

## KARL E. HAVENS

### Leader and Collaborator in Coupling Aquatic Science and Management

Hans W. Paerl 

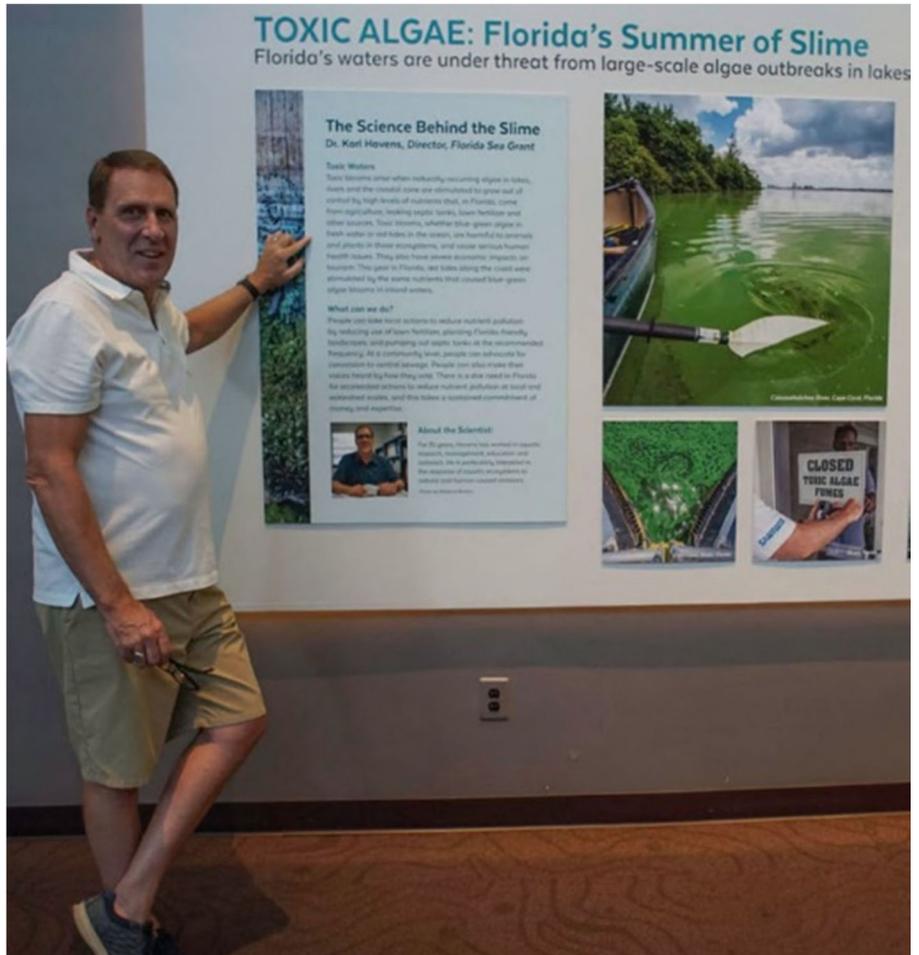
*Editor's Note: This is a tribute to our colleague Karl E. Havens, who passed away unexpectedly on 26 April 2019.*

The aquatic sciences community and Havens family members suffered a great loss with the unexpected passing of Karl E. Havens, 26 April 2019 at age 61. Karl was a highly creative, productive, and generous colleague, always enthusiastic to discuss ideas and potential management solutions to the challenges associated with nutrient over-enrichment, effects of climate variability on shallow water systems, proliferation of harmful algal blooms, and ecosystem degradation in the freshwater to marine continuum (Fig. 1). In addition to his role as Director of one of the Nation's largest Sea Grant Programs, i.e., Florida Sea Grant, Karl was an engaged and dynamic participant in a broad suite of advisory activities at the state, regional, and national levels (Fig. 2). With an engaging personality, he was highly collaborative in his efforts to advance science in support of effective management of water resources around the globe. He was highly productive and a key contributor to a large number of notable publications, books, special journal issues, and technical documents. Combined, they testament to his vast technical expertise and practical knowledge of water and other environmental related issues affecting stakeholders from all walks of life. Furthermore, Karl was a key intellectual force in broadly cited, paradigm-altering publications addressing the need to frequently "think outside the box." His colleagues and coauthors benefited from Karl's keen ability to identify, constrain, and tackle issues, consistently asking the right questions and posing challenges in a timely and insightful way.

