

Coastal States management of fisheries - principles

Despite the high level aim of avoiding over-exploitation, overcapacity of fishing fleets remains a general issue across the OSPAR area. Many target species within the OSPAR area are outwith safe biological limits. Over the period 2003 – 2009 inclusive the number of stocks assessed as being outwith safe biological limits varied between 23 and 28 while between 8 and 11 stocks were assessed as being within safe biological limits (Figure 3.2). However, over the same period some 48 – 56 stocks were designated as being of unknown state due to poor data. (Figure 3.2). In 2006, approximately 20% of fish taken from EC managed waters was taken from stocks outwith safe biological limits. What is also apparent is that, in terms of the percentage catch within safe biological limits taken from stocks where the EU has a management responsibility, there is a marked difference between pelagic and demersal stocks and that this difference has been a feature of such fisheries over many years (Figure 3.3). Fisheries management policies are therefore orientated to reduce over-exploitation and commonly feature:

- Catch limits for commercial stocks;
- Effort management measures;
- Technical conservation measures; and
- Fleet reduction programmes.

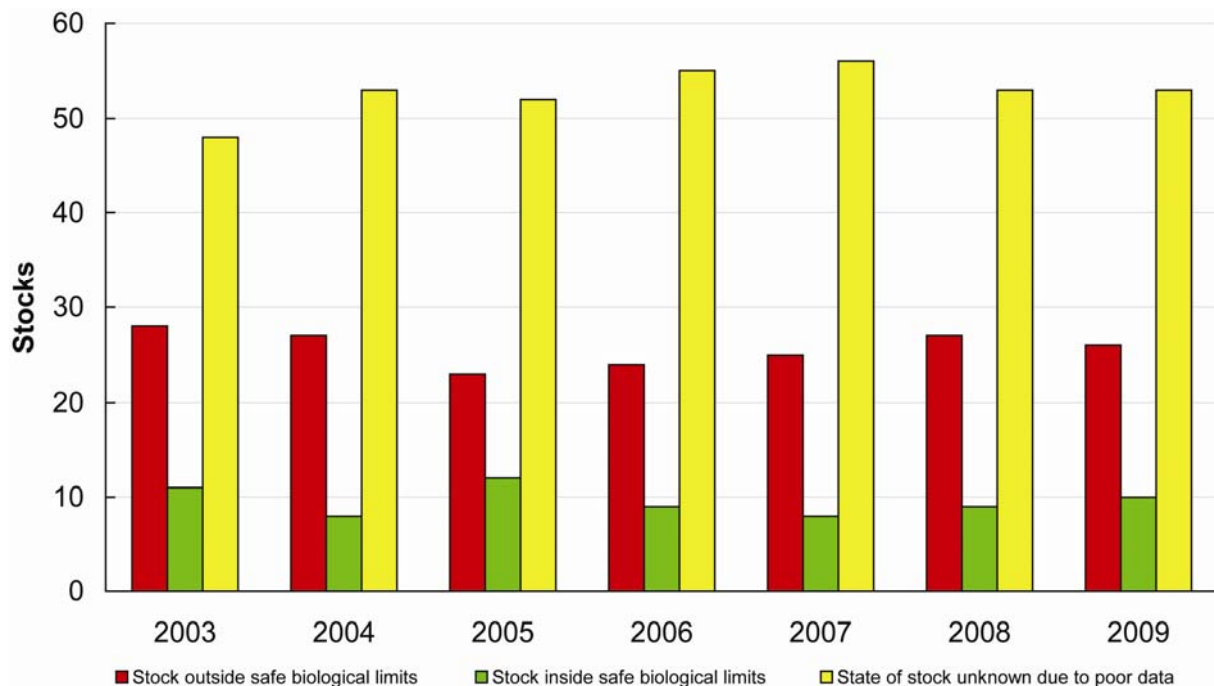


Figure 3.2: Status of ICES assessed stocks (excluding those in the Baltic Sea) for the period 2003 – 2009. Stocks covered by this analysis are listed at Annex 1. These are defined according to the fishing zones for which TACs are set by the EC. (Data supplied by ICES)

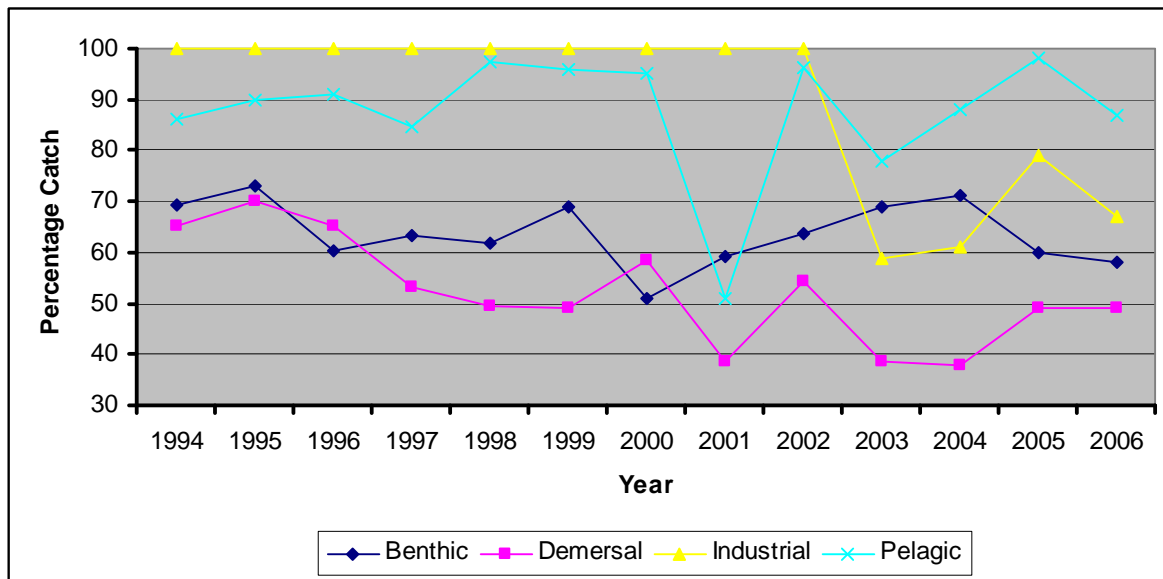


Figure 3.3: Percentage catch within safe biological limits taken from stocks where the EU has a management responsibility.

