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Making the Ecosystem Based Fisheries Management operational for management support in the Bay of Biscay: analyzing the effects of the implementation of the Landing Obligation at an ecosystem level.

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Abstract

The need of using more holistic (ecosystem-based) approaches is recognized by both the Marine Strategy Framework Directive (MSFD) and the last reform of the Common Fisheries Policy (CFP). Understanding ecosystem dynamics in a context of global change is one of the challenges of an integrated assessment of marine systems. Recent incorporation of the landing obligation (discard ban) in the CFP requires an ecosystem based analysis of it, aiming at assessing the potential effects of its implementation at an ecosystem scale. We present that for the Bay of Biscay ecosystem. Ecosystem models have been proposed as useful tools to explore that. In this case, the Ecopath with Ecosim (EwE) modelling approach is used, in order to stablish a framework for implementing the Ecosystem Based Fisheries Management (EBFM) in the Bay of Biscay ecosystem. Different management strategy scenarios were forward simulated, including the business-as-usual (stocks fished at their maximum sustainable yield (MSY) level) and the landing obligation (no allowance of discarding practices) scenarios. It is concluded that the total output of the system is likely to increase under the Landing Obligation scenario, but that the system will be less capable of eliminating the effects of the perturbations. It also has been obtained that the mean trophic level of the overall removals due to fishing is not likely to change. It is also concluded that seabirds and Nephrops are likely to be less abundant while hake and dolphins will increase their presence in the Bay of Biscay ecosystem.

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