

The Millennium Ecosystem Assessment: links with the *Sea Around Us* project

By Daniel Pauly

One of the conclusions that can be drawn from the recently concluded Earth Summit in Johannesburg is that there is still no clear perception, in the public at large, and among elected politicians, that the Earth's ecosystems are being degraded to such an extent and at such a rate that they will increasingly be unable to supply humanity with the services (e.g., water supply) that have so far been taken for granted.

Global climate change posed a similar challenge a decade ago, but this was overcome by the Intergovernmental Panel on Climate Change (IPCC), which, through a consensus-based process involving thousands of scientists, managed to convince leading politicians in most of the world's countries that climate change is an issue that must be addressed.

A similar task awaits the Millennium Ecosystem

Assessment, officially launched in April 2000 by the Secretary-General of the United Nations, Mr Kofi Annan with the statement that "it is impossible to devise effective environmental policy unless it is based on sound scientific information. While major advances in data collection have been made in many areas, large gaps in our knowledge remain. In particular, there has never been a comprehensive assessment of the world's major ecosystems. The planned Millennium Ecosystem Assessment, a major international collaborative effort to map the health of our planet, is a response to this need."

The Millennium Ecosystem Assessment (MA), the brainchild of Dr Walter V. Reid, its present director, is funded by a variety of foundations and international organizations, as reflected in its board and secretariat (see www.millenniumassessment.org) and is organized in a

fashion similar to the IPCC. Its key job, *i.e.*, a thorough assessment of the world's ecosystems, is performed by four working groups (WG):

A WG of scientists devoted to defining the 'Framework' of the MA's global and regional assessments;

A WG on 'Condition,' to analyze the present states of ecosystems and historic trends in their delivery of services to humans;

A WG on 'Scenarios,' to assess the impact on service delivery in the coming decades, under different sets of intervention options (do nothing, reverse some of the worse trends, address environmental issues on a broad scale, *etc.*);

A WG on 'Responses,' to evaluate different responses that countries, and humanity as a whole may take to address the issues in (2) based on the scenarios in (3).

*Continued on page 2 -
Millennium Assessment*

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Millennium Assessment - Continued from page 1

Each of these WG will write a technical report, the last to be released in 2005, when the MA is due to conclude. These reports are drafted, as in the IPCC, by Coordinating Lead Authors (CLA), assisted by Lead and Contributing Authors (LA, CA), all drawn from different parts of the world such as to ensure a regional and gender balance, to ensure a consensus that takes account of a wide range of situations and experiences.

Progress by the four WG has been very uneven so far, though fortunately in terms of the logic of its task, it is the Framework WG which is most advanced. The MA meeting held in Frankfurt, Germany, on August 20-24, which this author attended, was, indeed, to work

on a nearly complete draft of the 'Framework' report. Another imbalance is that between terrestrial and marine ecosystems, the former well represented by CLA with backgrounds in agronomy, forestry, hydrology, etc., while no CLA had been identified for the ocean until a meeting held in April/May in Frascati, near Rome (yes, members of the MA get to travel to such neat places - though the virtues of the local wine were lost on me).

The MA now has two saltwater CLA, Dr Tundi Agardy for "Coastal Systems," defined as "the interface between oceans and the land, [...] whose ecological determinants are largely governed by interactions with land [...], for mapping purposes, 20 m above and 50 m below high tide level," and this author, for "Marine Systems," which are "dominated by fisheries, and comprise the productive shallow shelves surrounding the oceans, down to 200m, and the deeper oceanic waters of tropical, temperate and polar areas, in which fishing is the dominant force behind environmental change."

Tundi and I, with assistance from the MA secretariat have since identified a number of potential LA for the coastal and marine system chapters (including several members of

the *Sea Around Us* project), who will be formally invited to join the 'Conditions,' 'Scenarios' and 'Responses' WG. Moreover, the MA accepted an invitation I extended, on behalf of the Fisheries Centre and of the *Sea Around Us* project, to host, in the first quarter of 2003, a coastal and marine MA workshop designed to provide an opportunity for a broad selection of members of the coastal and marine science communities to contribute to the MA.

There, the colleagues to be invited to this workshop will be asked to help finalize the draft of the 'Coastal' and 'Marine conditions' chapters that will have emerged until then, as well as to review other MA documents, notably those dealing with crosscutting themes such as the ecosystem services (biodiversity, food, esthetic value, etc.).

As well, this opportunity will be taken to present to the participants the methodology for mapping global fisheries catches and related attributes that was developed by the *Sea Around Us* project, which can be expected to be rather useful in the context of the coastal and marine assessments planned by the MA, and which may also turn out to be useful for the assessment of freshwater (inland) fisheries.



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The *Sea Around Us* website may be found at saup.fisheries.ubc.ca and contains up-to-date information on the project.

The *Sea Around Us* project is a Fisheries Centre partnership with the Pew Charitable Trusts of Philadelphia, USA. The Trusts support nonprofit activities in the areas of culture, education, the environment, health and human services, public policy and religion. Based in Philadelphia, the Trusts make strategic investments to help organisations and citizens develop practical solutions to difficult problems. In 2000, with approximately \$4.8 billion in assets, the Trusts committed over \$235 million to 302 nonprofit organisations.