Catch limits are generally established by the setting of Total Allowable Catches (TACs). TACs are based on assessment of stock condition against precautionary limits for Spawning Stock Biomass (SSB) and Fishing Mortality (F) (For further information on terminology the reader is directed to the Introduction). While coastal States are obliged to establish catch limitations with regard to best available science, that science suffers from incomplete knowledge of the state of fish stocks (Figure 3.2). This is partly because stocks assessment is highly dependent on data difficult to obtain as fish species are patchily distributed over vast areas. Another source of error is the degree of discarding which occurs across the OSPAR Maritime Area. Discarding can have a range of causes but its impact on stock assessment is, when discards are not properly monitored, to introduce uncertainty due to unrecorded mortality of discarded fish.

The setting of TACs alone can also aggravate discarding as catch limitations are set for single species in isolation, whether or not that particular stock forms part of a mixed fishery. Consequently the discarding of marketable fish can follow if a skipper prosecuting a mixed fishery runs out of quota for 1 species, as happened in the North Sea in 2008 where a low TAC for cod in the mixed demersal fishery resulted in high discarding of this species when prosecuting fisheries primarily targeting haddock, whiting and plaice. The high level of discarding led to a significant increase in cod TAC for 2009.

Considering the issue of discards a bit further, it is clear that discarding has been a serious problem in the North East Atlantic for which an estimate was 1.4 million tonnes in the early 2000s. To tackle this priority issue, the EU, during 2007, initiated a new policy to reduce unwanted by-catches and progressively eliminate discards in European fisheries. Discarding is done for a variety of reasons, among which are existing EU regulations requiring discarding of catches in excess of quotas in multispecies fisheries, and strong economic incentives in many fisheries to discard fish to maximize the value of the landing, so called 'high-grading'. This practice is because different sizes or qualities of fish command different market prices and quotas restrict the amount that can be landed. In addition, capacity restrictions (e.g. cooling limitation) can lead to high-grading of low value species in preference to higher value species. During 2009 the EU introduced a prohibition to high-grade species under quota in the North Sea and Skagerrak with pilot-scale studies also being undertaken on ways to reduce discarding. This measure may be extended to other parts of the Atlantic. By 1997 Norway, Iceland and the Faroe Islands had all taken action to limit discards. The Norwegian discard ban from

1988 originally covered cod and haddock in the economic zone north of 62°N, but the ban has been gradually expanded so that today it is prohibited to discard most commercial species of fish in Norwegian waters. The Faroe Islands have a similar discarding ban while Iceland has a ban on discards of all commercial species and has adopted additional measures that discourage high-grading. Some of the Icelandic measures include that a vessel's excess catches are subject to be withdrawn from the following year's quota. In addition, fishers can land small or undersize fishes with only 50% of the weight being charged against the annual catch quota up to a certain limit, generally 10% of the total landings of each species and receiving not a full price for the catch. Furthermore, strict surveillance of fishing vessels, including observers on board, stiff penalties for violations of Individual Transferable Quotas (ITQ) rules and regulations and flexibility in quota management allowing transfer of quotas between different species, have played an important role in addressing the high-grading issue. As a consequence, there has been no detectable increase in high-grading in Iceland. At its Annual Meeting in November 2009, the NEAFC adopted a ban on discards in NEAFC high seas fisheries.

The problems encountered by the reliance on TACs have led to an increasing use of effort management tools. These measures allow access to a fishery on a time-limited basis, for example a capped number of days at sea. Management of fisheries in the Faroe Islands in fact utilise a "quotas of fishing days" approach rather than rely on quota allocations of tonnes of fish. Fishing days are allocated to groups of vessels (groups are designated by vessels size and gear type) and trade in fishing effort allowed within these groups. The system evolved to account for the mixed nature of the Faroese groundfish fisheries. By controlling fishing capacity and effort on stocks, rather than catch limitations, the incentive to discard has been reduced. Since the introduction of the fishing days regime in 1996, there has been around a 20% reduction in total fishing days in order to adjust for likely increases in fishing efficiency.

Another means of controlling fishing effort is to remove capacity from the fleet. There has been a range of programmes undertaken by coastal States within the OSPAR regions to bring fleet capacity more in line with sustainable fishing opportunities. While these schemes have generally been successful in reducing the number of active fishing vessels, this is often counter-balanced by technological improvements that increase fishing efficiency, this resulting in little if any reduction in effective fishing effort.

Technical conservation measures are generally aimed at making fishing practices and patterns more selective. Changes to fishing gear, such as larger mesh sizes or the inclusion of square mesh panels and separator grids, aid selectivity and reduction of the impact of the gear on the bottom. Closed areas are provided to protect spawning or juvenile fish, or more frequently in recent years, vulnerable seabed habitats. A growing feature of fisheries policy in recent years has been the acceptance that functioning ecosystems are an important condition for healthy fish stocks.

↪ *Go to full QSR assessment report on environmental impact of fishing (publication number 465/2009)*