

# Overfishing: how many Dead Seas?

By Gregory Giuliani \*

Fishing activities have various negative impacts on marine ecosystems. The greatest cause for concern is the rapid depletion of fish population due to extensive commercial fishing. In 2002 72% of the world's marine fish stocks were being harvested faster than they can reproduce. Bycatch – the harvest of fish or shellfish other than the species for which the fishing gear was set – accounts for a quarter of the total catch (27m tonnes in 2003) and much of it is lost.

For many scientists overfishing now ranks as one of the greatest impacts of human activity on oceans. It increases the vulnerability of ocean ecosystems and contributes to the decline of other elements of the marine food-chain, including birds and mammals. The record for total fisheries production (captured and farmed) was around 100m tonnes and was recorded in 2000. But the apparent glut conceals a serious decrease in the productivity of many fish species.

The fishing industry, ranging from subsistence fishers to large-scale mechanised fishing vessels, employs directly or indirectly some 200 million people worldwide. As an economic sector it is a crucial factor in the development of many countries. But fish depletion also threatens food security. In Asia alone more than a billion people depend on fish and seafood as their major source of animal protein. The UN Educational, Scientific and Cultural Organisation (UNESCO) warns that fish, long regarded as the “poor man's protein”, is diminishing globally due to increasing market demand and overfishing.

Modern fishing technology is elaborate. Some trawlers are 170 metres long and can engulf catches equivalent in volume to 12 jumbo jets. Drift-nets may exceed 60 km in length. Fishing vessels stay at sea for several months and often prepare the catch for market distribution at sea. For bottom trawling powerful ships drag heavily

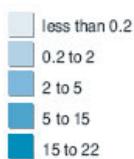
weighed nets across the ocean floor, destroying the natural habitat. Each year they harvest an area twice the size of the continental United States! Sonars, aerial monitoring systems and satellite platforms help to locate fish schools and follow them more easily.

Bycatch may include low-value species but also large amounts of young or undersized fish of valuable commercial species. Almost 25% of all harvested fish never reach the market. Bottom trawling is particularly indiscriminate. For example, up to 95% of the take in halibut trawling can be bycatch, including various endangered or overfished species.

Although some countries have adopted fleet reduction programmes, most fishing nations have acknowledged that overcapacity is a serious problem. The FAO estimates that the world fishing fleet numbered about 3.8m vessels in 1995 of which nearly 1.2m included storage space. The fact that fishing capacity reduction has often been achieved by

relocating vessels in other countries' fisheries or in high seas' fisheries is of serious concern, as it does not contribute to a global reduction in fishing capacity. Significant reductions in fishing capacity in highly populous and least-developed countries are not likely to occur due to increasing social pressure. At the same time the best way to reduce bycatch would be to lower the total fishing effort as much as possible, and develop selective technologies, better regulations and stronger enforcement. So far only eight countries have imposed a total or partial ban on bottom trawling (New Zealand, Indonesia, Philippines, Scotland, Italy [Sicily only], Kenya, Seychelles and Greece). In all studies conducted in these countries it was found that pressure on fish resources had been alleviated and stock recovery had occurred

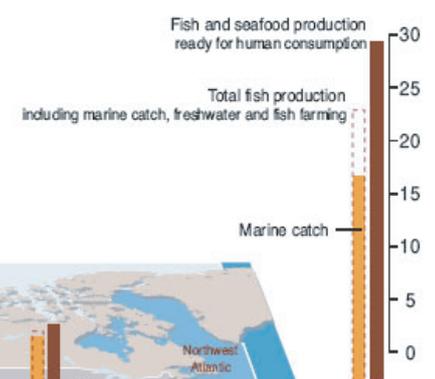
Total fish catch by marine area, 2002 in million tonnes



Source: FAO, 2004.  
Cartography: Stéphane Kluser, UNEP/GRID-Europe



Fish production in 2001 Top 12 countries, in million tonnes



Cartography: Stéphane Kluser, UNEP/DEWA/GRID-Europe, 2004