

Bio-Economic Impact Assessment of new European landing obligation policy in the Spanish Demersal fishery system in Iberian Waters

Dorleta García¹, Raúl Prellezo², Paz Sampedro³, Jose Castro⁴, Santiago Cerviño⁵

¹dgarcia@azti.es, Marine Research Unit, Azti-Tecnalia

²rprellezo@azti.es, Marine Research Unit, Azti-Tecnalia

³paz.sampedro@co.ieo.es, Instituto Español de Oceanografía

⁴jose.castro@vi.ieo.es, Instituto Español de Oceanografía

⁵santiago.cervino@vi.ieo.es, Instituto Español de Oceanografía

Fishery systems are complex systems that need to be managed in order to assure biological sustainability of fish populations and economic viability of fleets. In Europe they are managed in the framework of Common Fishery Policy (CFP). One of the main tools of the CFP are the multi-annual management plans which stabilized how the total allowable catch is calculated annually for each stock. Before they are put in place, the management plans need to be evaluated in order to assure that they will not lead the fishing resources to undesired state. This evaluation is usually carried out by means of monte carlo simulation using mathematical models.

The CFP was reformed in 2014 and the main new contributions were, the requirement of maintaining the stocks at exploitation levels compatible with maximum sustainable yield, the discard ban and the regionalization of management. Discard ban or landing obligation was the most controversial policy introduced in the reform. This policy is expected to have a great impact in the economic performance of the fleets as it could limit largely their fishing opportunities. The main reasons to discard fishes and throw them into the sea are minimum landing size, lack of quota and low price.

In this work we present FLBEIA a multi-stock and multi-fleet simulation model which facilitates the evaluation of fisheries multi-annual management plans. In particular, we evaluate the bio-economic impact of landing obligation in the Spanish Demersal fishery system operating in Iberian waters under a multi-annual plan based on maximum sustainable yield framework. We show that although the landing obligation policy does not have a significant impact in the biological performance of the stocks it has a great impact on the economic performance of the fleets.

Keywords: Fisheries Management, Mathematical Modelling, Simulation