

By-Catch and Discard Management: The Key to Achieving Responsible and Sustainable Fisheries in Europe

The Importance of Addressing By-Catch and Discard Management

In Europe around 1,3 million tonnes of marine fish are discarded every year¹, representing 13% of total catches. Because in most cases discards do not survive, the negative ramifications of this enormous waste of marine resources are severe.

The unnecessary death of juvenile and mature individuals of commercial species undermines the health of stocks and jeopardizes future yields, threatening the long term economic sustainability of European fisheriesⁱⁱ⁻¹. Moreover the capture of non-commercial species (fish, sea birds, sponges...) severely impacts the marine environment by disrupting the balance of the ecosystem and attacking its biodiversity.

“Responsible and ethical fisheries management requires the inclusion of all non-commercial species into the discard definition, and the implementation of initiatives to reduce by-catch”

The reasons behind discards are both economic, for example, when there is no market for certain species or when fishermen discard marketable species in order to keep only the highly valuable ones (called “high-grading”), and regulatory, such as when vessels don’t have an allocated quota for these species or the catch is below minimum landing size. In addition, the low selectivity of many fishing gears and/or techniques can also favour high by-catch and discard rates.

““In some fisheries, discarding can destroy almost as much economic value as the targeted catch is able to create”

Although calls for action have been made from all stakeholders, the European Union has until now, failed to properly tackle these issues. The little progress that has been made relates to the approval of recommendations and technical measures^{iii,iv,v,vi}.

However, the reality is that no advances have been significant enough to positively impact fisheries. High levels of unwanted, and often unreported, by-catch and discards have left many European fish stocks in dire states.

This unacceptable side effect of Europe's fisheries policy runs counter to the objectives expressed in the main regulations of the Common Fisheries Policy^{vii}, the Marine Strategy Framework Directive^{viii} and in the Integrated Maritime Policy^{ix}, as well as some international commitment (eg. Conventions on Biological Diversity; FAO). The upcoming reform of the Common Fisheries Policy provides a crucial opportunity to address this problem and establish a legal framework to move towards a more sustainable management of fisheries.

¹ This study has estimated that some annual economical cost of discarding in European fisheries reaches a 70% of total annual landed value, for example solely the Dutch beam trawl fishery discarded in 1998 fish species with a future value of €160 million.

Towards Sustainable Fisheries

To address the by-catch and discard problem, Oceana supports an approach based on a Maximum Acceptable By-catch (MAB), combined with an obligation to land all catches. To comply with the MAB, some fisheries should implement technical measures to improve their selectivity.

“The objective is to minimize the unnecessary mortality of species and manage what is caught instead what is landed in order to advance towards the sustainability of the fisheries”

These measures have to be progressively implemented to take into consideration the time needed by the fishing sector to adjust to the new management approach. It is essential that commercial fishermen be involved, as full partners, in developing, testing and evaluating by-catch measures.

The potential negative social and economic consequences of implementing such measures should be balanced with medium and long-term benefits, which include the improvement of stock size, the stability of the fisheries sector and the conservation of the ecosystem. Also these measures will have less of an impact on small-scale fisheries, as this fleet has lower discard rates than industrial ones, and will improve their competitiveness.

MAXIMUM ACCEPTABLE BY-CATCH

Limits and/or quotas on allowable by-catch of commercial and non-commercial species must be defined and implemented within the framework of fisheries management; especially in those fisheries where overexploited and vulnerable species by-catch is unavoidable. Quotas for the species as targeted catch and as by-catch must be evaluated using limits based on scientific data.

“By-catch management should come from the achievement of outcomes through the application of different technical measures”

To fulfil the MAB regulation, the fishing sector must adopt the solutions or technical measures, some of which are described below, that are most compatible with the practical realities of the fisheries (eg. improve the selectivity of the gear, change the gear type, or fish in an area or time with low by-catch). The objective of the MAB is to regulate the by-catch by setting outcomes rather than by imposing specific technical solutions.

Oceana opposes any policy that promotes transferability of by-catch limits and/or quotas between vessels, species and or years. Indeed actions taken to reduce by-catch from one fishery/area/time have not been show to lead to increased by-catch in other fisheries/areas/times.

“The MAB and all-landing policies are a strong motivation for the fishing sector to improve selectivity and reduce by-catch”

The Maximum Acceptable By-catch approach has positive effects on species populations (for eg. larger and healthier stocks), and on marine ecosystems.

ALL-LANDING POLICY

This policy involves the implementation of an obligation to land all the catches, including non-commercial species, regardless of whether or not the fish are within the quotas available to the vessel or below minimum legal sizes. An all-landing policy should encompass a permanent “high-grading” ban in all Community waters² and for all Community flagged vessels.

An all-landing policy would allow a shift from a management strategy based on landings to one based on real catches, which makes much more sense. It will also certainly have implications for the TACs and quotas fishing rules, as currently in most cases they are defined without the inclusion of discards. This will redefine stock assessments and statuses in a way that is more adjusted to reality. As all catches of regulated species have to count against quotas, it would therefore also be a strong motivation to encourage the fishing industry to operate more selectively

“The knowledge of the catches will improve the assessment of the stocks and of the fishing opportunities”

TECHNICAL MEASURES

Oceana supports the implementation of a package of technical measures to reduce unwanted by-catch including the implementation of a Best Available Technologies (BATs) approach in fishing practices. Along the same lines, and in order to promote these good practices and encourage compliance within the fishing sector, higher fishing opportunities or preferential access to fisheries could also be considered. Several of the following proposals have been debated in the EU and other international forums, such as the FAO^x.

