Book Review:

Sustainable Fishery Systems

(by Anthony T. Charles)

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Anthony T. Charles, *Sustainable Fishery Systems*. Fish and Aquatic Resources Series, No. 5, Blackwell Science, Ltd., Osney Mead, Oxford, UK, Soft cover, 370 pp. ISBN: 0-632-05775-0

Introductory fisheries books have become increasingly difficult to write. Gone are the days when there was a widely shared set of core concepts and approaches that constituted fisheries management. Today, many fisheries are in a state of crisis and "business as usual" is not acceptable. Reaching the biological limits in countless fisheries has radically altered how they are managed, or even who has the authority to make management decisions. Also, the long-term transition in fisheries from hunting wild fish to growing fish in captivity continues, occurring in just a few years for some species. Further, changes in society, especially the democratization of governance and the emergency of environmental priorities, have removed much of the administrative power of professional fisheries managers. Consequently, it is often not clear precisely what constitutes "modern" fisheries management, nor how it should be implemented.

Anthony Charles has written a book that reflects and responds to many of the dramatic changes in the profession. The book has a strong "management" flavor but it bears little resemblance to many classical fisheries management texts. Gone is the traditional emphasis on stock assessment, yield equations, or rent maximization. Given prominent attention is the ecosystem approach, concepts of sustainability, co-management and its variants, and various notions of rights. Given that past fisheries management efforts often have not achieved their publicly-stated objectives, the author describes an entire suite of contemporary approaches that offer at least some prospect of greater success.

Even in a forward-looking introductory fisheries management book such as this one, there must remain a core that is essential to understanding management principles. The first half of the book includes chapters defining and describing fisheries and concepts of fisheries, characterizing fisheries, descriptions of the natural or biological portion of fisheries, the human component of fisheries, and the fundamentals of management practice and institutions. There are also chapters on the basics of what are traditionally called management theory and population dynamics. The first half of the book is fairly traditional and any seasoned fisheries manager would feel quite at home with it.

The second half, however, focuses on the reality and challenges of managing fisheries in contemporary societies. Chapters cover topics such as sustainability, uncertainty, precautionary approach, burden of proof, ecological complexity, biological diversity, ecosystem management, conflicts, co-management, concepts of rights in fisheries management, and assessing fisheries systems for resilience. Each of these concepts is introduced in sufficient detail for the reader to gain a rudimentary understanding and appreciation of the topic, but not in detail excessive for an introductory text.

Although not exclusively, the book is definitely slanted toward commercial and marine fisheries. In part this reflects the author's perspective and experiences as a professor of management science and environmental studies at Saint Mary's University in Halifax, Nova Scotia. There are plenty of examples from outside North America.

The target and appropriate audience for this book is advanced undergraduates and graduate students. Working fisheries professionals will also find the book useful and often insightful. Experienced fisheries professionals will view *Sustainable Fishery Systems* as a "modern" fisheries book, rather than a "classic" one and, as such, it offers interesting perspectives on the likely future of fisheries management.

The strength of the book is its realism and contemporary perspective about management. Absent are illusions that stock-recruitment relationships or calculations of maximum sustainable yield drive management decisions today. Rather, the author describes

the political dynamic of how decisions are made. Scientific information and analyses contribute to decision-making, of course, but ultimately management decisions are adjudicated through whatever institutions are in place at a specific time in a particular society. Science has a role, even an essential one, but is only part of the management process.

A weakness, really more of my own personal preference, is that the overarching emphasis in the book is on commercial fisheries and specifically on marine fisheries. Many of the principles described in the book certainly apply to recreational fisheries, but there are also other factors and perspectives that operate in recreational fisheries that do not in commercial fisheries.

In summary, this is an excellent, well-written book. It is contemporary in its treatment of scientific knowledge and management concepts. It would be a valuable addition to any fisheries bookshelf.

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