

Shifting to the MSY: only a first step for changing the UE common fisheries policy and for implementing the Ecosystem Approach to Fisheries

Didier GASCUEL

Université Européenne de Bretagne, Pole halieutique AGROCAMPUS OUEST,
UMR Ecologie et Santé des Ecosystèmes, 65 route de Saint Brieuc, CS 84215, 35 042 Rennes cedex, France.
Email: Didier.Gascuel@agrocampus-ouest.fr

Since 1998, the European procedure for the production of scientific advice is largely based on the (so called) "precautionary approach", using single-species assessment models. Such an approach is supposed to ensure long term sustainability of exploited stocks and marine ecosystems and it is the basis for the adoption by politicians of annual Total Acceptable Catches (TACs) for the main targeted stocks. Undoubtedly, it has had positive effects for some severely depleted stocks, usually leading to more restrictive access to allow stock recovery. Nevertheless, the overall state of European fishes stocks remains grim with the situation deteriorating for some species. And more generally, the current procedure should be considered inappropriate in an Ecosystem Approach to Fisheries (EAF) perspective.

Indeed, this current approach consists in assessing stocks close to the edge of the abyss, by determining the minimal spawning biomass (and the maximal fishing effort) that can be applied to ensure, theoretically, stock regeneration and bringing stocks back within safe biological limits. Even with safety margins, this approach tends to maintain low abundances, with stocks above critical limits. Conversely, EAF should imply a major change regarding conservation measures for resources management: single-species policy targets should be changed to provide maximal stock biomass which allows sustainable high catches. In other words, an ecosystem approach must deal with the minimization of fishing impacts on the major exploited stocks. This would be the first step to reduce ecosystems impacts and preserve ecosystem integrity or functions. This should also lead to higher catches in the longer term and economic profitability.

The shift from a minimum stock biomass target to a maximum biomass target would have huge consequences. In that perspective, the 2002 Johannesburg decision (endorsed by the European Commission) to restore stocks to levels that permit the maximum sustainable yield (MSY) "as much as possible not later than 2015" is a step in the right direction. Its main purpose is not to maximize catches but to enforce the idea that further biomass reductions, due to increasing fishing pressures, are unacceptable from an ethical point of view when they lead to decreasing catches. Such a decision should imply enormous changes, as current levels of overcapacity are over 50% for the majority of major European stocks. It would also lead to a re-definition of management measures, by combining TACs and fishing effort limitations.

However, MSY targets usually lead to a 2.5 to 3-fold reductions in fish abundance compared to the unexploited state. Thus, reaching the MYS target should only be considered a first step from the EAF perspective, as the same amount of catch may result from more conservative exploitation patterns, especially using larger mesh size. Therefore, managing not only fishing effort but fishing patterns as well would lead to the same increases in catch but to stronger reductions of the impact on marine ecosystems, according to the new suggested target of minimization of the fishing impact. We illustrate the point showing simulations of three fishing scenarios applied to 6 demersal stocks from the North Sea and the Baltic. In this case study (from Froese, Gascuel *et al.*, 2008), catches could be increased by around 10 % with much less impact on the stocks, biomass of fishes remaining seven-fold higher compared to the current situation.

More generally, as stated by the European commission itself: "The Community shall apply the precautionary approach in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation and to minimize the impact of fishing activities on marine ecosystems" (Council regulation 2371-2002, Article 2.1). This should imply a shift not only in the UE policy targets used for single-species management, but also in regulations applied to discards, habitats, gears, etc. Current regulations are clearly in contradiction with this key operational EAF principle of minimizing the impact on ecosystems. The change started with the endorsement of the MSY as a new target. But there is still a long way to go.

Reference:

Froese R., Stern-Pirlot A., Winker H., Gascuel D., 2008 - Size Matters: How Precautionary Single-Species Management Can Contribute To Ecosystem-based Fisheries Management. *Fisheries Research*, 92: 231-241.