(i) Improve the selectivity and use of fishing gear: increasing gear selectivity is a general and continuous demand for all fisheries. While many studies have been done to encourage the use of these selective gears, in most cases little has been done to oblige fisherman to use them.

The main improvements in the selectivity of gears are related to changing the design, rigging and deployment of the gear (e.g. mesh size, hook, size, aimed trawling); installing by-catch reduction devices (sorting grid, square mesh panels); or using operational techniques during fishing to reduce encounters with by-catch.

(ii) Change fishing practices: in Europe by-catch and discard rates range widely across fisheries, from negligible in some small-scale coastal and unspecific pelagic fisheries (some herring and sprat fisheries) to up to 70-90% of the catches in a number of major demersal trawl fisheries. Keeping specific gears or methods in fisheries that generates high discard ratios compromises the sustainability of European fisheries.

Prohibition of gears/techniques (e.g. beam and single trawl), that are known in a wide range of the studied species that have high discard rates. Using alternative selective fishing gear (eg. hooks, gill nets, trammel nets, longlines and boulders) results in lower by-catch^{xi} rates.

² Currently the the Council Regulation (EC) No 1288/2009 establish a transitional prohibition of high grading in all ICES zones until 30 June 2011.

(iii) Spatial and temporal fishing closures: establish adaptive spatial and temporal area closures, for the use of all or certain gears, when the proportion of undersize fish or other unwanted by-catch exceeds certain thresholds (eg. Mature individuals in a spawning areas).

Closure decisions should be based on the best available scientific advice and/or real time reporting catch data. In this latter case, a requirement to switch fishing grounds when significant by-catch levels are encountered has to be introduced.

By-Catch Monitoring and Control

In Europe, although fisheries data has been collected since 2001^{xii,xiii} and recently reinforced and extended through the Data Collection Framework^{xiv}, there is still a lack of comprehensive by-catch and discard information. This deficiency (in fisheries, fishing areas, relevant species, main impacts...) should not however be an excuse to avoid launching a by-catch management plan.

“Control measures should be adapted to the scale and type of each fishery”

The strong economic incentives that lead to discards, demand a strong enforcement of input and output controls, in addition to a legal framework with a proportionate sanction system, implemented to achieve adequate compliance and to dissuade fishermen from the practice.

Monitoring and control measures must be adapted and standardized to the scale and type of each fishery, as not all will need the same control measures and monitoring intensity. Obviously the fisheries with the highest by-catch ratios or those which affect depleted, overexploited, or vulnerable species have to be provided with the most efficient control systems.

There are many options among the different monitoring and control measures that could be used: inspection of fishing vessels and gears, vessel position monitoring systems, real time catch reporting, observers on board, closed circuit television CCTV, comparing by-catch across vessels, monitoring the landings, etc.



Economic Incentives and the Potential Value of By-Catch

The implementation of by-catch mitigation and all-landing measures could result in short-term cost increases and loss of income for the fisheries sector, although in the medium and long term it will have clear positive benefits (eg. provide stability to the fisheries sector, larger fish stocks, operational efficiency).

Initially the cost of these new measures could be partially supported by the European Fish Fund, or by tax reductions, to facilitate its implementation, always in accordance with international rules on subsidies. Along these lines, landed by-catch could be introduced into the market system and a low proportion of the benefits of these sales could be allocated towards paying some of the storage, landing and processing vessels costs. However, this type of remuneration should never be allowed to encourage by-catch.

The potential use of landed by-catch should be maximized, and divided between human consumption, if above minimum landing size, and other categories (novel foods, cosmetics, pharmaceutical, oil, fishmeal...). Funding may also be required to promote technology development (for the new potential uses of by-catch) and invest into the post-harvest sector. All these initiatives could generate additional markets and new benefits, including job opportunities for the local coastal communities.

Oceana's main proposals for the by-catch and discard management

- Establish limits of maximum allowable bycatch
- Oblige the landing of all catch
- Improve the selectivity of fishing gears
- Spatial and temporal closure areas
- Establish mechanisms for effective control and sanction
- Promote the economic value of by-catch

“By-catch and discards present many dilemmas for fisheries management but nevertheless until and unless we are able to manage all significant sources of fishing induced mortality associated with fishing, we will not be in a position to ensure that fisheries are exploited in a responsible and long-term sustainable manner consistent with an ecosystem approach to fisheries” FAO, 2010.

References

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- ^v COM(2007) 136. A policy to reduce unwanted by-catches and eliminate discards in European fisheries.
- ^{vi} COM(2008) 324. Proposal for a Council Regulation concerning the conservation of fisheries resources through technical measures.
- ^{vii} Council Regulation (EC) No 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.
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- ^{ix} COM(2010) 494. Proposal for a Regulation of the European Parliament and of the Council establishing a Programme to support the further development of an Integrated Maritime Policy.
- ^x FAO. 2010. Technical consultation to develop international guidelines on bycatch management and reduction of discards. Fisheries and Aquaculture Report No. 957. Rome 32p.
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- ^{xii} Commission regulation (EC) No 1639/2001 establishing the minimum and extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) No. 1543/2000.
- ^{xiii} Commission Regulation (EC) No. 1581/2004 amending Regulation (EC) No. 1639/2001 establishing the minimum and extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) No. 1543/2000.
- ^{xiv} Council Regulation (EC) No. 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy; Commission Regulation (EC) No. 665/2008 laying down detailed rules for the application of Council Regulation (EC) No. 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.