



## Viewpoint article

## A future for marine fisheries in Europe (Manifesto of the Association Française d'Halieumétrie)

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## ABSTRACT

We, members of the Association Française d'Halieumétrie, share the conviction that European fisheries have a future. It is time to get off the wrong track. Radical change is required to embark on the path of sustainable development and truly implement the ecosystem approach to fisheries. Today, high fishing pressure is deployed to catch a rare resource, which in return is responsible for the rarity. We must reverse the situation: an abundant resource that affords high catches applying moderate fishing pressure. All management tools and especially all actors must be mobilized. The transition is not simple, and European solidarity must accompany the changes. It is well worth the effort. By reducing fishing pressure, it will be possible in the medium term to restore fish stocks, to make ecosystems return to good ecological status, to stabilize and even increase catches and to considerably improve economic efficiency. This is obviously in the interest of fishers but it is also in the interest of future generations and all users of this common heritage that is the sea.

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## 1. Introduction

European marine fisheries are in crisis, confronted with the triple challenge of dwindling natural resources, a global market that is pushing prices down and increasing energy costs. Year upon year, production stagnates, the number of fishers decreases and ships age or are sent to the scrap yard. Thus the sector's long-term prospects points towards a slow death. Many signs seem to indicate that marine fisheries are inevitably condemned to decline in Europe, and our future supply of sea products might mainly depend on aquaculture or developing countries. But at the same time, some forces are already in move to change fisheries management, providing potential tracks towards a future for fish and fishermen.

We scientists, members of the Association Française d'Halieumétrie (AFH)<sup>1</sup>, refute the perspective of decline. We believe, on the contrary, that marine fisheries have a future in Europe. That it is possible for the sector to embark on a path of sustainable development, combining ecological sustainability, economic viability and social fairness. But we believe that this requires far reaching changes that cannot occur without the participation of all stakeholders.

A “window of opportunity” is currently opening to change the situation. In France, a debate took place on the occasion of the “Grenelle de la Mer” (April–July 2009) and the “Assises de la pêche” (October–November 2009) organized by the French ministry for the environment. In Europe, profound changes are announced in the context of reforming the Common Fishery Policy and the implementation of the Marine Strategy Framework Directive. We believe

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<sup>1</sup> The AFH (French association for fisheries science) brings together scientists working in fisheries science. Founded 20 years ago, it has today one hundred members working for Ifremer, IRD, Cemagref, Inra, French universities and grandes écoles. Biologists are the most numerous, but economists and fishing gear technologists are also involved.

that it is the responsibility of researchers to share their findings with the rest of society. Thus we wish to contribute to the debate and try to shed light on the issues at stake.

This paper is a synthesis of our contribution to the consultation carried out by the European Commission regarding the Common Fisheries Policy green paper (EC, 2009). It stems from discussions among scientists from various research bodies representing diverse disciplines. As common in the scientific community we do not all necessarily endorse the same approaches (e.g. Pauly, 2009; Hilborn, 2010). However, we have in common our involvement in fisheries science and our desire to contribute to the search for sustainable solutions, so that marine fisheries can have a future in Europe.

## 2. The sea is sick, suffering from human attacks

Our and other scientists research has clearly shown, and the general public is well aware of it, that the sea is suffering from multiple attacks: marine pollution, coastal habitat destruction, biological invasions, etc. (e.g. Lorance et al., 2009; Halpern et al., 2008; Rochette et al., 2010; OSPAR, 2010), but also – and especially – overfishing. Results are unambiguous: the abundance of most commercial fish stocks is at its lowest level ever, the functioning of the ecosystems is disturbed, biodiversity is threatened, and the loss of jobs related to the depletion of resources has steadily continued over the last 20 years (MEA, 2005; Pauly et al., 2005; FAO, 2010).

In European Union waters, decreasing fishing pressure has been the purpose of fisheries management for decades. As a result the decline of several target stocks has been halted, but the situation continues to deteriorate for others (ICES, 2009; Sparholt et al., 2007; Villasante, 2010). And abundance levels remain low overall: 80% of EU stocks assessed by the International Council for the Exploration of the Sea (ICES) are at abundance levels below those corresponding to maximum sustainable yield (ICES, 2009; EC, 2009, 2010). This is the case, in particular, for demersal fish species whose stocks sizes have generally been divided by 5, or even by 10 or more, by overfishing (Froese et al., 2008; Froese and Proelß, 2010; Worm et al., 2009). In other words, where there used to be 10 tons of fish on the bottom, today there are less than 1 or 2 tons.

