

Reinventing Fisheries Management

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This article presents the events and outcome of an international symposium on fisheries management held at the Fisheries Centre of the University of British Columbia, Vancouver, Canada, 21-23 February 1996.



Photo by JOHN McMANUS

An unusual international and interdisciplinary symposium took place in Canada early this year. The title itself, "Reinventing Fisheries Management", suggests that the topics would reach beyond present day paradigms as indeed they did. The intention, through appropriate choice of speakers and panelists, was to bring together ecology, social science, economics, market analysis and conservation science to focus on innovative analytic tools, fresh insights, new synthesis and novel forms of management that may lead to responsible and sustainable fisheries in the 21st century. Over 100 scientists from 15 countries participated.

The reputation of fisheries scientists has recently suffered a serious downturn. Despite our best efforts, fisheries worldwide have become severely depleted and, along with reductions in the size of fish harvested, fish communities have shifted towards small, rapidly growing species.

These symptoms have been accompanied by a series of fisheries collapses that have not only been largely unforeseen even by our most advanced assessment methods, but have also brought about disastrous social and economic consequences. Such disasters have even occurred in developed nations like Canada, that probably leads the world in

numbers of top-rate fisheries scientists per capita.

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Confidence in conventional fisheries science has been eroded at the very time when we need it most if we are to do anything to make fish harvest sustainable in face of the enormous increase in demand for fish and wealth that the human population of the coming century will bring.

Thus, fisheries science is now in a state of flux. Many feel that

we are at a cross-road where new ideas compete for attention and demand evidence of their utility. Some of the world leaders in the subject have expressed the pessimistic view that no fishery has ever been properly understood or managed.

Some consider that we have to conduct experiment with our fisheries resources in order to hope to do any better. Some see solution in quantifying our ignorance.

Others look to the social sciences to bring salvation by trying to understand the people who exploit or manage fish. The Reinventing Fisheries Management Symposium sought a new framework that would place these ideas in perspective and make them work.

New ways of looking at things entail interdisciplinary synergy between biological, ecological, social, and economic foci. This is a most difficult thing to achieve; exponents of these fields find it difficult to step outside of their disciplinary walls, since they are invariably rewarded in their careers only for staying securely within them.

Themes covered by the Symposium included:

- shifting from a concept of access to resources by right to fishing as a privilege accorded by society;
- understanding of the production base of aquatic systems;
- understanding the ecosystem impact of harvesting in freshwater and marine ecosystems;
- mitigating resource depletion through innovative and appropriate economic instruments such as rights-based management;
- assessing fisheries intelligently by quantifying risk and learning to make management adaptive;
- shaping policy to make fishing compatible with both the sustainable limits of the resource and human welfare
- using markets and consumer pressure to encourage responsible fishing practices
- reducing conflict and fostering consensus by understanding how fishing communities operate;
- fostering sustainable development and key supporting re-

search by developing the right kind of institutions;

- understanding the wider social, political and environmental factors affecting fisheries, including the context of economic development; and
- educating and training the participants in fisheries more broadly.

By attempting to integrate across these multidisciplinary themes, the ambitious objective of the Symposium was to help create a fresh synthesis and new guidelines for the management of the world's fisheries.

Keynote papers introduced each session of the meeting and covered tropic cascades by James Kitchell (Michigan, USA); adaptive management by Keith Sainsbury (CSIRO, Australia); fisheries policies for South Africa by Kevern Cochrane (FAO, Rome); combining social sciences with natural sciences by David Policansky (Washington, USA); fisheries management, politics and markets by Rognvaldur Hannesson (Bergen, Norway); aquatic resources education for developing world needs by Meryl Williams (ICLARM, Philippines). Highlights from over 30 brief points of view presented included: a closed seas policy with fishing as a privilege rather than a right as the only long-term solution for sustainability; ECOSIM, a new ecosystem simulation model based on mass balance system, or ECOPATH; games theory as a way of analysing cooperation and conflict among fishers; ways of conflating biological, social, economic and technological factors in evaluating fisheries health; consumer labelling as a way of fostering responsible fishing; the pioneering terms of settlement of a fisheries claim for an aboriginal nation in northern BC.

