ing the importance of interdisciplinary approaches to understanding and hopefully saving coral reefs. This is reflected in the title, referring to the "crossroads" of present reefs and the expanding range of studies surrounding them.

Each chapter is an up-to-date and comprehensive review of the specific topical material. The authors cover a range of time periods and processes, from the earliest marine life and the evolution of photosymbiosis to the present impacts of climate change and ocean acidification on calcification and the competing process of bioerosion. The chapter by Lipps and Stanley does a nice job of bridging historical information from the fossil record to the present state of reefs and projections into the future. The chapters on the chemistry of calcification, ocean acidification, and climate change do require some background in chemistry to be fully comprehensible, while other chapters on ecology and evolution are accessible to anyone with an interest in natural history. The final two chapters do a nice job of providing information and perspectives on the drivers responsible for the decline of coral reefs and the challenges that require multidisciplinary approaches to be addressed and, possibly, solved. All of the chapters are preceded by

Fishery Resources, Environment, and Conservation in the Mississippi and Yangtze (Changjiang) River Basins. *Based on a symposium held in Little Rock, Arkansas, 11 September 2013. American Fisheries Society Symposium, Volume 84.*

Edited by Yushun Chen, Duane C. Chapman, John R. Jackson, Daqing Chen, Zhongjie Li, K. Jack Killgore, Quinton Phelps, and Michael A. Eggleton. Bethesda (Maryland): American Fisheries Society. $79.00 (paper). x + 350 p.; ill.; no index. ISBN: 978-1-934874-44-8. [Two separate maps showing dam locations for the Mississippi and Yangtze River Basins are included.] 2016.

Flowing waters comprise a miniscule percentage of the planet, yet humans are disproportionately dependent upon them. At the same time, they are among, if not the, most heavily impacted habitats. This book, comparing two of the world's largest river systems, is not simply a tally of their fishes, fisheries, and problems—it is a chronicle (perhaps a "poster child") of the interaction of stream ecosystems and humans, focused around fishery resources.

The book is organized into three parts, and Part I is an overview of the two systems. Chapters 1 and 2

are excellent summaries of the physical and hydrological aspects of each system; Chapter 3 (although mostly a review of existing papers) provides a very complete picture of the fishes of the Mississippi; and Chapter 4 is quite different, focusing on lake commercial fisheries in the Yangtze basin, with the overall fish fauna having been dealt with generally in Chapter 2. Part II is titled Endangered and Invasive Species, Biodiversity, and Conservation and includes six chapters. This part of the volume is decidedly unbalanced, with the first chapter exploring the status of two ancient fishes—sturgeons and paddlefishes—in the two drainages, and the following chapter is on bigheaded carps, again in each drainage. The remaining four chapters all focus on the Yangtze, or rather parts of it, and include one chapter on the two rare species of cetaceans endemic there. Part III, Anthropogenic Stressors, Floodplains, and River Restorations, is also unbalanced, containing five chapters, four of which are on the Mississippi River; the single Yangtze River chapter explores threats to, and restoration of, its floodplains. The unbalance in Parts II and III probably stems, in part, from the topics available to the editors at the AFS symposium from which the publication arose. However, a deeper reading suggests that the unbalance may derive more from the very different histories of human interaction with these river systems, and thus this "imbalance" may provide a very interesting glimpse into the two cultures and their relationship to their resources.

For those interested in rivers, river fishes and fisheries, or the history of human-river interactions, this book contains a wealth of information on a broad array of topics within these themes. As a "fish conservation biologist" myself, and one who has worked extensively on the Mississippi River, I gave the volume what might be considered an unusually thorough reading. What emerged from this deep reading was not a sense of hope for such large rivers, but a sense of hopelessness. Intended or not, and obviously or implicitly, each chapter makes it clear that the rivers will need to learn to live with humans, not the other way around. The suggested changes to regulatory practices, to floodplain use, and even suggestions for restoration represent at best a holding action. This is indeed a sad commentary on humans.

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BATS IN THE ANTHROPOCENE: CONSERVATION OF BATS IN A CHANGING WORLD.

Edited by Christian C. Voigt and Tigga Kingston. Cham (Switzerland): Springer Open. $59.99. ix + 606 p.; ill.; index. ISBN: 978-3-319-25218-6 (hc); 978-3-319-25220-9 (eb). 2016.

AND THEN THERE WERE NONE: THE DEMISE OF DESERT BIGHORN SHEEP IN THE PUSCH RIDGE WILDERNESS.

By Paul R. Krausman; Foreword by William W. Shaw; illustrated by Bethann Garramon Merkle. Albuquerque (New Mexico): University of New Mexico Press. $65.00. xvi + 229 p.; ill.; index. ISBN: 9780826357854 (hc); 9780826357861 (eb). 2017.

Bighorn sheep are among the most easily observable ungulates in western North America, and in protected areas they readily habituate to people. They face two main threats: exotic disease and habitat degradation. Paul Krausman describes how one population nearly got surrounded by the city of Tucson and disappeared. Like many "desert" bighorn, those in the Pusch Ridge Wilderness were once part of a metapopulation: exchanges with nearby "mountain islands" maintained both their numbers and their genetic variability. Sheep can cross the desert, but do not deal well with roads, fences, and urban areas. The Pusch Ridge sheep became isolated by urban development. Their shrinking home range was traversed by heavily used recreational trails, their habitat degraded partly because of fire suppression, and eventually they dwindled to so few that stochastic events (bad luck) and possibly inbreeding led to their final demise. These sheep were studied over decades, and Krausman touches on many issues that likely contributed to their decline: deteriorating habitat, isolation from other populations, and harassment, particularly by dogs. Despite much research, it remains unclear just why this endemic population disappeared. Extinction happened despite efforts at habitat improvement, strict controls on hunting, and support for sheep conservation by local people. Protection of the sheep could not stand up to enormous land values and some habitat was lost to housing developments. This is an interesting case history of how a small population can just dwindle into oblivion.

The book is mostly concerned with the study population, but draws parallels with other small populations of large mammals. It is based on a substantial literature review, including much gray literature. Krausman emphasizes the importance of learned traditions for the persistence of bighorn populations: sheep of both sexes must learn from conspecifics where to go each season to find the best forage and avoid predators. Habitat disruption can break up those traditions, and isolation leads to loss of genetic vari-