

BATEGIN: A user friendly GIS tool for the spatial management of the Basque small scale fleet.

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Summary

Small scale fisheries might have a significant impact on coastal fish resources and essential habitats. In addition, they interact with other fleets (intra and inter fleets interactions), due to limitations on fishing grounds, and with other growing traditional and potential uses of the sea (e.g. renewable energies, dredging, tourism, and even conservation marine areas). Thus, the small-scale fisheries management could only be achieved by taking a holistic approach moving towards an ecosystem based approach.

With this aim in mind, a user friendly public GIS management tool was developed (www.serviciosgis.com/i5d/visor/BATEGIN), where all the compiled information can be displayed, allowing stakeholders (mainly fishing sector and administration) to analyse the interactions of the small scale fleet with other fleets and also with other uses of the sea. In addition, it enables to simulate the potential effect of different management measures by analysing potential spatial areas of interactions between uses across the coastal area, which is essential for an ecosystem based approach management

Introduction

Artisanal fisheries are considered very important within the FAO guidelines for responsible fisheries and the last reform of the Common Fishery Policy (CFP) and its financial instrument, the FEMP, state the necessity of conferring to it a differentiate regime. The artisanal fisheries play a special role when trying to develop a Marine Spatial Planning (MSP), which require the adoption of an integrated view of the artisanal activity with the rest of the maritime activities (both fishing and non-fishing activities) across the coastal area.

The main objective of this research is to contribute to the artisanal activity decision making within an integrated approach under the umbrella of the MSP in the context of the MSFD. And moreover, following the guideline of the CFP in terms of adopting a co-management system in which all the stakeholders, and in particular the artisanal fishermen themselves could take part in the aforementioned decision making process. With this objective in mind it is firstly necessary to increase the knowledge of the artisanal activity. This general objective is reached through the establishment of the following partial objectives:

- (i) The bio-socioeconomic characterization of the métiers comprised the artisanal activity.
- (ii) The characterization of the spatial distribution of the métiers activity to assess both the spatial food provision value and the incidence of the artisanal fleet in different areas.

- (iii) The analysis of spatial coexistence or interactions intra-métiers, inter-fleets, and with other non-fishing activities.
- (iv) The introduction of fishermen knowledge as a way of incorporating the artisanal sector itself within the decision making process.

Methods

Several data sources were collected to get both qualitative and quantitative information:

Focus groups were developed with fishermen from each Basque port to get qualitative and expert knowledge input. Personal interviews with skippers were developed to identify and characterize the artisanal métiers. In addition, new interviews were also scheduled with fishermen on a regular base to get socio-economic information (diversification aspects, revenues, variable and fixed costs, investments, social issues); and First-sales notes and diary logbook were employed to get knowledge about biological data (catches, effort and fishing geo-localization), and several self-sampling and observers were introduced in artisanal vessels with the objective of getting knowledge about discards and selectivity.

Finally, a Geo-tool was developed to provide a complete view of the spatial artisanal fishing activity in the Bay of Biscay taking into account all the information collected through the aforementioned sources.

Results and discussion

The Geo-tool created under this study allows elaborating different maps from the data already collected and also elaborated. These maps contribute to identify the geo-localization of the métiers activity which is useful against other potential uses that could want to occupy the same marine area in the future (i.e. new MPAs). Maps also contribute to analyze the fleet dynamics and interactions of the small scale fleet with other fleets and also with other uses of the sea. In the case of the Basque artisanal fleet it's more important the interactions with other maritime end users (there is greater competition for the space) than interactions intra-métiers.

The Geo-tool also allows a more involvement of the skippers who are allowed to interact with the tool as final users, and also creating new maps based on their expert knowledge. Their participation is even greater thanks to the creation of observatories of artisanal fisheries where different stakeholders could participate and increase their involvement in the management decision process. This co-management tool is introduced in contrast to the more traditional "top-down" management process.

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