), proportional to uncertainty in assessment
A clause to close the fishery if necessary is required	Article 2 and 4. Latter article allows for advice to override the HCR if there is risk of recruitment impairment

An amendment of clause 5, is required to give an explicit reduction of F to levels below  $F_{msy}$  if SSB is thought to be below  $B_{lim}$  Article 2 and 4

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The second revision of the plan was agreed by the Pelagic RAC in August 2013, based on the evaluation by STECF in November 2012. This evaluation noted a perceived ambiguity in the mechanism for TAC setting in paragraphs 1 and 4. This could be interpreted as requiring a closure of the fishery, though STECF understood that this was not the intention of the RAC. STECF made some further suggestions on changes to the plan. The first was on the inconsistency between the value of SSB at which recruitment impairment takes place (78,000 t) and the current limit reference point (81,000 t). The second was a typographical correction in the definition of the precautionary down weighting factor.

The text of the second revision, based on recommendations from STECF, in November 2012 is as follows:

1. The aim of this plan is to rebuild SSB to above the level consistent with unacceptable risk of recruitment impairment.

2. For 2014, and subsequent years, the TAC shall be set based on fishing mortalities, as follows:

- a.  $SSB > B_{pa}$ ,  $F = F_{0.1}$
- b.  $SSB < B_{pa}$ ,  $F = (SSB/B_{pa}) * F_{0.1}$

3. If an assessment is available, but is considered by ICES to be indicative of trends, rather than as an estimation of stock size, (ICES DLS Category 2),, then the TAC settings in paragraph 2 shall apply, but the TAC shall be down-weighted by a factor ( $G^*$ ) (see explanation below) based on the level of uncertainty.

4. The TAC for the following year shall be set at a lower level than provided for in Paragraphs 2 or 3, based on advice from ICES or STECF, if, in the opinion of ICES, SSB is at risk of being below  $B_{lim}$  and if these agencies consider such additional action to be appropriate.

5. In order to provide for separate management of this stock, relative to that in VIaN, every effort shall be made to disaggregate abundance-at-age data in Division VIa.

6. In order to avoid by-catches and unaccounted mortality of this stock, and in light of the problem of disaggregating stock-specific data, it is necessary to establish an interim temporary exclusion zone for 2 years. In anticipation of results of the analyses being conducted by ICES, and until better information on stock mixing is available, a temporary exclusion zone, prohibiting herring fishing, shall be established that lies between 56°N and 57°30 N, in Sub-Division VIa N. This closure shall only apply outside the six miles limit. (It should be noted that this exclusion will only affect catches of herring by the Irish Fleet in VIaN.)

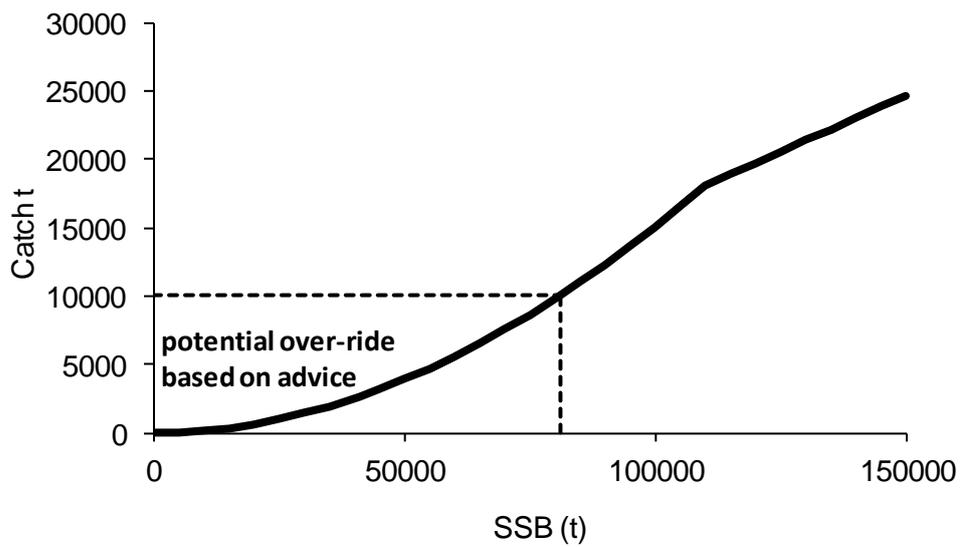
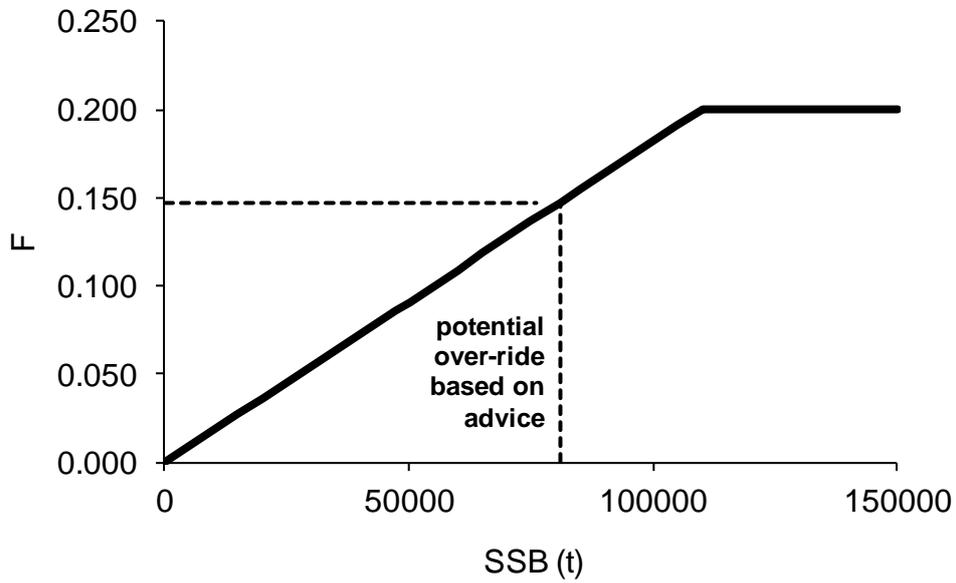
7. When SSB is deemed to have recovered to a size equal to or greater than  $B_{pa}$  in three consecutive years, the rebuilding plan will be superseded by a long-term management plan.

**\*Uncertainty down-weighting parameter G**

The parameter G is defined as follows:

$$G = TAC * \exp^{-1.645 * \sigma}$$

where  $\sigma$  refers to the Coefficient of Variation of the final year SSB estimate.



**Harvest control rule for proposed rebuilding plan. Upper panel shows implemented  $F$  in relation to  $SSB$  in TAC year. Lower panel (diagrammatic only) shows one possible series of catches for given  $SSBs$  in TAC year, based on the harvest control rule.**