The output of the Symposium is to be a book in the Chapman &



Photo by MARK PREIN

Understanding how fishing communities operate helps reduce conflicts.

Hall Fish and Fisheries Series. Key-note Papers and Points of View were submitted for publication in the volume, together with other contributions solicited by the Editors. In addition, discussions held at the Symposium have been summarized by groups of rapporteurs. All of this material will be peer reviewed. Further information about the publication will be available at the Fisheries Centre Web site at fisheries.com.

About the Fisheries Centre

The new Fisheries Centre at UBC has been founded to focus and promote the multidisciplinary study of fisheries. Analytical tools developed in a broad spectrum of parent subjects, including biology, oceanography, economics, engineering, mathematics, sociology, planning and policy are employed in order to assess, appraise and forecast the impacts of both human and natural processes on fisheries resources.



The mission statement of the Fisheries Centre is: Our planet's fisheries have reached their ecological limits. Furthermore, these increasingly scarce and depleted biological resources are impacted by diverse human economic, political and social activities. Future policy and planning essential to the successful stewardship of global fisheries resources must be founded on research that encompasses many traditional disciplines, acknowledging human as well as biological and environmental perspectives. Fisheries policy and management problems under study include assess-

ment and management of artisanal and commercial food capture fisheries, cost-effective monitoring and assessment technologies, recreational fisheries, coastal and watershed management, conflict resolution and the co-management of shared fisheries resources, and the conservation of endangered exploited species in both marine and freshwater environments.

The Fisheries Centre acts as a focus for the outputs of fisheries research and policy studies. Fisheries Centre faculty work on exploited aquatic animal resources, and includes those directly appointed to the Centre, together with other members of the University who wish to contribute as full or associate members. In 1996, the Fisheries Centre comprises seven full faculty and 11 associate faculty from other UBC units. There are currently five Research Associates, six Postdoctoral Research Fellows and over 40 Graduate students from 12 countries working towards Masters and Doctoral degrees in the Centre. The Centre has an international network of research partners in Australia, Norway, the Philippines, Hong Kong, Mexico, South Africa, Chile, USA and Britain. Output from the Fisheries Centre encompasses academic research, commercial research contracts, sponsorship of public and professional seminars, workshops and publications. Graduate teaching within the UBC Faculty of Graduate Studies, and professional training are integral parts of the work. Major objectives are to establish a fully international, multidisciplinary perspective, and to provide a forum for the foundation of concepts of management and sustainable development of fisheries appropriate for the next century.

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**Fifth Indo-Pacific Fish Conference
Nouméa (New Caledonia) November
1997**

The Fifth Indo-Pacific Fish Conference will be held in Nouméa (New Caledonia) from 3 to 8 November 1997. Hosts will be ORSTOM and SPC (South Pacific Commission), with the sponsorship of the SFI (French Society of Ichthyology). Proceedings will be published in the journal *Cybiurn*. There will be two major themes: biodiversity and biology-ecology. For the first theme, three sessions are planned, one on systematics, one on the conservation of fishes and a third on the uses of biodiversity in fisheries. For the second theme three sessions are planned, one on reproduction, growth and physiology, a second one on population and community ecology and a third on applied and evolutionary genetics. Eight workshops have been designated for the following subjects: parasitology, human culture and fish in the Pacific, data bases, perspectives in ichthyology, collection management, fish behavior, ichthyotoxicity, and elasmobranchs as biological models. A number of other workshops may take place, for instance on fish reserves. Poster sessions will also be available.

A second circular will be sent in late 1996 and a last circular in April 1997. To receive this information or to register, please contact Michel Kulbicki, ORSTOM B.P. A5, Nouméa, New Caledonia. Tel.: (687) 26 10 00, Fax: (687) 26 43 26, e-mail: ipfc5@noumea.orstom.fr.