

Rebuilding plan for western Baltic herring. Can we use simple MSE-type forecasts?

Vanessa Trijoulet, Casper W. Berg, Claus R. Sparrevohn, Anders Nielsen, Henrik Mosegaard

Based upon the 2018 assessment the western Baltic spring-spawning herring stock is estimated to be below Blim and recruitment in 2016 and 2017 is the lowest on record. During the assessment, none of the forecast scenarios was able to predict the rebuilding of the stock above Blim by 2020, resulting in a zero catch advice for 2019. There is therefore an immediate need for a rebuilding plan for this stock. However, there is no official ICES guidelines on how to perform a rebuilding plan. We propose to use a short/medium-term stochastic MSE-type forecast as a possible way to test rebuilding of the stock. We modified the forecast function in the multifleet SAM model to allow for annual management of the stock depending on the value of SSB compared to Blim and MSY Btrigger. We tested six fishing management scenarios based on three different F_{target} values and two different assumptions on recruitment. We concluded that rebuilding the stock above Blim is possible but would take more than 3 years and would need a re-evaluation of FMSY to a lower value given that its current value did not lead to rebuilding the stock in the short-term. Applying the MSY approach (zero catch below Blim) could rebuild the stock in few years but resulted in a quick decline in SSB when fishing mortality returned above Blim. None of the forecast scenarios allowed rebuilding the stock if the recruitment does not increase in the future, even for lower F_{target} values.

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Contact author: Vanessa Trijoulet, DTU Aqua, Lyngby, Denmark, vtri@aqu.dtu.dk