Book Review: Fishes and Forestry — Worldwide Watershed Interactions and Management

(Edited by Thomas G. Northcote and Gordon F. Hartman)

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BOOK REVIEW / CRITIQUE DE LIVRE

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***Edited by* Thomas G. Northcote and Gordon F. Hartman**

Large-scale conversion of forests to accommodate human needs (e.g., agriculture, fuel, transportation, flood control) began long ago and continues today. In spite of widespread conversions, forests still cover vast regions of the world. The remaining forests are often intensively managed to satisfy increasing human needs (e.g., wood, fiber, paper).

Forests, whether altered or not, greatly influence conditions in many aquatic environments. In aquatic environments, many species of fish are especially important to humans for food, recreational, cultural, or spiritual values. Therefore, for both utilitarian and scholarly reasons, it is important to understand how human actions affect forests, how the resultant changes affect aquatic environments (especially fish), and how the relationship between forests and fish can best be managed.

For most regions of the world, the scientific literature describing the linkage between fishes and forests is scattered. There are notable exceptions (e.g., the forest–salmon relationship in western North America), but much of the worldwide literature is not easily available to the general scientific community because it has not been published in widely available journals, much less synthesized in a single publication.

To fill this void, Northcote and Hartman mobilized more than four dozen fish and forest experts from around the world. The authors constitute an impressive suite of senior scientists, each with wide-ranging and in-depth experience. Assembling such a group, organizing writing assignments, editing disparate manuscripts into a cohesive writing style, and producing a reader-friendly book is a monumental task, even more so when the goal is to produce a book that is both technically rigorous and accessible to a diverse audience. The editors have done all these tasks very well.

The book is composed of 34 chapters. Each chapter is an integration and synthesis of the literature on a specific topic and is written by one or more experts.

The first section consists of several chapters that provide introductions to the basic ecology of forests, watersheds, streams, and estuaries. The material presented is up-to-date, solid, and would constitute a mini-limnology course with emphasis on forest ecosystems. It would be especially useful to those involved with forestry issues but who lack a background in aquatic ecology.

The second section includes chapters concerned with fish biology and ecology. Topics include fish

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life histories, stock diversity, migration, reproduction, and foraging ecology. These chapters could serve as an excellent introduction to fish ecology and would be especially useful for those individuals without a good understanding of fish biology.

The third section comprises three chapters that describe common forest practices (e.g., tree harvest, transportation, silviculture, and pulp and paper manufacturing). These are interesting chapters, especially for aquatic or fish biologists who have had little direct involvement with forest practices.

The fourth section synthesizes what is known or suspected about forestry effects on aquatic systems and fish. Specific topics include the effects of forest management and pulp and paper mills on watersheds, lakes, streams, and estuaries. This section has a strong North American Pacific Northwest flavor because much of the relevant literature has been generated by scientists from this region.

The fifth section contains a half dozen chapters that synthesize the literature about fish–forestry interactions in major regions of North America. As should be expected, this is the best developed part of the book. The literature is the most extensive, and some of it has been synthesized previously, which provided an excellent foundation for several chapters. The chapters in this section are all exceptionally well written, appropriately comprehensive, and pleasantly refined.

The sixth section has eight chapters that collectively synthesize the fish–forestry interactions in regions outside North America. These chapters probably will be especially interesting to North American readers because of the different policy and political contexts represented (e.g., where poverty is a dominant concern). Many of the policy and management issues are ones that those working in affluent regions of the world typically do not confront.

The final section contains four chapters which evaluate options for improving fish–forestry interactions. Topics include forest guidelines, codes, legislation, habitat and ecosystem restoration, public education, and likely future policy challenges. To the credit of the editors, they explicitly consider the challenge of balancing the realities of an increasing human population in many regions, and more resource-demanding lifestyles everywhere, with better forest management. No simple answers are offered, but at least the issues are raised and given serious consideration. Such issues, as obviously important as they are in ecological policy, are often overlooked in similar publications.

In summary, this book makes a significant contribution to the science and natural resource management literature. Its worldwide perspective is an especially important feature. The editors are to be lauded for undertaking the monumental task of identifying, organizing, and managing the writing efforts of several dozen scientists and, ultimately, producing a book that is well integrated, consistently written, and refreshingly comprehensive, a monumental challenge to be sure, but one where their success is well demonstrated by a first class book.

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