

Sustainable fisheries and conservation policy

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An improved fisheries and nature conservation policy reflects angler needs more closely. Credit: Florian Moellers

There are roughly five times as many recreational fishers as commercial fishers throughout the world. And yet, the needs and peculiarities of these 220 million recreational fishers have largely been ignored in international fisheries and conservation policy. This gives rise to

conflicts and loss of social welfare, and is not conducive to the sustainable management of fish stocks. An international team of fisheries scientists, economists, sociologists and ecologists led by Robert Arlinghaus from the Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB) has now presented a five-point plan to bring about reform.

Compared to [commercial fishing](#), the social, economic and ecological importance of recreational fisheries is greatly underestimated in public and political perceptions. And yet, in many regions, the number of jobs dependent on recreational fishing exceeds the economic significance of commercial fishing. One in 10 people living in industrialised nations fish for pleasure, amounting to around 220 million recreational fishers worldwide. In Germany alone, some 4 million anglers exist. The money they spend on their hobby helps support 52,000 jobs .

Overall, commercial capture fisheries harvest about eight times the fish biomass caught by recreational fisheries. In [inland waters](#) in the temperate zone, however, recreational anglers are now the predominant users of wild fish stocks. The significance of angling is also steadily increasing in coastal and marine fisheries.

In spite of that, fish stock and aquatic ecosystem management is primarily geared toward the needs of professional fishers or conservation. This may give rise to conflicts, as demonstrated by the recent examples of Baltic cod, and Red Snapper in the Gulf of Mexico.

Led by Professor Dr. Robert Arlinghaus from the Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB) and Humboldt-Universität zu Berlin, Germany, an international team of fisheries researchers, sociologists, economists and ecologists from Germany, Spain, Canada and the U.S. has now presented a five-point plan for reform of global fisheries and aquatic conservation policy in the journal

Proceedings of the National Academy of Sciences. The proposal, which considers the specific qualities and characteristics of recreational angling, are aimed primarily at national and international policymakers.

"Even countries with strong governance for fisheries fail to integrate angling into their fisheries and conservation management system effectively. We are convinced that fisheries management and [conservation measures](#) would be more effective if the interests of anglers were given equal consideration to those of commercial fishers and other stakeholders," said the lead author of the study, Robert Arlinghaus, explaining his expectations of the reform process.

Five-point plan for reform of fisheries and conservation policy

1. Explicitly integrate angling targets into aquatic ecosystem and fisheries management

Sustainable management in the fisheries sector requires considering objectives specific to recreational fisheries, which differ significantly from those of commercial fisheries.

"Management tools applied in commercial fisheries, such as those under the umbrella of the concept of maximum sustained yield, are inappropriate in recreational contexts. Nonetheless, many countries adhere to traditional management systems, particularly in marine fisheries, and fail to recognise the high socio-economic value of recreational fisheries. Local water and nature conservation policy is also often more geared toward crowding out anglers from waters, rather than integrating them into policies. And yet it is clearly in the interests of recreational fishers to protect species and nature," said Dr. Thomas Klefoth, fisheries biologist from the Angling Association of Lower

Saxony, Germany, and co-author of the article.

2. Establish angler organisations and involve them in fisheries management

In central Europe, most anglers belong to a club or an association. In the rest of the world, however, this is rarely the case. The establishment and involvement of [angler](#) organisations in practical [fisheries management](#) represent key components toward future-oriented fisheries and aquatic ecosystem management.

3. Permit variable management approaches, and implement them at the local level

A single fishery typically cannot satisfy the often conflicting objectives of a heterogeneous group of recreational fishers. As a consequence, standard tools, such as minimum-size measures and other harvest regulations applicable to all waters in a particular region are problematic. However, provisions and rules tailored toward local needs call for a degree of decision-making sovereignty on the part of anglers and other managers. As the examples of local private property fishing rights in central Europe show, it pays to involve anglers in local management measures, and to equip them with a certain level of management competencies for local waters via clubs and associations.

4. Use the right tools

All anglers use a common pool resource, which may also be depleted by their activities. Many stocks are under high harvest pressure due to both professional fishers and anglers. Non-fishing factors such as river engineering and climate change also have a negative impact on fish productivity, which reduces even further some stocks' resilience to

fisheries. Under such circumstances, unpopular management strategies such as access restrictions or individually costly harvest tags are more appropriate than continuing to release annual licences permitting a theoretically unlimited number of anglers and individually unlimited landings.

5. Improve monitoring

All these measures are only of any use if the most important stocks and waters are periodically assessed. The provision of high-quality, compelling data is ultimately also the responsibility of anglers. Only then can gradual overfishing be prevented, and management targets and strategies adapted where needed. New technologies such as smartphone apps enable catches to be monitored and other data from and about anglers to be captured almost in real time. Some anglers and associations consider such technologies to be a form of surveillance, and are therefore against them. However, conflicts cannot be resolved or targeted management established without the use of modern monitoring techniques that enable the cost-efficient collection of data from hundreds of thousands of people. Anglers' trust in the transparent and targeted use and analysis of such data must first be built up and secured long term.

"The five steps for policy reform call on policymakers, governments, science and stakeholders to take a proactive approach toward recreational angling. Fishers should be treated on an equal footing to other users of nature and the demands placed on it. Only then can the ever-growing conflicts with other claims to aquatic ecosystems and fish stocks be addressed. It is essential to maintain the quality of fisheries and nature as a whole, and this is only possible together rather than against one another," Arlinghaus concluded.

More information: Robert Arlinghaus et al, Opinion: Governing the

recreational dimension of global fisheries, *Proceedings of the National Academy of Sciences* (2019). [DOI: 10.1073/pnas.1902796116](https://doi.org/10.1073/pnas.1902796116)

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