The decrease in abundance of target species is accompanied by truncation of their demographic structure leading to greater resource instability with a knock on effect on their preys, predators and competitors, and the whole ecosystem (Pauly et al., 1998; Jackson et al., 2001). At the same time, certain fishing gears have strong impacts on habitats (Turner et al., 1999). These ecosystem effects remain difficult to quantify but are no less significant. Species composition is modified in numerous ecosystems, with the increase of species with short life cycles to the detriment of longer lived demersal species (some of which like cod or hake are emblematic of European fisheries). Significant changes in the functioning of trophic networks, changes that convey a diminution of the functional biodiversity of the ecosystems, have also been observed (Heath, 2005; Pauly and Watson, 2005; Worm et al., 2006).

In European waters, the decline often dates back many years and low abundances have lasted for several decades (Hutchings et al., 2010; Serchuk et al., 1996; Worm et al., 2009). This has two consequences. On one hand, entire generations of fishers and managers have only known this degraded state and therefore tend to consider it the “normal” system state. The occurrence of a single good recruitment is then interpreted as a return to good stock conditions, while most often it is unfortunately only a temporary event (Rice, 2006); thus there is a push for immediate increase of TACs and the recruits might be fished out before they could contribute to rebuilding the stock. On the other hand, scientists often lack observations from earlier periods, which makes it difficult to establish refer-

ence points. In both cases, we are somewhat used to “managing shortages.”

Let's be clear: Humans are part of ecosystems and it is therefore inevitable that they would have an impact on the resources they are using. What creates the problem is not the fact that fishing reduces the abundance of target resources or modifies ecosystem functioning, but rather the fact that this impact reaches levels such that it compromises the fishing activity itself. Fishing leading to diminished total catches is both economically absurd and ethically questionable.

## 3. Fishers are themselves victims of overfishing

Fishers are the first victims of the global and common overfishing problem. French statistics show that the number of sailors and fishing vessels has been halved over the past 20–25 years and the production of demersal fish over the last 40 years (from FAO and Ifremer websites); similar decreases have occurred in other European countries (Villasante, 2010). As a result, the entire sector is affected, with the disappearance of suppliers and processors, the closing of fish auctions and the breakdown of the economic and social lives in some coastal zones (World Bank and FAO, 2009). The capacity of the fishing sector to contribute to national planning goals is called into question (Cléach, 2009).

Today, low abundances translate into low yields and elevated fishing costs. They are a strong structural element of the fishing crisis, and explain, at least in part, the weak economic returns of some fleets. Overfishing creates variability in catches, strong dependence on recruitment and therefore on environmental variations. This variability makes fisheries management difficult and does not allow the industry to act cost efficiently.

Other factors aggravate the economic situation such as the increase of oil prices and low fish prices caused by strong internationalization of sea products (Sumaila et al., 2008; Anderson, 2003; Abernthy et al., 2010). However, let's not make a mistake: these factors play an evident role, but the crisis is in reality even deeper. It fundamentally stems from the depletion of ecological capital (Jansson et al., 1994).

Many players in the fishing sector are used to low catches and unpredictable economic returns and tend to believe that the sector can only survive economically with massive public aid (Mesnil, 2008). Numerous economic analyses show, however, that this situation is not inevitable. Far from opposing each other, the goals of ecological conservation and sustainable development are inextricably connected. There is no sustainable future for the fishing sector in France or Europe without restoring ecosystems to a healthy state. And without doubt, there is no possible conservation of biodiversity without the involvement of fishers. But this involves a rather radical change in management methods.

## 4. The ecosystem approach to fisheries (EAF) is a necessity

In the medium-term, we must move resolutely towards an EAF. “The purpose of an EAF is to plan, develop and manage fisheries in a manner that addresses the multiplicity of societal needs and desires, without jeopardizing the options for future generations to benefit from a full range of goods and services provided by marine ecosystems” (FAO, 2003; Garcia et al., 2003). This definition includes the notion of future generations. The ecosystem approach to fisheries is therefore an application of the sustainable development principle.

The EAF requires three things:

1. The impacts of fishing need to be taken into account, not only on target species, but more globally on all ecosystem components

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