

Fish stocks in Europe have been in decline for a number of decades. **Ulf Bergström** outlines the current situation – and the role European policy can play in reversing this

# Future fisheries

**I**N Europe and globally, many of the major fish stocks have been in severe decline during recent decades and are currently at levels too low to maintain profitable commercial fisheries or attractive sport fishing. Much of the blame for the decreasing stocks has, rightfully, been put on overfishing. In Europe, a recent agreement to take action towards more sustainable fisheries brings hope for the depleted stocks. However, a broader approach may be necessary to accomplish the goal, since overfishing is not the only cause of declining stocks and catches.

Loss of habitat – the natural environment on which fish depend – has contributed to the long-term decline of many species. A large part (77%) of the catch in European waters is made up of species that are dependent on near-shore environments, usually during their early life. These coastal habitats are under high pressure from a growing human population. Activities such as coastal construction, dredging, bottom trawling, gravel extraction and land fill are slowly moulding the shallow-water environments, from structurally complex habitats into smooth bottoms lacking shelter for young fish. These processes have been going on for a long time, and in many areas of Europe, a major part of the coast is affected. In combination with eutrophication – an excess release of nutrients into the water from land run-off – this development has led to a loss of many shallow coastal habitats. With this loss there has been a decrease in several valuable ecosystem services provided by the shallow-water habitats, one of which is their function as fish nursery areas.

Little research has been done on how fish stocks are affected by this creeping process of habitat loss. However, recent studies suggest that availability of nursery areas may be a major factor determining population sizes of fish. This means that habitat loss will have inevitable consequences for those fish dependent on specific habitats for their reproduction. This may sound self-evident, but the fact is that the strong links between healthy coastal habitats and fish production have not been taken into account in the management of fish stocks in Europe.

This obvious failure is due to two major factors. The first one is that there has been a lack of knowledge on how fish much depend on specific habitats and on the distribution of these underwater environments. We simply know too little about where we have valuable habitats, and therefore too few habitats are protected. Currently, large efforts directed at mapping marine habitats are going on around Europe, filling this gap in our understanding.

The other factor is that marine management in Europe has been highly sectoral, with little communication between authorities managing fisheries, the marine environment, and coastal development. There is, however, a clear policy change within the EU, with several directives now aiming at stimulating cross-sectoral management of marine waters. The Marine Strategy



Framework Directive and the Water Framework Directive will, together with the coming directive for maritime spatial planning and the reform of the Common Fisheries Policy, provide a unique opportunity to move towards an integrated management of the seas of Europe.

Prosperous fish stocks are a central part of a healthy marine ecosystem. Particularly large predatory fish are of vital importance for the functioning of marine food webs. The current state, with low populations of predatory fish, has given rise to changes in food webs that lead to a loss of large vegetation, which, in turn, forms the habitat for young fishes. This means that while many fish are dependent on healthy habitats, the health of the habitats is, at the same time, partly determined by the abundance of fish. Only by acknowledging that 'everything depends on everything else', by going from single-sector management to integrated ecosystem-based management, we will be successful in preserving and restoring both fish stocks and threatened habitats.

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