



POSITION PAPER

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This policy statement represents WWF views at the time of writing and may change to reflect updated thinking over time given the dynamic nature of this policy area and European fisheries management.

Reducing discards and unwanted bycatch in European trawl fisheries

WWF's mission is to conserve nature and ecological processes, while ensuring the sustainable use of renewable resources. As such, WWF works with governments and stakeholders to achieve sustainable fisheries through the implementation of ecosystem-based management of all maritime activities.

Introduction – bycatch and discards

Most fisheries catch animals that were not originally targeted. This extra catch is known as **bycatch**. Of this bycatch some will have a commercial value and are landed by fishermen. Often, however, a proportion is unwanted and subsequently **discarded** (i.e. thrown back dead or dying over the side).

Such unwanted bycatch is a major environmental problem in European fisheries as it is wasteful and can lead to high levels of mortality among fish that could otherwise have helped re-build and replenish stocks. Discarding of mature animals represents an immediate loss of spawning stock biomass and it is clear that a package of measures are needed to address this problem if European fisheries are to be sustainable. There are solutions to bycatch but there is not going to be a one size fits all fix. Solutions will need to be tailored to individual fisheries in response to the main cause of discarding and will likely involve not one measure but a range of measures working together to reduce the level of unwanted fish mortality.

The reasons for discards are many including high-grading, the capture of fish which are below legal minimum landings size, of low economic value, or of poor marketable quality. It is a practice associated with management by Total Allowable Catches (TACs) and quotas. For example, after the TAC of a particular species has been reached, they will still continue to be caught by vessels targeting other species. To land them would be illegal so they are thrown back dead or dying.

Discarding is also a problem for the recovery of depleted stocks. With respect to cod for example it is likely that the amount of cod caught and discarded in other fisheries is affecting the ability of these stocks to rebuild. In the North Sea, it has been estimated that 51% of cod caught in *Nephrops* fisheries are discarded as they are undersized¹. Off the coast of Norway 61% of the total cod catch by *Nephrops* trawls was discarded between 1995 and 2000². Indeed STECF have estimated that the entire North Sea *Nephrops* fishery could account for almost half of cod removed from the water.

It's not just cod that suffers from bycatch and discarding in European waters. For example, around half of all plaice caught are discarded overboard, usually dead. The North Sea plaice and sole mixed beam trawl fishery, which accounts for the vast majority of catches, is the most wasteful of all – according to a 2000 report, up to 80% of the plaice catch is discarded in some areas³. In total, as much as 7kg of marine animals are killed by beam trawlers to produce 450g of marketable sole⁴. The figure is similar for plaice⁵. In the EU, it is estimated that beam trawlers targeting finfish dump 330,000 tonnes of marine life each year⁶.

The 1995 UN Agreement for the Conservation and Management of Straddling fish stocks and Highly Migratory Fish Stock seeks to minimise pollution, waste, discards, catch by lost or abandoned gear and catch of non-target species. This should be achieved, *inter alia*, through measurements such as the development and use of selective, environmentally safe and cost-effective fishing gear and techniques (Article 5 (f)). According to the FAO Code of Conduct for Responsible Fishing (Article 7.2.), a management objective should be to introduce measures so that *«pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, and impact on associated or dependent species are minimised, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective gear and techniques»*.

Important measures to reduce bycatch and discards in European Fisheries

The problem of indiscriminate fishing is not a new issue and solutions do exist but the political will to implement them is critical. What is clear is that there is no “one size fits all” solution and that any real answer will involve a mixture of measures in any one fishery. Some of the measures for reducing bycatch and discarding – particularly relevant to European waters – are described below.

