

PREFACE

Warren Viessman, Jr.

Guest Editor

This issue of *Water Resources Update* suggests what the attributes of water policies for the future should be. It captures the experiences and prognostications of a diverse assemblage of water resources experts. These individuals bring a broad knowledge of water management to bear on policy reforms that must be taken if we are to deal wisely and effectively with managing the global water bank as we move into the 21st Century. Every level of government is embraced by these forecasts for the future, and international designs are addressed as well. The last paper in the collection summarizes the principal findings and recommendations of the authors.

It is hoped that the recommendations that flow from these papers will serve to guide the water policy makers of tomorrow, and that the lessons learned from the past, and so often repeated without effect, will finally be used as foundations upon which to build a policy structure that can function in the reality of a modern world.

About The Authors

David J. Allee is Professor of Resource Economics and Leader of the Cornell Local Government Forum. He has taught the Water Resources Policy Seminar at Cornell with Professor Dworsky for several decades. Sabbatic assignments have included the Corps of Engineers (Office of Secretary of the Army), Natural Resources Conservation Service (USDA Assistant Secretary's Office), Bureau of Reclamation (Denver), and Environmental Protection Agency (Denver). Recent research and extension activities have focused on watershed management strategies. Dr. Allee is widely published and has been honored by UCOWR, AWRA, and other organizations.

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Charles H. W. Foster is adjunct research fellow and lecturer at the Kennedy School's Center for Science and International Affairs at Harvard University. He is an environmental policy specialist and natural resource and academic administrator. He has served seven Massachusetts governors as water resources specialist, Commissioner of Natural Resources, and in 1971, as the Commonwealth's first cabinet level secretary of environmental affairs. From 1976-1981 he served as dean of the Yale University School of Forestry and Environmental Studies. Among his many publications are four books on *Experiments in Bioregionalism* which reflect his interests in natural resources and the environment.

Neil S. Grigg is Head of Civil Engineering at Colorado State University. He has been director of Water Resources Research Institutes in North Carolina and Colorado and the International School for Water Resources at Colorado State University. He has served as North Carolina's Assistant Secretary for Natural Resources, and was state environmental director. In 1988 Grigg was appointed River Master of the Pecos River by the United States Supreme Court. He has published textbooks on water and infrastructure, including: *Water Resources Management: Principles, Regulations and Cases*. Grigg received his Ph.D. in Civil Engineering/Hydraulics from Colorado State University in 1969.

Millard W. Hall is Professor of Civil and Environmental Engineering at the jointly administered Florida A&M University and Florida State University College of Engineering, Tallahassee. For more than thirty years, he has been involved with the policy and planning aspects of water and related resources. In addition to his experience in the private sector, he has directed the programs of the Water Resources Research Institutes in Maine and Nebraska, served as the Chair of the Program Committee for the Water Pollution Control Federation, and was President Carter's Chairman of the Missouri River Basin Commission. He has traveled widely, observing, speaking and writing about water issues.

Daniel P. Loucks is on the faculty of the School of Civil and Environmental Engineering at Cornell University. His research and teaching has focused on the application of economics, environmental systems engineering, and information technology to problems associated with international and national organizations and agencies engaged in natural resources management throughout much of the world. He has held positions at the World Bank, the International Institute for Applied Systems Analysis and at a number of universities in Australia, Europe and the U.S. He currently chairs the Environmental Advisory Board of the U.S. Army Corps of Engineers.

Peter P. Rogers is Gordon McKay Professor of Environmental Engineering and Professor of City Planning at Harvard University. He is the recipient of Guggenheim and Twentieth Century Fellowships. His research interests include the consequences of population on natural resources development, conflict resolution in international river basins, and the development of indices of environmental quality and sustainable development. He has worked in Costa Rica, Pakistan, India, China, the Philippines, and Bangladesh. His books include: *Measuring Environmental Quality in Asia*, *Water in the Arab World: Perspectives and Prognoses* and *America's Waters: Federal Roles and Responsibilities*.

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Kyle E. Schilling is Director of the U.S. Army Corps of Engineers Institute for Water Resources. His public service career includes a wide variety of water resources planning and policy experiences in state, watershed, river basin, regional and national settings in several agencies. He has conducted or led studies ranging from the specific project level to special purpose regional and national studies related to water supply, drought and infrastructure investment. He is an active member and office holder in several national professional organizations.

Ernest T. Smerdon is on temporary assignment as Senior Education Associate in the Engineering Education and Centers Division of the Engineering Directorate of the NSF. He was Vice Provost and Dean of Engineering at the University of Arizona from Jan. 1, 1988 to Dec. 31, 1997. Previously he was at the University of Texas at Austin, the University of Florida, and Texas A&M University, having been a UCOWR Delegate at all three Institutions. He served 9 years on the Board of UCOWR and chaired the organization for three years. He has been named a Friend of UCOWR, is the recipient of several prestigious national awards, and is a member of the National Academy of Engineering.

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Warren Viessman, Jr. is Associate Dean for Academic Programs and Professor of Environmental Engineering Sciences in the College of Engineering at the University of Florida. He has been Director of Water Resources Centers at the Universities of Maine and Nebraska and Senior Specialist in Engineering and Public Works in the Congressional Research Service, Library of Congress. He is Past President of the American Water Resources Association and Past President of the Universities Council on Water Resources. He is the recipient of ASCE's Julian Hinds Award, AWRA's Caulfield Medal, and UCOWR's Hall Medal. He is widely published.

Cathleen C. Vogel is the Director of Government Relations for the law firm of Pavese, Garner, Haverfield, Dalton, Harrison & Jenson. Prior to joining the firm, Ms. Vogel was the Director of Government and Public Affairs at the South Florida Water Management District. Ms. Vogel serves as the Executive Director of the Florida Water Council, Inc. – a not-for-profit organization that is uniting public and private water user groups in support of the adoption and implementation of effective water resources policies. Ms. Vogel is also a member of the Board of Directors of the Florida Section of the American Water Resources Association.

Peter E. von Haam is a Deputy General Counsel for the Metropolitan Water District of Southern California. Prior to joining Metropolitan's legal department, Mr. Von Haam worked on environmental issues associated with the federal Central Valley Project and the Bay-Delta estuary in Metropolitan's Planning & Resources Division. A graduate of the University of California at Berkeley's College of Natural Resources and the University of Washington School of Law, Mr. Von Haam served as a staff member in the California Legislature, Assembly Committee on Water, Parks, and Wildlife before joining Metropolitan.

John R. Wodraska is general manager of the Metropolitan Water District of Southern California (MWD), which provides about 60% of the water used by almost 16 million people. Wodraska works with federal, state, and local officials to implement MWD's policies. He administers an annual budget approaching \$900 million. Formerly, Wodraska was executive director of the South Florida Water Management District, the largest state water agency in the East. Wodraska's managerial accomplishments, typified by his role in MWD's Integrated Resources Planning process, are acclaimed internationally. His many awards include an honorary Doctor of Science degree from Wilkes College.