

Title: **Past and Future Management of A Collapsed Fishery: the Anchovy in the Bay of Biscay**

Authors: Itziar Lazkano, Department of Economics, University of Calgary (Canada)
Linda Nøstbakken, University of Alberta School of Business (Canada)
Raul Pallezo, AZTI-Tecnalia (Spain)

Abstract: In this paper, we analyze the efficiency of the existing management regime of the Bay of Biscay anchovy fishery, which has been closed since 2005 due to stock collapse. We also study Pareto improving strategies to improve management of the fishery once the moratorium is lifted, expected for spring 2011. The fishing rights are shared between France and Spain. The main difference between the fleets is in terms of the harvesting technologies. The existing international agreement establishes the timing of fishing activities and the shares of the stock for each country. The optimality of this agreement is first analytically analyzed using a sequential game framework. Second, the model is calibrated using data from 1987 to 2004, the period between the current agreement was introduced and the fishery was closed down. Our results suggest that the existing international agreement is suboptimal. Several alternative management regimes are suggested and analyzed. The first alternative is to allow for changes and improvements in the technology of the fleets. Second, the creation of a market to rent or sell quota across national borders. Both alternative management regimes are shown to be Pareto improving.