Book Review - *"Principles of Fishery Science"* (by W. Harry Everhart, Alfred W. Eipper, and William D. Youngs)

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BOOK REVIEWS

Principles of Fishery Science. By Harry Everhart, Alfred W. Eipper, and William D. Youngs. Cornell University Press. 1975. 288pp. $12.95.

Principles of Fishery Science undoubtedly will become one of the standard introductory texts on fisheries science. The authors possess the diverse and extensive professional backgrounds and experiences necessary to write a comprehensive textbook on fisheries science, and the result is clearly evident. Fisheries science students, resource managers, administrators, and scientists will find the book readable and useful.

The stated purpose of this book is to present the principles of fisheries management to readers assumed to have a firm foundation in the biological, physical, mathematical, and social sciences; the purpose of this book is roughly the same as *Fishery Science* published 22 years ago. The authors' purpose has been achieved to a very reasonable degree.

Among the most positive features of this book is its readability. The authors write in an understandable and concise style while summarizing some very complex material. Examples are incorporated in most chapters which illustrate and exemplify basic principles. The chapters on population analysis and dynamics are especially understandable in view of the complexity of some of the concepts.

The organization of the book is clear-cut and logical. There are 19 rather independent chapters; in fact, there may be a tendency for chapters to appear disjointed to students in the sense that the holistic nature of fisheries management may become lost. A better organizational format is not obvious immediately, though.

Another dominant characteristic of the book is its heavy emphasis on techniques. Such "nuts and bolts" topics as fishing gear, age and growth, fish marking, habitat improvement, fishways, screens and guiding devices, and undesirable fish control are covered in detail. This type of material may be valuable and useful to the practicing manager as well as the student, but in some respects it may tend to overpower the central theme of "principles" and development of management *strategies* for achieving specific management objectives.

A particularly strong and useful section is that dealing with fish population analysis. The chapters on estimating population size, mortality, recruitment, and yield are especially valuable to the student and practicing manager. The population analysis information is presented in a lucid manner, is well written, and relates to some very real problems in fisheries management.

Any book which attempts to address the whole array of fisheries science problems is going to have some omissions by necessity. The question of whether various topics should be included is a subjective one, but, in my view, the most serious omission is a lack of emphasis on a management *philosophy*. The ideas of management by objectives, objective formulation, optimization, and strategy analysis are emphasized only slightly. Perhaps there is a tendency for a review of many different kinds of tools and procedures, but with much less emphasis on exactly what is to be done when confronted with a certain type of management problem. More directly, from a societal viewpoint, *what* are the problems?

Another weakness of the book (perhaps a statement of a weakness with our profession as a whole) is the lack of emphasis on the sociological aspects of renewable natural resource management. There is considerable emphasis on the biological aspect of fisheries, and a fair amount of emphasis on the habitat aspects of fisheries management, but very minimal emphasis on sociological aspects. What are the social benefits in use of aquatic resources? How are these benefits measured? What kinds of things are important in the fishing experience? How does a manager select objectives? What is the role of special interest groups in management? The conflict of optimal sustained yield vs. other measures of yield deserves some attention in an introductory book. Also, systems analysis as a philosophy of renewable natural resource management can be extremely useful. The book begins with a rather strong commitment to systems analysis, but fails to develop it. However, these criticisms are really criticisms which should be leveled against our profession.

On the whole, the book will be well received by the university community as a teaching aid. Also, the book will be highly useful for the practicing fisheries scientist and manager and, in my view, will be a standard in the profession for a number of years to come.—ROBERT T. LACKEY, Department of Fisheries and Wildlife Sciences, Virginia Polytechnic Institute and State University, Blacksburg 24061.