Development and implementation of selective gear technology

WWF strongly recommends that fisheries with high bycatch should be required to use technical conservation measures - such as sorting grids and escape panels – to increase the selectivity of their fishing gear. Sorting grids allow smaller creatures, like shrimp, to pass through a grid to reach the net proper while bigger species, like cod, are directed towards an escape hole. An example of a successful sorting grid is the 'Nordmore Grid'. This is an aluminium grid secured to the trawl at 45-60 degrees from the vertical, with bars 100mm apart. This grid is mandatory in many North Atlantic countries where pink shrimps are targeted. These grids have reduced finfish bycatch from >100% (1:1 ratio) to <1% in some fisheries as well as reducing deck sorting time and improving product quality.

Escape, or 'square-mesh', panels can work by exploiting the behavioural differences between catch components; for example *Nephrops* and fish. As fish enter a net they try to escape by heading towards the top and sides of the net. Escape panels enable these fish to escape through the square-shaped meshes (here, square meshes are used as they retain the width of their opening, as opposed to diamond shaped mesh, which stretches and narrows when under load). Studies have been carried out on *Nephrops* trawls of the type widely used in the North Sea to examine the effect on bycatch rates of cod. The study concluded that an escape panel, if situated correctly, will retain over 95% of the target *Nephrops* and allow 50% of ≥38cm cod to escape, with smaller cod escaping at even greater rates.

Bycatch and discards must be incorporated in TACs

WWF believe that one solution to reduce discarding could be the use of **bycatch quotas**. Essentially the total allowable catch (TAC) would be set in the same way as it is currently, with the exception that all catches of the species in question would be treated as a bycatch, i.e. there would be no recognised directed fishery for the species. Fishing vessels would be put into categories based on the type of nets and mesh size that they use. When the bycatch quota allocation for the defined category is near to being reached the Member State would close the fishery for that category. The fishery would re-open the following year. Bycatch quotas have been used since 1976 for halibut in the Alaskan sablefish fishery and has reduced discard mortality of halibut greatly. This measure, along with conservative TACs, has allowed both fisheries to stay environmentally and economically viable for the long-term.

Requirement to change fishing grounds when bycatch contains undersized fish or unwanted species

Regulations are needed that will require fishermen to change fishing ground if the intermixture of juveniles or bycatches in any haul exceeds certain limits. Such procedures are required when fishing in areas managed by some of the regional fisheries management organisations, such as CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources) and NAFO (Northwest Atlantic Fisheries Organisation). According to Conservation and Enforcement measures in NAFO, a vessel shall immediately change fishing area (minimum 5 nautical miles) if the amount of undersized fish in any haul exceeds 10% by number. And the CCAMLR's Conservation Measures require fishing vessels to move at least 5 nautical miles if the bycatch of «non-quota»-fish exceeds certain levels (varies for different fisheries).

Temporary closure of fishing grounds

Temporary closure of areas in which threshold conditions for *ad hoc* closure are related to discard rate and/or composition are increasingly used as real-time vessel reporting monitoring systems are improved (e.g. through satellite communication). Such closures are generally welcomed by the fishing industry as the objective of protecting juvenile fish is clearly recognised and understood. Furthermore this type of regulation is also easy to enforce. Violation of a ban on all types of fishing in an area can be detected by aerial surveillance. A system of closing and opening of sensitive areas with a high incidence of juvenile fish gives a direct and very efficient protection of commercial fish stocks. The surveillance system must be based on extensive monitoring of sensitive areas, and follows objective criteria for determining when areas should be closed. The system should for the first phase include important species such as cod, haddock, whiting and plaice. The effectiveness of such a system requires immediate action once it has been established that the implementation of such measures is prudent and necessary. A Standing Committee of scientists and managers evaluates proposals for the closing/opening of fishing areas.

It is important that the procedures for closing and opening sensitive areas are not overly time consuming. Therefore, the monitoring scheme has to be effective so that the fisheries administration receives sufficient information. Detailed information about the distribution of juveniles must be provided in order to define the area that should be closed/opened. It is also important that the fishermen are informed about impending regulations as soon as possible, for example over radio. Temporary closure of fishing grounds does not of course exempt the possibility of permanent closures if that is appropriate. Temporary closures have been utilised as a fishery management tool to reduce bycatch for several United States fisheries, including North Pacific fisheries (herring, crab and groundfish fisheries), the northeast groundfish gillnet fishery and the bluefin tuna fishery off the coast of New Jersey during the month of June.

