

FRESHWATER ECOLOGY

CONCEPTS AND ENVIRONMENTAL APPLICATIONS OF LIMNOLOGY

Third Edition

Walter K. Dodds

Matt R. Whiles

A thoroughly updated revision of this classic textbook on limnology and freshwater ecology

- Includes both basic scientific concepts and environmental applications
- Contains additional biography boxes featuring the cultural diversity of the featured scientists
- Covers expanded content on developing nations, ecosystem services, properties of water, and global change
- Offers added detail on fracking, molecular tools, nanomaterials, and more

Freshwater Ecology, Third Edition, covers everything from the basic chemical and physical properties of water to the advanced and unifying concepts of community ecology and ecosystem relationships found in continental waters. It provides a solid foundation for courses and future fieldwork, and is updated to include key issues, including how to balance ecological and human health needs, GMOs, and a host of other environmental issues. This book meaningfully synthesizes the often dispersed and difficult to integrate information on recent advances in aquatic ecology, and is an ideal resource for both students and practitioners in ecology and related fields.

Walter K. Dodds is a University Distinguished Professor in Biology, Kansas State University, United States. He has taught freshwater ecology for more than 30 years. He has numerous peer-reviewed publications on nutrients, ecosystem functions, and community interactions in freshwaters. His books include *Humanity's Footprint* (on global environmental issues) and *Laws, Theories, and Patterns in Ecology* (a graduate level overview of ecology). Dodds is a fellow of the Society for Freshwater Science, the American Association for Advancement of Science, and of the Association for the Sciences of Limnology and Oceanography.

Matt R. Whiles is a Professor and Chair of the Soil and Water Sciences Department, University of Florida, United States. He has designed and taught courses on stream ecology, freshwater invertebrates, and general ecology for more than 20 years. His research is focused on examining the influences of animals on stream and wetland ecosystem function. Whiles has extensive experience working in diverse freshwater habitats including North American grassland streams and wetlands, tropical cloud forest streams in Central America, US Southeastern Coastal Plain wetlands, and streams in the Brazilian Cerrado. He is a past president and current fellow of the Society for Freshwater Science and has produced more than 130 peer-reviewed publications.

Aquatic Ecology

Cover Photo: Pillsbury Crossing on Deep Creek, Kansas. A limestone bench forms a falls and below is habitat for the endangered Topeka Shiner (*Notropis topeka*). Photograph by Judd Patterson.

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