

On the use of catch reconstructions out there

by Frederic Le Manach

During my initial stay in Vancouver, between September 2010 and June 2011, I was tasked with reconstructing fisheries statistics for the country of Madagascar. This is the type of project many of us at the *Sea Around Us* deal with on a daily basis; however, a cascade of events made this one a bit different, at least from what I had expected.

When I started, I knew very few things about Madagascar. I knew about those cute lemurs, and I knew it was a big island off the east coast of Africa. But I knew nothing about its fisheries. I quickly became immersed in the project, and made many contacts at various fisheries institutions and NGOs. Everybody seemed excited about the study, and they were more than happy to provide data, insightful comments, and assistance in putting everything together. As a result, the reconstruction produced something unexpected: un-reporting is indeed occurring!

We quickly published a paper that caused quite a stir in Madagascar. The United Nations heard about it and the elite of the world decided that something should be done. One day, I received an email from the World Bank, asking me whether I would like to get involved in a global project aimed at producing a framework



*A Malagasy fisher processes an endangered shark (*Stegostoma fasciatum*). Fins will be sold to a Chinese collector, while the meat will be consumed locally.*
Photo by F. Le Manach.

for ecosystem wealth accounting (WAVES <http://go.worldbank.org/1FM01NZU00>). I would be the “World Bank fisheries expert for Madagascar”; quite a big deal for a student who had just completed his MSc, and was waiting to start his PhD. I accepted the position, and thus started my ‘career’ as a consultant with a lot of excitement, and even more fear. The job was tricky: based on my knowledge of Madagascar’s fisheries and further studies, I had to come up with recommendations in order to help produce a new national framework ensuring sustainable practices, effective accounting, and improved food security. I must admit that it seemed easier said than done, but I hope that my work will be useful.

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For me, the most enjoyable part of the job came when the World Bank sent me to meet with - and involve - key fisheries stakeholders, in an effort to ensure that the work would be accepted by a wide range of professionals. I stayed for ten days in the capital city, Antananarivo, where I met on occasion with a steering committee, and filled the rest of my schedule with meetings at the Ministry of Fisheries, and other institutional and NGO offices. It was mind-opening to see how political, economic and environmental goals interact with each other in an effort to move towards sustainability.

Upon leaving the city, it took me four days to get to the beach office of an NGO that I had worked with for the past year, Blue Ventures. Their goal is to involve local communities in natural resources

management, and it was interesting to see how they make that happen. Progress is being made, which is good news for a country that seems paralyzed by political turmoil and a lack of funds. There are still barriers to address, however, for example, the fact that fishers consider endangered sharks as meat and fins, and not as endangered species.

This job – part of my PhD – was a great opportunity, and if I happened to receive similar invitation, I would say yes again. Our work will soon be available through a technical report and a book chapter. It will also be presented at the International Society of Environmental Economics meeting in Rio next June. Meanwhile, the reconstruction is available as part of a Fisheries Centre Research Report (19(4), 2011), and in a paper published in Marine Policy (36, 2012).



New Sea Around Us Project Newsletter Editor!

The *Sea Around Us* Project aims to be global in the scope of its work. I am happy to report that it is also global in its readership. A quick glance at our distribution list yields

names from Australia, Ascension Island, Belgium, China, Denmark, Ecuador, France, India, Indonesia, Japan, Mexico, New Zealand, Norway, South Africa, Tanzania, United Arab Emirates, United

Kingdom, United States, and Zimbabwe, among others.

I am happy to let our readers from near and far know that we now have a new Newsletter Editor. Lisa Boonzaier (pictured) will be taking over from me, Megan Bailey, as Editor effective February 2012. Lisa was born and raised in Cape Town, South Africa, and brings with her ample experience from her work as the Editor of a digital magazine produced in association with WWF. She has a passion for science communication, and began as a Masters student with the Project in September 2011. I hope you will join me in offering Lisa a warm global welcome!



The *Sea Around Us*

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The *Sea Around Us* website may be found at www.searoundus.org and contains up-to-date information on the Project.

The *Sea Around Us* Project is a scientific collaboration between the University of British Columbia and the Pew Environment Group that began in July 1999. The Pew Environment Group works around the world to establish pragmatic, science-based policies that protect our oceans, wild lands and climate. Pew also sponsors scientific research that sheds new light on the dimensions of and solutions to the problems facing the global marine environment.

The Sea Around Us project wins UBC award

by Dirk Zeller, Ar'ash Tavakolie and Daniel Pauly

The University of British Columbia recently announced the *Sea Around Us* Project Portal (www.seaaroundus.org) as the winner of **2012 UBC Library Innovative Dissemination of Research Award**. The *Sea Around Us* Project won out against 25 other UBC candidates.

