

### **Ecosystem – Based Management for Marine Fisheries: An Evolving Perspective**

By A. Belgrano and C. W. Fowler. 2011. Cambridge University Press, 32 Avenue of the Americas New York, New York, 10013-2473 USA. 384 pages. 115.00 CAD. Cloth.

In the year 2011 it becomes clear that capitalism has widely failed us financially, socially, in the atmosphere and also when dealing with fisheries worldwide. This book and its 12 chapters make the current global misery more obvious than ever. This text features many truisms, and some text citations go like this “...*over-exploitation generally leads to depleted fish stocks...*”, “...*interplay between prey and predators remains dynamic and challenging given the complexities of marine*

*food webs...*”, “*we discuss the potential failure of simple management models*” or “*The dynamics, circumstances, and condition of ecosystems have a clear impact on fisheries (and fish stock dynamics)*” (!?) Naturalists learn here that our governments and their institutions and representatives have widely lost it, play with words, and that ecosystem management is still in its formative phase and infancy, at best. What has the discipline of ecology, and its representatives, really

achieved during the last 100 years? By now, it just turned into a common scheme to exploit the wilderness (which evolved for millions of years), and then once all is destroyed, we start talking and publishing about complex intellectual schemes that our governments don't want, or cannot, implement anyway (as seen and expressed in virtually all chapters by the 36 worldwide contributors). From 'no management' to adaptive management to ecosystem-based and systemic management. What really works, and how much more will the western philosophy and its related business philosophy fail us any further?

This book of 384 pages, and with many species trend and harvest figures and a few color maps, asks: what does an Ecosystem Management, and based on holistic principles, really look like? At minimum, it is clear to us that a holistic view would include Deep Ecology, Embodied Energy, Mother Earth Rights and Generational Justice, and that it must avoid climate change and, thus man-made carbon pollution and ocean acidification. How can this not mean massive changes in the way we do business, and in society and (fisheries) institutions, and certainly in our legal system and education? And why are native and indigenous ways of doing business (a concept that worked better for thousands of years and without changing the climate etc.) not celebrated or used as a role model? However, that is the last thing these editors and contributors promote here and is the failure of this book. Instead they just sail off on another new pipe-dream (= their defined scheme of ecology) that sounds cosy in public. But, as shown here, it has no solid footing, is too slow to catch on, and just promotes business as usual and even to increase fish harvest and money making for just a few, e.g., the upper western society and its corporate industry and the political and science support machinery. Every naturalist sees it 'out there', daily and first-hand. Only a few chapters, authors picked up on the contradictory fact that when stakeholders are included in resource decisions, industry will just grab it all ("*Stakeholder-based policy is not ecosystem-based policy and makes holism impossible in conventional management*").

Every ecologist should balk at the use of linear management units, such as NAFO and PICES ones and non-quantitative Large Marine Ecosystem (LME) units; but this book and its authors do not. And some chapters make reference to the U.S. Magnusson-Stevens Act, but this policy tool cannot be a good global example neither and includes a hardwired industrial and bank overruling (and subsequently, this is not addressed in this book neither. Management is linked to financial institutions). Formulas that determine national harvest quotas are only hinted at (but not shown in detail). This publication falls entirely flat on elaborations about the fallacies with the so-called '*Tragedy of the Commons*' (where the destruction of a public good is invited and actually caused by the framework and the governance

scheme, but not by the public user!). The '*Tyranny of the Locals*' (where locals demand all rights and grab the resource until over-exploited) is also lacking. It is widely puzzling that ICES, PICES and CCAMLR (a founder of Ecosystem Management, but which widely failed on its flagship species: the Toothfish) are not reported on in this book even. And it is of uttermost disappointment (but not really surprising) that the editors, the Cambridge publisher and all chapter contributors leave the disaster of Economic Growth, of our Globalized Economy, as well as the bad role of IUCN, FAO, The World Bank and WWF almost entirely untouched (not to speak of the Tuna Commission, the International Halibut Commission or Russian NIRO). Native views are also ignored. Although this attitude and approach of a 'selected and convenient silence' is well in line with what Jane Lubchenco's NOAA and NMFS, as well as the EU, are promoting, it stands in a wide conflict with common sense, human honesty, humanity, the American Fisheries Society, the Ecological Society of America, and ecological base-concepts, e.g., as promoted in Ecological Economics (the inclusion of such representatives in this book would have been of huge value to the readers and the book scheme overall). Thus, alone from the literature references it can be seen that this book caters a political ideology. It is entirely silent on the issue of corruption, crime, drug abuse and smuggling, money making deals, cheap labour and abuse in fisheries, in international waters and with fisheries management and ocean planning. The presented climate change and ocean acidification details still underachieve, too. Nor is seabirds (ecological indicators) part of this book. Apparently, many managers and book authors want to implement an ecology-based management without such issues (despite their repeated statements about the supposed appreciation of the 'holistic', social and human factors and values in fisheries). I could go on here about ecological sustainability shortcomings of this text (let alone the lack of including third world nations, 101 ecological key references and textbooks, and the many nonsensical figures supposed to show ecosystem complexity, parsimony and how it is managed), but clearly this is all very serious business and affecting us all. Considering that over 80% of the fish stocks of the world are overfished, FIRING THE VAST MAJORITY OF MANAGERS IMMEDIATELY and closing their institutions 'for good' makes for a decent conclusion and can hardly be worse for all of us. Fisheries Management is an extremely expensive business, draining public budgets (an annual loss of 54 billion dollars is discussed by Dan Pauly; a subject most managers and authors avoid like the plague, and so did this book). The relevance of 'ethical ports', or at least 'ecological ports' (the harbours which only land, process and cater from approved fleets) is equally left undiscussed. Why not simply recall all fishing vessels right now until the overharvest problem is resolved (some book chapters

