

Independent Scientific Review of Everglades Restoration Progress X

Committee

James Saiers

Chair

James Saiers, Chair, is the Clifton R. Musser Professor of Hydrology at the Yale School of Forestry and Environmental Studies. Dr. Saiers studies how human activities and natural processes affect the quality of drinking-water resources and alter freshwater flows within aquifers, wetlands, and river basins. His recent research projects address water-quality impacts of fossil-fuel development, carbon and nutrient transport through watersheds, radionuclide migration in groundwater, and nature-based solutions for carbon capture. He served as a member of the Hydraulic Fracturing Research Advisory Panel of the Environmental Protection Agency Science Advisory Board. He earned his B.S. degree in geology from the Indiana University of Pennsylvania and his M.S. and Ph.D. degrees in environmental sciences from the University of Virginia. Dr. Saiers has served on the Committee on Independent Scientific Review of Everglades Restoration Progress since 2012, and he chaired the Committee to Review the Florida Aquifer Storage and Recovery Regional Study Technical Data Report.

Casey Brown

Member

Casey Brown is Provost Professor in the Department of Civil and Environmental Engineering at the University of Massachusetts at Amherst. His primary research interest is the development of analytical methods for improving the use of scientific observations and data in decision making, with a focus on climate and water resources, and he has worked extensively on projects around the world in this regard. He chairs the Water and Society Technical Committee of the American Geophysical Union Hydrology Section and the Water Resources Planning under Climate Change Technical Committee of the American Society of Civil Engineers Environmental and Water Resources Institute Systems Committee. He earned his B.S. degree in civil engineering from the University of Notre Dame, his M.S. degree from the University of Massachusetts, Amherst, and his Ph.D. degree in environmental engineering science from Harvard University.

Dr. Brown is a compensated member of an expert scientific review panel in support of a U.S. Army Corps of Engineers (USACE) project, “Barriers to Problem Solving—Climate Adaptation and USACE,” managed by CDM Smith.

John Callaway

Member

John Callaway is professor in the Department of Environmental Science at the University of San Francisco (USF). He recently served as the Delta Lead Scientist (2017-2020) for the Delta Science Program and Delta Stewardship Council, and previously served as the Associate Director of the Pacific Estuarine Research Laboratory at San Diego State University. Dr. Callaway conducts research on wetland restoration, climate change effects on tidal wetlands, and wetland carbon dynamics. In 2013, he was awarded USF's Distinguished Research Award. Currently, he is associate editor for *Estuaries and Coasts* and co-chair for the 2023 meeting of the Coastal and Estuarine Research Federation in Portland, Oregon. He has served on a number of advisory panels on wetland restoration and management issues, including in Louisiana, southern California, and the San Francisco Bay area. Dr. Callaway received an M.A. in Biology from San Francisco State University and his Ph.D. in Oceanography and Coastal Sciences from Louisiana State University.

Philip M. Dixon

Member

Philip M. Dixon is University Professor in the Department of Statistics at Iowa State University. His research centers on developing and evaluating statistical methods to answer biological questions. His research interests include ecological and environmental statistics, mathematical biology, and computational modeling. He previously worked as a biostatistician at the Savannah River Ecology Lab administered by the University of Georgia. He earned his A.B. in biology from the University of California, Berkeley, an M.S. in statistics from Cornell University, and a PhD in ecology and evolutionary biology from Cornell University.

Charles T. Driscoll, Jr.

Member

Charles T. Driscoll, Jr. (NAE) is University Professor in the Department of Civil and Environmental Engineering at Syracuse University, where he also serves as the director of the Center for Environmental Systems Engineering. His teaching and research interests are in the area of environmental chemistry, biogeochemistry, and environmental quality modeling. A principal research focus has been the response of forest, aquatic, and coastal ecosystems to disturbance, including air pollution, land use change, and elevated inputs of nutrients and mercury. Dr. Driscoll is currently an investigator of the National Science Foundation's Long Term Ecological Research Network's project at the Hubbard Brook Experimental Forest in New Hampshire. He is a member of the National Academy of Engineering. He is a fellow of the American Academy for the Advancement of Science. Dr. Driscoll received his B.S. in civil engineering from the University of Maine and his M.S. and Ph.D. in environmental engineering from Cornell University.

