

Quantifying the value created from research surveys

Raúl Prellezo (1), Marina Santurtún (1), Jon Ruiz (1), Luis Arregi (1), Esteban Puente (1), Eider Andonegi (1), Naiara Rodríguez-Ezpeleta (1).

(1) AZTI-Tecnalia. Sukarrieta, Spain. Presenter contact details: rprellezo@azti.es. Phone: +34 667 174 368.

Summary

Although the ecological and biological aim of the landing obligation is well appointed in the new Common Fisheries Policy (CFP), it can bump against practical implementation. We study the case of the Bay of Biscay, a highly productive system with fleets targeting multiple species (>25) with relatively high levels of discards (due to regulatory and economic reasons). The landing obligation implemented in the new CFP adds a new category, the so-called choke species, to the three types of catches clearly distinguished by these fleets: the target, the “by-catch” and the non-desired catches. For our analysis, we confront the article 15 of the CFP and the operational part of the fleets, as well as assess if the operational parts requirements of these fleets are covered by the regulation; that is, if we have choke species or if choking comes from the regulation.

We study the economic consequences of the implementation of the new landing obligation focusing on its practical implementation rather on attaining the objectives of it. We distinguish between private and social cost/benefits inferring that even socially landing obligation can be beneficial, private costs are creating incentives to go against it.

Introduction

Landing obligation (LO) has become a core element on the Common Fisheries Policy (CFP) reform. The aim of this LO is to reduce the waste of the sea-protein that discards create or at least the waste created in terms of human consumption (direct or not).

Discards have been used as the way of avoiding the over quota problem, that is if the quota is exceeded discarding was the way to comply with the CFP. In such a framework when relative stability principle was agreed the focus of the negotiators was on the commercially valuable species of their fishing vessels. But the problem was (and is) that what is not valuable for one’s Member State fleet it can be for other Member state’s fleet. When LO was not in place there was no implementation issue in a multispecies context given that this over quotas was (or could be) discarded but with LO in force the over quota has to be landed and count against the quota itself. This paper evaluates in monetary terms this problem.

Obviously quota constraint is not the only reason for discarding. MLS as biological references for sustainability of the species and or highgrading, that is to retain the most valuable fish and discard the low or null valuable are also powerful reasons for discarding.

The paper objective is the analysis of consequences of the implementation on a multispecies case study, and it is done by firstly defining the problem that the LO creates (over-quota or highgrading) and secondly explaining the economic consequences of it from a private perspective and a social perspective (including the ecosystem as well as the enforcement effort in force).

Material and Methods

This paper analyses the two most important fishing gears (i) “Baka” trawlers fishing hake in ICES Divisions VIIIabd; (ii) Pair trawlers fishing hake in ICES Divisions VIIIabd; (iii) VII.

“Baka” otter trawlers are purely multispecies, with a special focus on demersal metiers but also with a specific winter pelagic metier. Bottom pair trawlers operating with Very High Vertical Opening nets have hake as the target (around of 90% of the landings) species. The work has been carried out by analyzing the logbooks and sale sheets of the fleets under consideration as well the discard profile of them obtained from specific discards surveys performed in these fleets.

Results and Discussion

The implementation of the LO is “choking” with the catch profile currently in place. There is still room for improving the selectivity by the application or better use of some technical conservation measures or changing fishing areas, that avoid, at least partially, non-desired catches. Nevertheless the Spanish trawl fleet in the Bay of Biscay will have to live with some pelagic species such being their “choke” species. In fact a strict application of the LO, will reduce their activity in the winter metiers to “almost nothing”.

From the costs side of the Lo implementation the clear impact comes from the private side. What is privately lost, is the income obtained from the activity that now should be stopped due to the implementation of the LO. Benefits have different sources:

- (a) What is gained from the reduction of discards of the banned stock, evaluated at market price.
- (b) What is gained indirectly from the reduction of “other” species discards, evaluated at market price.
- (c) What is gained from what is not captured (or at least not directly) by current market price, such as future stocks increases, or current and future ecological services.

From what can be evaluated using market prices (benefits *a* and *b*) if the LO implementation is affecting a quota induced discard, benefits are lower than costs.

On the other hand if the discards are due to what we know as highgrading practices, the picture can be different even considering the quota induced discard created afterwards by the LO implementation.

Another important result obtained is that the picture in terms of gains and loses depends clearly on the specific catch profile by fishing gear. Costs are higher when the dependency on one species is high (such as the pair trawlers in our case study).

From what cannot be evaluated using market prices (benefits *c*) it is important to measure the increase/decrease of the value of the ecosystem functions and services due to the LO implementation. According to (Costanza et al., 1997) these functions and services account for an extra 83% of world’s domestic product. Using a working assumption of proportionality from a vessel to the world, it implies that shadow values of the ecosystem functions and services outstrip the private loses in all cases. Furthermore and according to (Howarth and Farber, 2002) there are chances of economic underestimation of several ecosystem values due to the irreplaceability of some ecosystems functions. Nevertheless, since private costs are there, there are economic incentives to cheat the implementation and hence social room from increasing the enforcement of the LO.

References

- Costanza, R., D’Arge, R., de Groot, R.S., Farber, S., Grasso, M., Hannon, B., Limburg, K., al., e., 1997. The value of the world’s ecosystem services and natural capital. *Nature* 387, 253-260.
- Howarth, R.B., Farber, S., 2002. Accounting for the value of ecosystem services. *Ecological Economics* 41, 421-429.