

A multi-stock harvest control rule as a step towards an ecosystem based fisheries management

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At present TAC advice of commercially exploited stocks is given in a single stock basis. In the light of ecosystem based fisheries management (EBFM) the need to move towards a holistic approach has been largely acknowledged by scientists. In addition, the recently introduced landing obligation policy requires consistent multi-stock TAC advice. In this context, in 2015, the European Commission through the STECF launched several working groups to investigate if the use of fishing mortality ranges to generate TAC advice could improve the use of fishing opportunities in mixed-fisheries. In this study we propose a multi-stock HCR based on the rule used by ICES in the MSY framework. The HCR generates the TACs using the highest possible fishing mortalities within the ranges proposed by the STECF. But it is subject to two restrictions. One, the biomasses should be maintained above the reference levels. And two, the advice fishing mortality vector is obtained multiplying the statu quo fishing mortality vector by a scalar. The first restriction assures the biological sustainability of the stocks and the second the consistency of the single stock TACs in a mixed-fishery context. In order to evaluate the HCR, we apply it to the Iberian Waters Demersal fishery and compare its bio-economic performance with the performance of the management scenarios tested by the STECF in 2015. This type of HCRs make a more adequate use of the existing fishing opportunities while biomasses are maintained above reference levels. It represents a step forward on the route to operationalize the EBFM.

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