Karl's research was interdisciplinary and collaborative before those attributes were mainstream. His scholarly contributions have both theoretical and applied value, with the latter reflecting a genuine commitment to coupling science and management. He received a B.A. from

SUNY-Buffalo (1979), then M.Sc. (1981), and Ph.D. (1984) degrees, each in biology, from West Virginia University (WVU). After earning his doctoral degree, Karl accepted a Visiting Research Assistant Professor position at WVU prior to assuming a faculty position at Bloomsburg University in Pennsylvania. He subsequently moved to Kent State University as an Assistant Professor to focus his research on water resources. In 1993, Karl left Kent State to assume the role of Chief Environmental Scientist with the South Florida Water Management District. After more than a decade of service to the Water Management District and State of Florida, Karl returned to academia in 2004, accepting the position of Professor and Chair of the Fisheries and Aquatic Sciences Department in the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida. He assumed the role of Director of the Florida Sea Grant College Program in 2007 (Fig. 2), while retaining his faculty appointment at the University.

While ascending the academic and management ladders, Karl built significant expertise and insights into the ecology of shallow-water lakes; notably Lake Okeechobee, the adjacent Everglades, and downstream coastal waters. He was among the first researchers to recognize the importance of a systems approach in understanding, managing, and protecting these waters. In recognition of his broad understanding of the complexities surrounding south Florida's water issues, Karl was appointed to the National Academies of Sciences, Engineering, and Medicine committee that evaluates progress on the Comprehensive Everglades Restoration Plan. Just the day before his passing, he addressed hundreds of researchers gathered at the Greater Everglades Ecosystem Research conference. His knowledge of Lake Okeechobee and the South Florida aquatic environment quickly garnered international attention and Karl extended and applied his knowledge to other threatened shallow waters around the globe, including Europe and



**FIG. 1.** Karl providing scientific content of a poster presented at the Florida Museum of Natural "Toxic Algae: Florida's Summer of Slime" in October 2018. Photo credit: Karl Havens' Facebook page.



**FIG. 2.** Karl welcomes attendees to the 2015 Florida Sea Grant Coastal Science Symposium in Gainesville, a biennial event that brings together researchers and extension faculty to present recently funded Florida Sea Grant projects. Photo credit: Tyler Jones.

Asia, most notably the large lakes of China and Japan, which were threatened by rapid urbanization and agricultural development.

Altogether, Karl published more than 160 peer-reviewed papers, book chapters, editorials, and commentaries on these subjects, and in 2007, coauthored “the book” on eutrophication

of shallow water ecosystems with his Chinese colleagues Boqiang Qin and Zhengwen Liu, i.e., “Eutrophication of Shallow Lakes with Special Reference to Lake Taihu, China,” published by Springer, The Netherlands.

In concert with his very active leadership and management role in the aquatic sciences

arena, Karl was a dedicated teacher. He served as a mentor to countless undergraduates, numerous graduate students, and postdocs. Karl, in fact, served on 16 graduate student committees, directed five M.Sc./Ph.D. theses, and directed three postdocs.

Rising above his impressive resume was Karl’s engaging, patient and friendly demeanor, coupled to a unique sense of humor and understanding. He radiated modesty and collegiality that allowed him to communicate with a wide range of society, ranging from fishers, to students, to fellow researchers, academics, managers, politicians, other decision makers, and the public at large. He will be missed dearly by all. He can rest in peace, knowing that his hard work yielded thoughtful, insightful and effective plans for protecting and preserving a sustainable freshwater to marine continuum.

It seems appropriate to close this tribute to a great scientist and dear friend to many, with a quote Karl often used to end his communications: *“A mind is like a parachute. It doesn’t work if it is not open”*—Frank Zappa.

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