

**Title: Addressing the Distribution of Bio-Economic Impacts of Management Measures Between Fleets: the Case of the Demersal Fisheries in the Bay of Biscay**

**Authors:** Claire Macher, UMR AMURE, Ifremer ()  
Michel Bertignac, IFREMER (France)  
Spyros Fifas, IFREMER STH (France)  
Marjolaine FRESARD, AMURE, IFREMER (France)  
Christelle Le Grand (France)  
Mathieu Merzéréaud, AMURE, UBO (France)  
Lanwenn Le Corre, AMURE, UBO (France)  
Fabienne Daures, IFREMER (France)  
Olivier Guyader, IFREMER (French research institute for The exploitation of The sea) (France)

**Abstract:** Assessing distribution of the expected bio-economic impacts of management measures between fleet segments is a main issue for decision making in fisheries management. This requires as a first step a good description of the system and of the interactions between fleets through stocks. Making this assessment operational also needs flexible and fast capabilities to mobilize appropriate data to perform the impact analysis. Bio-economic modelling of the system allows performing simulations of management scenarios and to analyze expected costs and benefits at short, middle and long terms. The paper addresses the question of differentiated impacts on fleets in the case of the demersal fisheries in the bay of Biscay. As mixed fisheries, they are characterized by high technical interactions mainly derived from targeting or by-catching hake, Nephrops, anglerfish or sole and are relevant illustrations to address this question. The fleets involved in the Nephrops, hake, sole and anglerfish fisheries in the bay of Biscay are first characterized in terms of contributions to fishing mortality of these species and gross revenue dependence and their activity, productions and economic profitability are described. The paper then analyzes the impacts of effort and selectivity measures for these fleets through a multi-fleets, multi-metiers, multi-species bio-economic model. Methodological issues are underlined for operational bio-economic modelling and management plan assessment.