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Presenting the Sea Around Us Approach

By Daniel Pauly and Reg Watson

Two international conferences, the Annual Science Conference of the International Council for the Exploration of the Sea (ICES), held in Bruges, Belgium, from Sept 27-30th, and the IX Annual PICES (North Pacific Marine Science Organization) meeting, held in Hakodate, Japan from October 20-28th, recently provided opportunities for presenting the concepts underlying the Sea Around Us project, as also described in our recently released 'Methodological Report' (Pauly and Pitcher 2000). (See Page 5 for the table of contents of the report.)

The first of these two ICES presentations was the invited 'Open Lecture' entitled "Fisheries and Conservation: a Program for their Reconciliation", given by the senior author.

This presentation, which started by contrasting the key features and 'clients' of fisheries biology and conservation biology, went on to outline the enormity of the challenge caused by relentless overexploitation of fisheries resources, and their impacts on ecosystems, both culminating in 'fishing down marine food webs'.

The elements of reconciliation between fisheries and conservation biology were then outlined. They included recognizing the legitimacy of the key tenets of each (that fishing should remain a viable occupation; that the ecosystems and their biodiversity are allowed to persist).

This presentation – the first time conservation issues were addressed in the context of an Open Lecture – was apparently very well received, and provided a neat starting point for the mini-symposium that followed up on that lecture, devoted to biodiversity issues, to which several speakers, notably Dr Jake Rice, referred to, suggesting that ICES should give far more attention to this than it has so far.

The ICES governing body, composed of national delegates from around the North Atlantic decided, two days after these events, to create a new, high-level Advisory Committee on Ecosystems (ACE), on par with its fisheries-orientated Advisory Committee on Fisheries Management. It tempting to believe that the contents of this year's Open Lecture nudged a few delegates toward this positive, potentially very important decision.

We also used the opportunity at the ICES Annual Science conference to present another contribution, outlining our vision for a consensus taxonomy of the world's marine ecosystems (Pauly et al. 2000). The goal of this taxonomy is to bring together the extensive information and expertise available in the fields of oceanography and in fisheries science into a compatible framework to produce the synergism required to tackle pressing global issues of over-fishing and other impacts on marine ecosystems. The joint paper was presented by Dr Ken Sherman, the main architect of the Large Marine Ecosystems (LME) (Sherman et al., 1990; Sherman and Duda 1999) which are now defined for most of the world shelf and adjacent oceanic areas, and whose integration with the system of 'Biogeochemical Provinces' (BGCP) developed by A. Longhurst, T. Platt and S. Sathyendranath (Longhurst, 1998) form the core of this paper.

This presentation deepened the interactions between Ken Sherman's group and the FC, and the commitment to develop compatibility of global LMEs where possible with the BGCP of Longhurst and colleagues. This collaboration was strengthened by a recent visit by Peter Celone from NOAA.

It is very pleasing to see the interest that has been expressed in forming a framework for describing marine areas which can hopefully transcend what have been traditional boundaries between research fields.

Thanks to support by PICES, and in particular Dr Ian Perry, Dr Reg Watson had the opportunity to present an invited paper entitled "Mapping fisheries onto marine ecosystems: regional, oceanic and global integrations" at PICES IX in Japan. This paper presented our proposals for

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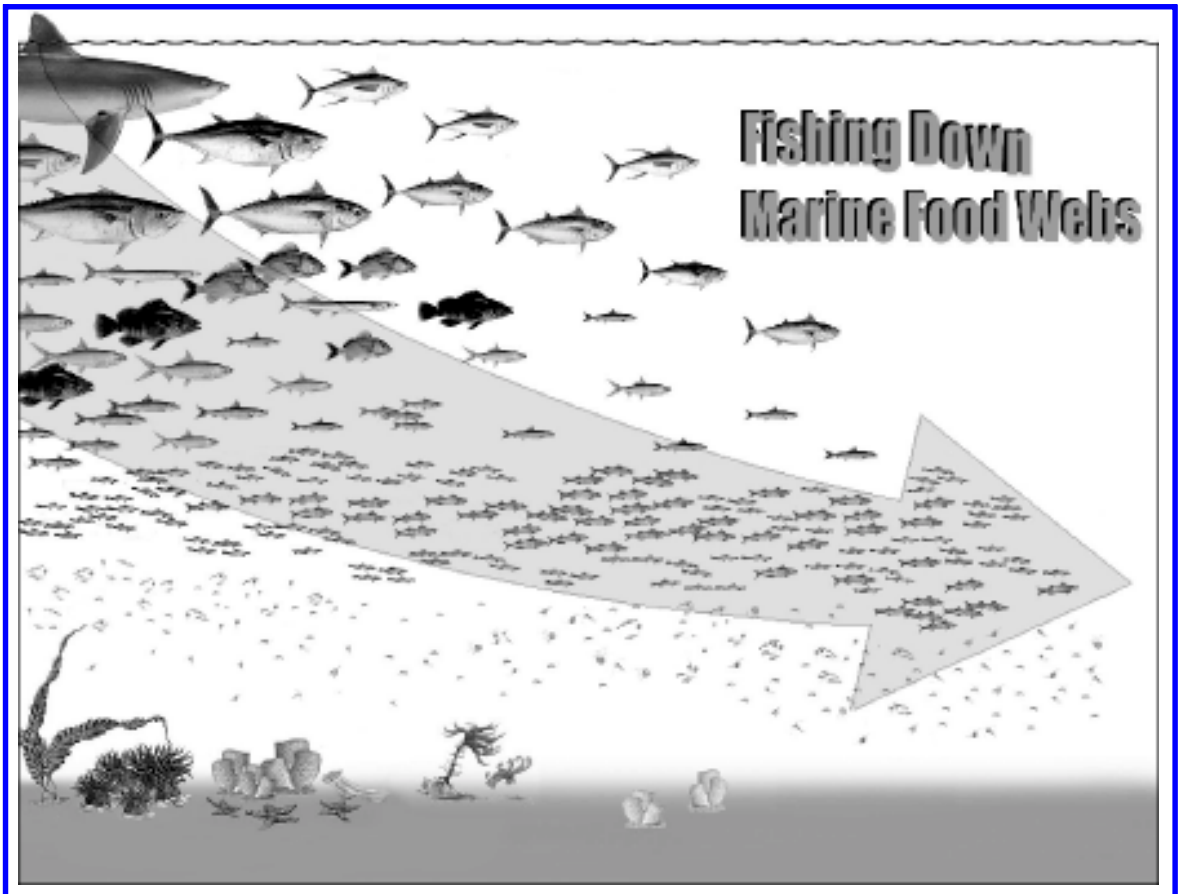

Fig 1. Schematic representation of 'fishing down marine food webs' as presented at the ICES 2000 Open Lecture. The horizontal axis represents both time and the sea bottom, the vertical axis the trophic level; the arrow represents global fishing, which increasingly concentrates on organisms of lower trophic levels, and depletes the large, long-lived species. Based on a colour drawing by Ms Aque Atanacio.

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harmonising the boundaries used by BGCP and LME areas. The talk was well attended and seemed of considerable interest to participants, particularly those involved with coordinating global studies combining oceanography and fisheries such as the GLOBEC program.

It is very pleasing to see the interest that has been expressed in forming a framework for describing marine areas which can hopefully transcend what have been traditional boundaries between research fields. Collaborations made possible by a common data basis will greatly strengthen value work on marine ecosystems.

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