



Book review

Lee A. Fuiman and Robert G. Werner (eds.), *Fisheries Science: The Unique Contributions of Early Life Stages*. Blackwell Science Ltd., Oxford, UK, 2002. Soft cover, 324 pp. ISBN: 0-632-05661-4

Fisheries Science was written to address the relative lack of book-length information in the current literature on the early life-stages of fish species. Although there has been an increasing amount of research focusing on the egg, larvae, and juvenile stages of fishes, the available information has never been organized into textbook form. Clearly, an understanding of the early life-stages of fish is necessary to properly manage and study fish species. *Fisheries Science* follows the traditional format of a fisheries management or ecology text, but examines each topic from the perspective of the early life-stages. The editors have assembled an expert group of researchers and educators to write the chapters. The topics covered include: age and growth, mortality, recruitment, population analysis, cohort identification, habitat requirements, community and species interactions, and management and human impacts. In the last few chapters several case studies are examined. These topics are moderately advanced, and are likely limited to upper-level undergraduate and graduate courses. This review is a product of a class including both senior undergraduates and early-stage graduate students.

Fisheries Science is intended to supplement existing textbooks and present an introduction to the importance of the early life-stages of fish species. Indeed, many of the chapters could stand alone as supplemental readings for a fisheries course, while avoiding excessive details that could confuse the reader. Toward this end, most of the chapters are fairly short and a list of supplementary readings is provided. However, it is difficult to discern the level at which this book will work best. As with any edited text, there are a variety of styles and approaches. Some chapters

are able to balance their length, level of detail, and difficulty, whereas others are less successful.

The book begins by providing an excellent summary of important information about the early life-stages of fish. The logical progression of information in Chapter 1 makes it easy to follow and the material is heavily reinforced by references. The second chapter provides an extremely detailed description of techniques used to age larval fish, as well as a review of the unique aspects of growth of early life stages. This chapter could be intimidating to readers who lack a strong background in studies of age and growth. Chapter 3 presents a strong introduction to the causes of natural mortality in early life stages and discusses modeling techniques unique to this topic. The following chapter contains a fairly low-level discussion of recruitment that focuses primarily on qualitative issues pertaining to larval survival. Additional references should be provided if this chapter is to be used for an upper-level class. The fifth chapter provides an effective description of population analysis methods. Chapter 6 is well-written and may be useful as an introduction to cohort identification techniques. However, the lack of additional readings limits its usefulness as a supplementary text. Habitat requirements of early life-stages of fish are described qualitatively in Chapter 7. For this topic, qualitative descriptions are an appropriate way to present the material. Chapter 8 presents an overview of species interactions. This chapter is well written, informative, and effectively references other chapters in the text. Chapters 9 and 10, entitled “Fisheries Management” and “Human Impacts”, should have provided a capstone for the entire book, but the material covered is disappointingly basic and would not provide much new information to an upper-level class. Three case studies are presented in Chapter 11. These cover species from Japan to the Great Lakes to the Danube River and include the only non-North American authors in the book. We found that

these case studies were not presented in enough detail to serve as examples of how all the themes in the preceding chapters could come together in a research setting. Chapter 12 consisted solely of reference material (literature and online resources, as well as locations of reference collections and larval fish archives), and would be useful to an interested student or professor.

This textbook is interesting and informative, and provides an excellent body of material that could be used to supplement other resources. In addition, *Fisheries Science* is invaluable as the only existing text that focuses on the early life-stages of development. Unfortunately, the level of detail presented would not be adequate for an entire course and the inconsistent

styles limit its usefulness as a core text. However, we feel that *Fisheries Science* will continue to be a useful reference and will be of broad interest to fisheries ecologists.

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