

Ryan S. King, Ph.D.

Research Professor of Biology at Baylor University

Waco, TX, US

Specializing in understanding the availability of phosphorus, nitrogen, and carbon in inland freshwater systems.

Biography

Dr. Ryan King, professor and graduate program director of biology at Baylor, directs students and manages all research projects in the Aquatic Ecology Lab. His areas of expertise are water quality of streams and rivers, particularly related to nutrient pollution, nuisance and harmful algal blooms, mountaintop coal mining, pesticides, nanomaterials, and runoff from urban and agricultural areas. King is interested in determinants of species composition at higher trophic levels in aquatic ecosystems. He is particularly interested in how abiotic stressors and resource subsidies affect structure and function of macroinvertebrate and fish communities in a variety of aquatic habitats. He also uses aquatic biota as indicators of ecological integrity. These distinct but related interests are the basis for much of his past, present and intended future research, including: ? Estimating ecological thresholds using aquatic communities of algae, plants, macroinvertebrates and fish as indicators of nonlinear ecosystem changes, particularly in response to water quality (e.g., nutrients) or other anthropogenic stressors. ? Linking watershed features (e.g., land use) to water quality and aquatic biota in streams, wetlands and estuaries ? Implications of elemental (e.g., carbon, nitrogen, and phosphorus) imbalances between consumers and their food in aquatic ecosystems (i.e., "ecological stoichiometry") ? Developing ecological indicators using aquatic biota for resource assessment at broad geographic scales His research interests span a variety of disciplines, including community and landscape ecology, biogeochemistry, and environmental science and policy. The interdisciplinary nature of his research is attractive to many funding agencies and is particularly well suited for the participation of both undergraduate and graduate students in the field and his laboratory. Dr. King graduated from Harding University with a bachelor's in biology. He received his master's and Ph.D. from Duke University, in environmental management and ecology, respectively. He was also an ecologist at the Smithsonian Environmental Research Center in Maryland.

Industry Expertise

Research, Education/Learning

Areas of Expertise

Freshwater science to inform policy, Community and ecosystem ecology, Numeric water-quality criteria, Ecological thresholds, Streams and rivers, Marine and freshwater aquatic ecosystems, Organism response to urbanization, Nutrient overenrichment, Landscape theory, Watershed patterns, Links between stressors and biological responses

Education

Duke University
Ph.D. Ecology

Duke University
Master of Environmental Management Water Resources Management

Harding University
B.Sc. summa cum laude Biology

Accomplishments

Outstanding Professor Award
Awarded by Baylor University

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