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Book Review

WHALES, WHALING AND ECOSYSTEMS. Editors: James A. Estes, Douglas P. DeMaster, Daniel F. Doak, Terrie M. Williams, and Robert Brownell. University of California Press, Berkeley, Los Angeles, and London. 2007. ISBN-13: 978-0-520-24884-7, ISBN-10: 0-520-24884-8

Are Whales Really Greedy Monsters?

Certain parties who support commercial whaling are becoming increasingly shrill in their claims that whales are a threat to global food security. No, this is not a joke. Check out the "St. Kitts and Nevis Declaration," agreed to by the majority at the 2006 meeting of the International Whaling Commission and available on the IWC website. You will find a clear, if grammatically challenged, statement of this food security "risk" and a clarion call to lift the global moratorium on commercial whaling. For those interested in a well-argued counterclaim, I would recommend Clapham et al. (2007), a paper written by several of the expert contributors to the new book *Whales, Whaling and Ecosystems*. The role of whales in marine systems has moved into the political arena, but at its heart should be a serious scientific question: "How did whales and whaling influence the dynamics of ocean ecosystems?" This is the question that *Whales, Whaling and Ecosystems* explores.

In theory, the decimation of many whale populations by commercial whaling provides the opportunity to evaluate their role in marine food webs (in fact, this could even be seen as an unintentional large-scale experiment). For example, in those ecosystems where the whales were once prominent, did they exert control over their prey or were whale numbers controlled "bottom-up" by their prey?

Whales, Whaling and Ecosystems is an important book, collating a series of timely statements by some of the world's leading experts. Yet, it is also somehow a disappointment (rather like a detective novel where you never find out "who done it")! Its dull, green-tinged front cover is adorned with a gloomy historical print showing orcas attacking a right whale. I get the point, but this cover makes the book look old before its time, a shame because inside are the latest thoughts on cetacean ecology and much more besides. A veritable "who's who" of the world's leading experts (dominated by the North Americans) display their knowledge, theorise, and disclaim their perspectives in 28 carefully crafted chapters spread over 402 pages. Lessons are drawn from other (non-whale) marine species, and issues that obliquely address the central themes are also presented in some detail. I believe that it is a very important contribution to the debate, and all concerned, including the project's sponsor, should be complimented on their efforts.

The factors that obscure our understanding of the role of whales include our profoundly poor knowledge of baselines. Or, more precisely, how many whales were there in the first place and how did ecosystems work at that time? Original population sizes (an underpinning factor in proposed whaling management regimes) are hotly debated. The use of the log books of whalers to back-calculate how many whales were there in the first place has recently been challenged by a genetic technique. This employs analysis of genetic variation and suggests far larger starting populations (Roman & Palumbi, 2003). For example, instead of a global total of 115,000 humpback whales, this technique estimates a worldwide abundance of 1.5 million. The lack of clarity clearly affects understanding of how marine ecosystems responded. Similarly, during much of the heyday of whaling (which happened at different times in different places), no one was systematically watching other marine species to see how they were reacting.

This is a serious and important scientific book. It should be in the libraries of all institutions that are concerned with marine ecosystems. There is much here too to fascinate those who are interested in marine mammals, including chapters that detail the history of whaling in various ocean basins, the consideration of the great whales themselves as prey (hence the gloomy cover), what happens to the dead body of a whale over time on the ocean bed, the physiological and ecological consequences of extreme body size, and much more besides.

Perhaps I can take the liberty to add a conclusion of my own to this work. Given that we don't really know how whales have affected marine ecosystems, we should presumably proceed in our future interactions with them with great care. The whales have a place within healthy systems. Few great whale populations are occupying the "ecological space" they would have before whaling decimated them. So, great care to me means

acting in a precautionary manner, including not removing these animals from their populations unnecessarily. Whaling for profit (whether overtly commercial or thinly disguised as "scientific") is not meeting any pressing need, so let's not do it! As it becomes increasingly clear that whale populations are actually divided up into cultural population units, the argument for leaving them alone becomes even more compelling. Being long-lived and slow breeding, they are among the least suitable animals for experiments in sustainable use. The growing threat of climate change—especially for those animals that live or feed in the polar seas, which includes the huge majority of the great whales—exacerbates this further (Learmonth et al., 2006; Simmonds & Isaac, 2007).

Finally, in their concluding comments in the book's closing chapter, the editors provide a valuable overview of the preceding chapters, and they are united in their call for a greater future focus on whale ecology and less on "numerology." I agree. The time has come for whale science to really get to grips with behaviour and ecology and to move on from its current obsession with stock estimates.

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