Bycatch And Discards: Management INdicators, Trends and locatiON (BADMINTON) - DTU Orbit (12/02/2019)

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Discarding keeps being an important issue in world fisheries; it is a way for fishers to adjust their landings to the legal and market constraints, but is largely considered as a waste of rare natural resources and as contributing to the depletion of stocks bearing a high fishing pressure. Many jurisdictions, including the European Commission, are preparing regulations to reduce or ban discards. To design effective regulations, an understanding of the extent and processes of the issue is required.

The MariFish BADMINTON project aimed to build up the knowledge of discarding patterns and factors in European fisheries, evaluate the efficacy of selective devices and other discard management measures that have been implemented in the past, and improve methods to analyse, monitor, and manage bycatch and discard. Specific objectives included the provision of discard estimates for selected European fisheries, and of appropriate indicators; the determination of the most important factors affecting discard amounts and composition; and the elaboration of integrated management approaches to the discard issue.

BADMINTON relied on two types of approaches to fulfill these aims and objectives. First was the analysis of onboard observer data, since intensive collection of catch and discard data onboard commercial vessels has been undertaken in European countries under the European Union Data Collection Regulation (2002) followed and intensified by the Data Collection Framework (2008). Thus, one significant contribution of the project was to collate onboard observer data from several European Union member states, given the many differences between national onboard observer programmes sampling schemes, protocols, details of data recorded, and data storage formats. This first step paves the way towards a future better integration of national onboard observer programmes. The second approach was to conduct stakeholder interviews and expert consultation, which was meant to complement the data analyses with fishers perspectives on the discard issue, and to provide an integrated approach toward management.

Both approaches lead to the following two broad conclusions:

- Discard patterns exhibited high diversity across regions, countries, gear types, vessel sizes, and species, with variability being more pronounced among regions. Thus, discard management approaches might be devised at a regional level – consistent with the proposed regionalization of the currently discussed reform of the European Union Common Fisheries Policy.

- Discards amounts, patterns, and composition, are determined by a multitude of interacting natural and human (economic and social) factors in a given place and time, and usually no simple explanations can suffice. The latter affects the effectiveness of mitigation measures, and solutions are to be found down at a very detailed level such as the fishing operation, fishing trip, or vessel, which suggests that a bottom-up, or results-based approach seems to be the most advisable form to tackle the discards problem. Then, effective discard management strategies should be devised at various scales, from individual fishers implementation of detailed species-, gear- and area-specific tools, to producer organizations, member states, regional levels, and the broad European Union.

The project has developed a number of tools, distinguished in three categories ie. selectivity related tools (including a modelling tool to estimate gear selectivity based on fish morphology, and preliminary indicators of fishing selectivity at the fleet and ecosystem scales), tools to appraise and understand the discarding issue in a given region, area or fishery (including modelling tools to establish catch and discard maps and devise spatial approaches to the management of discards, based on onboard observer data; a series of discard indicators embedded in a discard indicator dashboard, to monitor and manage the discards in a given fishery; a generic model to determine the relative importance of inferred discard drivers; a list of factors to be used in semi-structured stakeholder interviews, and interview methodology), and tools that can be used to assist in devising management strategies at various scales (including a framework to develop a fishery-specific mitigation strategy based on inferred drivers of discarding behaviour; a detailed evaluation of 12 discard mitigation measures, alone and in combination).

It should be underlined, however, that BADMINTON findings suggest that as discarding is in most cases an unavoidable consequence of a series of constraints on the fishing activities and production, managing discards implies taking account of the whole fishery management system. Hence, a discard management strategy should not include only a combination of discard mitigation measures; if discards are to be reduced, appropriate and consistent incentives need to be mended together

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Contributors: Vassilopoulou, V., Marie-Joëlle Rochet, M. R., Helmond, A. V., Bellido Millán , J. M., Catchpole, T., Eliasen, S., Margeirsson, S., Madsen, N., Seekings, J. P.
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