Ban on discard of commercially important species

A number of countries have instituted fisheries policies and management regimes based on the principle of “no discards”. A “no-discard” policy implies a paradigm shift in approaches to fisheries management. It moves the focus of management measures from landings to catches and from fish production to fish mortality. In conformity with the precautionary approach, by regarding “no discards” as the norm, any discarding then requires adequate justification. A discard ban as such does not of course prevent the fishermen from the discarding of fish and a multi-disciplinary approach is needed to reduce the problem. Experience shows that discard bans may be effective where control of shore-based infrastructure is easy, facilitating compliance, and where other measures, such as introduction of selective gears, have already reduced discarding to a minimum. It should be clear that the purpose of a discard ban is to avoid unnecessary biomass removal from the seas and *not* present opportunities for new markets to utilise discards.

Where they have not been effective is in fisheries where discard rates are inherently high, are geographically dispersed, where the proportion of juveniles in the stock is high or where there is a lack of a compliance culture. It is important to note that a discard ban should be part of a larger, comprehensive package of policies (as detailed above) by which the EU commission aims to reduce the problem of unwanted bycatch and discards.

Conclusions

The practice of bycatch and discarding is a major challenge for the sustainable management of European fisheries and there is no “one size fits all” fix. But action is desperately needed and must be addressed not only at a general level by regulations (and international agreements), but also through measures specific to individual fisheries. This will involve a range of technical measures as well as instruments to assist fishermen to avoid situations where they are tempted to discard fish, and some measures which should provide fishermen with incentives not to discard if that situation should occur. Enforcement will be a key element to the effective implementation of a discard reduction strategy and the use of electronic and onboard observer systems should be fully utilised. A truly workable solution for any fishery to reduce unwanted fishing mortality will likely involve a range of measures.

References

¹OSPAR Commission (2000) Quality Status Report 2000 for the North-East Atlantic: <http://www.ospar.org/eng/html/qsr2000/qec3.htm#3.5>

²ICES (2002) Report of the study group on discard and by-catch information: <http://www.ices.dk/reports/acfm/2002/sgdbi/sgdbi02.pdf>

³OSPAR Commission (2000) Quality Status Report 2000 for the North-East Atlantic: <http://www.ospar.org/eng/html/qsr2000/qec3.htm#3.5>

⁴Glover, C. (2004) The end of the line: How overfishing is changing the world and what we eat. Ebury Press, London.

⁵Greenpeace (2004) Greenpeace activists defend Dogger Bank Marine Reserve from destructive fishing methods: <http://www.greenpeace.org.uk/node/1332>

⁶FAO Fisheries Technical Papers (2005) Discards in the world's marine fisheries. An update: http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/008/y5936e/y5936e0a.htm

Additional References

DEFRA (Department for Environment, Food and Rural Affairs) (2006), Discussion paper on Discards, Sea Fisheries Conservation Division: <http://www.defra.gov.uk/fish/sea/pdf/others/20060921paper2.pdf>

FAO (2006) The State of World Fisheries and Aquaculture: <http://www.fao.org/docrep/009/A0699e/A0699e00.htm>

Greenwich Forum Conference (September 1999) "Rethinking the Common Fisheries Policy - Fisheries Science and the CFP", Brussels.
Contribution from Terje Løbach, Directorate for Fisheries, Norway "A Discard Ban -To Cut Waste And Help Stock Assessment - The Norwegian Experience"
<http://www.greenwichforum.org.uk/index.htm>

Kieran Kelleher (2005) Discards In The World's Marine Fisheries- An Update, (Fishing Technology Service, Fisheries Department, FAO): <http://www.fao.org/docrep/008/y5936e/y5936e00.htm>