call already for an 80% harvest reduction)? Considering that fisheries are a global subsidy business, fisheries is paid by, and belongs to the people and thus should contribute to human and global well-being. That statement would be radical, or not realistic? Try to keep going otherwise; what is realistic there? Harvesting down all fish stocks, food webs and oceans any further (as many book chapters clearly state and cite)? We are 'peak fish', 'peak soil' (agriculture) and 'peak oil' but have rising human populations and climate change to come (these are all subjects this book widely ignores). And why would food conflicts then not lead to armed tensions and world wars? This book provides us with no answer; the institutions represented by the authors seem not to care. We would hope for a better ecosystem-management than that.

Some managers and their institutions, and the corporate industry and their NGOs, play god here. However, they widely failed and we all pay the prize. Managers should be accountable (Eikeset *et al.* this publication). Only in a few instances other management failures are hinted at in the text, e.g., with the 'big brother' in agriculture. Naturalists already know first-hand that forest resources, mining, oil sands, drinking water, epidemics, DNA food and the atmosphere are also widely mismanaged.

This book is showing us what the 'modern' western society and their urbanized people with an 8h day job can, and cannot produce. Turning Korea into a fish ranch is a stunning feat (but certainly it is not ecological). This publication is useful though in getting a basic overview about world fisheries, about some of the management attitudes, and their statistics, time series and claimed achievements, and the missing ethics on the agenda. Perhaps naturalists will enjoy some of the international literature references (a minor and repetitive selection of Pauly, Myers etc. is often included). The index counts 22 (!) pages.

Despite its huge value for fisheries management, the internet and open access data play no role to the authors. Views from fisheries nations like Japan and Iceland/Greenland are lacking in this publication. The Bay of Fundy chapter I found disappointing. The Alaska book chapter show us what some of the shortcomings are: the 'expert' authors all come from outside of the resource's state, tend to live in urban centers (Seattle), essential fish habitat (EFH) is not defined well, Alaska's cheap labour and drug issues are not discussed, overfishing is slightly mentioned but a complete cumulative picture is not shown (e.g., that many

stocks are harmed, lack a thorough EIS, and stand in concert with many other problems such as invasive species, shipping, oil and gas development). Alaska still gets cited as a good example and untouched wilderness (this is far from true, and just when considering already overfished crab, Pollock, Arctic cod, herring and rockfish stocks and the deep sea coral problems).

Many authors further fell for the "fallacy of recovery" and forgot that a rebuilding of fish stocks really means a rebuilding of the global society (which is not promoted here). So far, the industrial global society clearly has a problem with fish, but also with ecology. The failure of fisheries only means the failure of NGOs and of civil society (a reality only touched upon marginally in this book).

What do I like about this book? Perhaps the chapter about the Baltic Sea and its 'deadlock' (irresolvable problems one way or another, and "...irrefutable evidence of the transformation of a formerly productive eastern North Sea into an ichthyological desert due to intense fishing.") and the documented lack of vision there. Further I like some of the sea mammal writings, the critique of "misdirected reductionism", the chapter about "...unintended consequences sneaking in the back door", and that "...we do know enough to make decisions". The relevance of making time-critical decisions is mentioned many times, that fishing for some species now is 51 times higher than observed among marine mammals, and that "...considering greater levels of complexity is mostly rhetoric rather than concrete actions". Documenting and admitting failure is useful to know for sure. Just give us our fish back.

"We are witness to a history of management that fails..., and results in more problems than are solved".

In conclusion from this book: virtually all our fish harvest rates are too high and must be immediately reduced. Single species management should be a thing of the past and outlawed. This book is still full of real non-achieving but typical management slang (ecological 'posing?'). It does not only harm us, but also our children, and their children (and their fish stocks). Such views and understanding of ecology as presented here harm the ecosystem the most (one must think like the universe). This publication will make every concerned naturalist cry, guaranteed.

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