As most readers of this newsletter know, the purpose of the Project, initiated in mid-1999, is to assess, document and communicate the impact of fisheries on the world's marine ecosystems, and propose strategic mitigation measure to ensure globally sustainable fisheries. The underlying, fundamental philosophy and approach of the *Sea Around Us* Project and its associated website (www.seaaroundus.org, see Figure 1 for homepage) is to combine the extractive, biological, legal and economic realms of fisheries resource use in a comprehensively interlinked and transparent manner, and present this in an ecosystem context. This is what makes our project globally unique. Our databases and website have now become the major source of spatially allocated fisheries information for the international scientific and environmental conservation communities, as well as many of the intergovernmental agencies. It is accessed by thousands of users every month, and is used for a

wide range of products. The success and progress of our project and the associated public face has also been documented in our 10-year retrospective, available at www.seaaroundus.org/retrospective/10yr/web_SAUP10YearRetrospective.pdf.

The Project portal at www.seaaroundus.org was created to raise awareness on the effects of fishing on the world's marine ecosystems and to disseminate the scientific findings and the activities of the *Sea Around Us* Project. Our efforts are aimed at tackling the following six issues:

1. What are the total fisheries catches from marine ecosystems, including reported and unreported landings and discards at sea?
2. What are the biological impacts of these biomass withdrawals for the remaining life in the ecosystems?
3. What would be the likely biological and economic impacts of continuing current fishing trends?
4. What were the former states of these ecosystems before the expansion of large-scale commercial fisheries?
5. How do the present ecosystems rate on a scale from healthy to unhealthy?
6. What specific policy changes and management measures should be implemented to avoid continued worsening of the present situation and improve the health of ecosystems?

Unlike previous efforts meant to support fisheries science and fisheries conservation, which are often species-specific, we created the first and still only database which assigns catch and derived information, such as catch values, to biological and politically meaningful geographic areas, by linking and filtering the fisheries data with the biological distributions of all exploited species, Exclusive Economic Zone (EEZ) fishing access agreements, as well as High Seas spatial fishing effort. Thus, our data are unique in that they can present, for any area in the world, fisheries data in space (i.e., who takes what, where and when, and how much it is worth).

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Our databases and website have now become the major source of spatially allocated fisheries information for the international scientific and environmental conservation communities.



Figure 1: Homepage of the Sea Around Us project web portal (www.seaaroundus.org), allowing access to over 18,000 pages containing fisheries and fisheries-related data by various geographic entities (e.g., EEZs, LMEs, High Seas etc.), as well as access to general news components of project activities.

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Through our emphasis on predefined spatial entities, we have bridged the gap between scientific research and publication of the results in a manner which is more user-friendly

The *Sea Around Us* Project web portal and its suite of supporting applications and databases, dynamically summarizes the raw data (over 1 billion rows of data) into over 18,000 analysis-based web pages (Figure 1 for homepage). These user friendly snapshots of data and time series present fisheries, economics, and governance data for the 240 EEZs of the 154 maritime countries of the world (e.g., Figure 2a), and by the 66 globally defined Large Marine Ecosystems (LMEs), as well as 18 High Seas areas. This platform recently went through a major technological overhaul, and now uses state-of-the-art architecture to automatically test and maintain this flow of information, ensuring quality dissemination of large-scale scientific data to the public.

What we currently present on the over 18,000 pages on our website is only the first step in our data- and information-access and dissemination efforts. Work is in progress to provide enhanced and customizable user access and selectivity of spatial data presentation.

The underlying philosophy of the *Sea Around Us* Project to combine the diverse realms of fisheries resource use is what makes this project globally unique. Conceptually and physically, we have organized our knowledge base in a way which is more conducive to use for sustainable policy development, ecosystem-based fisheries management, and general scientific and educational exploration, sharing and learning by the general public as well as secondary and tertiary educational institutions.

Through our emphasis on predefined spatial entities, we have bridged the gap between scientific research and publication of the results in a manner which is more user-friendly for many globally leading NGOs such as WWF, Nature Conservancy, Oceana, MAVA and many of the leading inter-governmental agencies, such as UNEP, FAO, World Bank or the WTO. At the same time, we heavily emphasize maintaining a high profile and credibility in the scientific community by insisting on publishing extensively in the scientific peer-reviewed literature. Since 2000, *Sea*

Around Us team members have published or co-authored over 160 articles in peer-reviewed journals, including several contributions in the high impact journals *Nature* and *Science*. Noteworthy is that, with the increasing maturity of our project, our scientific output has increased more than threefold in the second 5-year project period.

Thus, it is with great pleasure that we congratulate the entire *Sea Around Us* team. This award is a clear sign of UBC's recognition of our success!



Figure 2: Examples of data menus for selected geographic entities, here the Exclusive Economic Zone of United States (Gulf of Mexico section).

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