

Made in United States of America

Reprinted from COPELA

1993, No. 4

© Copyright, 1993, by the American Society of Ichthyologists and Herpetologists

NATIVE TROUT OF WESTERN NORTH AMERICA. R. L. Behnke. American Fisheries Society, Bethesda, Maryland. ISBN 0-91235-78-4. 275 p., \$33.00 (softcover).—The native trouts of western North America have sustained themselves in the face of extensive geologic, hydrologic, and climatic change. Their evolutionary and taxonomic history is complex and variously

interpreted. Immigration to and settlement and development of the West by Europeans brought new forces to bear on this group of native fishes. Greatest among these were (1) changes in habitat through land management activities, damming and diversion of aquatic systems for power generation, and a multiplicity of agricultural and municipal uses; and (2) widespread and extensive propagation and introduction of the rainbow trout (*Oncorhynchus mykiss*) and introduction of nonnative salmonids such as brown (*Salmo trutta*) and brook (*Salvelinus fontinalis*) into waters inhabited by these natives. As a result, many native trouts have declined drastically in range and numbers and presently are listed as threatened and endangered species or special status.

The American Fisheries Society monograph *Native Trout of Western North America*, by Robert (Bob) Behnke, results from almost four decades of research and practical experience with this group of fishes. It is the first monographic work that both addresses the evolution, taxonomy, and present distributions of members of this group of fishes and provides a proposed conservation or management strategy/philosophy to sustain them for perpetuity.

As is often the case with specialists in respective fields, I was cursorily aware of Behnke and his work with trouts in the southwest while a graduate student in Arizona in the late 1960s and early 1970s. I became more intimately involved and familiar with both the group and Behnke's activities relative to it when I became employed as a research biologist with the United States Forest Service in 1976. At that time, the Rocky Mountain Forest and Range Experiment Station had just published an inhouse, coauthored document on the biology and management of threatened and endangered trouts (GTR-RM-28). Contained within the paper were some unpalatable (to the Forest Service) statements about "overgrazing" and its negative influence on two of the native southwestern trouts (the Gila and Apache), both the focus of my research at that time. This outspoken, "professional opinion" is the very essence of Behnke's zealous approach to conserving and managing for the welfare of native western trouts.

In the course of my ensuing research, and combing the literature necessary for publication and presentation of its results, I became more familiar with Behnke's contribution to understanding the taxonomy, classification, and management philosophy of this group of fishes. This monograph is an excellent comprehensive (geographical, geological, chronological, and

managerial) summary for the three native species groups of western trouts.

The work is well written, easy to read, well organized, and well structured and should be required overview reading for anyone either personally or professionally interested in native western trout history and management. It will, indeed, raise one's level of awareness and appreciation for the group. The introductory chapters on classification, origin, distribution, biology, and management very effectively set the stage for discourse on respective taxa of the three major species groups of western trout: cutthroat, rainbow, and southwestern. Although some are probably present, I could find no glaring or consistent grammatical or typographical errors. The illustrations are excellent, and the bibliography is current and comprehensive. The reader must, however, be aware, when viewing the drafted photos, of the tremendous variability in color and spotting of this group of fishes across the landscape.

The only other recent work with which to compare the monograph is the recent multiauthored Stackpole publication *Trout* (Stoltz and Schnell, 1991). This book was designed to cover a larger geographic area and to integrate the fields of trout biology, habitat, and their management as a resource. *Trout* is a coedited work with contributions by over 30 authors and has the dual goals of both educating the public through more extensive text on biology, habitat, and many color illustrations and yet providing the professional with extensive technical and bibliographical information on all trouts in North America. Indeed, you will note who penned the first two sections of *Trout*.

By comparison, one of the major goals stated by Behnke in the preface of the monograph is to "accelerate the preservation and enhancement of the biodiversity of western trouts." I agree fully with this objective but somewhat disagree with the proposed strategy to achieve it. Behnke suggests that "professional opinion" is the most feasible means of reliably managing, conserving, and/or preserving western trouts. Both past and current extensive positive management activities by state and federal agencies for the native trouts are not given due credit. The professional opinion approach to western trout management could easily lead to "management by consultancy." That is, if a suggested approach works in a given management situation, it is great. If not, then the land managers (and the public) are the owners of the results of the advice of the consultant—the consultant owns the compensation for the advice and not

the failure of the respective project. Indeed, there is a place for professionalism and professional advice in the management of this valuable natural resource. However, the role of Behnke and other professionals should be to infuse that necessary component into the agency through education of students and through their experiences on the ground (as stated or implied in the epilogue). Both Behnke's years in academia and now this monograph are the means to that end.

The hypothetical phylogeny is in close agreement and verified by a recent comprehensive, osteological study of the phylogeny of western salmonidae by Stearly and Smith (1993). The epilogue is on target in suggesting that we proceed to manage the forms or taxa of native trouts and their relative purity (e.g., A, B, or C) and not wait on conclusive scientific study before initiating and implementing management activities. Relegating the two native southwestern trouts (for the first time in print) to subspecific status is bold evidence of practicing what you preach. Behnke may well one day be shown through scientific evidence to be correct in this

professional opinion. After all, as he points out, "What's in a name—if the form is a form is a form?" This monograph is and will continue to be a valuable reference volume for students, fishery managers, and scientists alike.

LITERATURE CITED

- STEARLY, R. F., AND G. R. SMITH. 1993. Phylogeny of the Pacific trouts and salmon (*Oncorhynchus*) and genera of the Family Salmonidae. *Transactions of the American Fisheries Society* 122:1-33.
- STOLTZ, J., AND J. SCHNELL. 1991. *Trout*. Stackpole Books, Harrisburg, Pennsylvania.
- JOHN N. RINNE, *USDA Forest Service, Rocky Mountain Station, Southwest Forest Science Complex, 2500 South Pine Knoll Drive, Flagstaff, Arizona 86001.*
-