Marla R. Emery

Member

Marla R. Emery is scientific advisor with the Norwegian Institute for Nature Research, where she works to integrate social and ecological sciences to support environmental policy. Emery previously was a research geographer with the U.S. Department of Agriculture Forest Service for 25 years, where much of her research was conducted in partnership with Indigenous communities. Her research interests include contemporary uses of wild plants and mushrooms in the United States, the ecosystem services that foraging practices provide, and their implications for land management. Emery co-chaired the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services Assessment of Sustainable Use of Wild Species (2018-2022), for which she led an international team of scientists to assess and synthesize the state of knowledge on factors affecting the global sustainability of human uses of animals, fungi, and plants. In this effort, she also headed up the work to incorporate Indigenous and local knowledge. She served as technical consultant on nontimber forest products to the fourth Indian Forest Management Assessment Team report to the U.S. Congress (2020-2022), developing the protocol for consultations with tribal leaders and resource staff throughout the contiguous United States and Alaska. Emery received a Ph.D. in geography from Rutgers University.

Margaret W. Gitau

Member

Margaret W. Gitau is professor of Agricultural and Biological Engineering at Purdue University. Her research focuses on water resources with emphasis on water quality, integrated hydrologic and water quality modeling, and data-driven decision-making and management. In particular, she works on assessing and predicting long- and short-term watershed responses to perturbations such as land use/land cover and climate change and developing strategies and solutions to enable similar analysis in data scarce areas. Dr. Gitau has served on the Advisory Board of University of Florida's Department of Agricultural and Biological Engineering and serves on the editorial board of the Journal of Soil and Water Conservation. She holds a Ph.D. in Agricultural and Biological Engineering from the Pennsylvania State University.

Matthew C. Harwell

Member

Matthew C. Harwell is a supervisory ecologist with the U.S. EPA Office of Research and Development (ORD), where he has worked for 11 years. He currently manages the ORD coastal environmental research laboratory in Newport, Oregon. Prior his work at EPA, Dr. Harwell spent 10 years with the U.S. Fish and Wildlife Service working on Greater Everglades Ecosystem restoration. Cumulatively, Dr. Harwell has spent 25 years working on restoration science in multiple systems including Chesapeake Bay, Lake Okeechobee, South Florida and the Greater Everglades, and the Pacific Northwest. His areas of specialization include ecosystem restoration, ecosystem services, ecosystem assessment, integration and communication of science for decision makers, and adaptive management. Dr. Harwell has been on the planning team for the National Conference on Ecosystem Restoration since 2004 and is a foundational board member of the Large Scale Ecosystem Restoration Section of the Society of Ecological Restoration. Dr. Harwell has a B.S. in Biology from University of South Florida and a Ph.D. in Marine Sciences from Virginia Institute of Marine Sciences.

William A. Hopkins, III

Member

William A. Hopkins III is professor in the Dept of Fish and Wildlife Conservation at Virginia Tech. He is also the Associate Executive Director of the Fralin Life Sciences Institute and the founding Director of the Global Change Center at Virginia Tech. Prior to joining the faculty at Virginia Tech, Dr. Hopkins was faculty at the University of Georgia's Savannah River Ecology Laboratory. Hopkins' research focusses on how anthropogenic disturbances such as climate change, pollution, and habitat loss affect wildlife. He is an award-winning educator, researcher and leader, to include the highest awards offered to faculty at both Virginia Tech and in the Commonwealth of Virginia. He received a B.S. in Biology from Mercer University, a M.S. in Zoology from Auburn University, and a Ph.D. from the University of South Carolina. He has previously served on National Academies committees addressing issues related to freshwater resources, mining, and research data quality in federal agencies.

Tracy Quirk

Member

Tracy Quirk is associate professor and wetland ecologist in the Department of Oceanography and Coastal Sciences at Louisiana State University (LSU). Prior to coming to LSU in 2014, she was an assistant professor in the Biodiversity, Earth, and Environmental Sciences Department at Drexel University in Pennsylvania. Tracy's research focuses on wetland plant ecology and soil biogeochemistry including the effects of environmental stresses, human impacts, and wetland restoration. Tracy has had over 30 grants funded totaling over \$5 million and has ~40 publications in peer-reviewed journals. She has served as an expert panelist and on advisory boards for several regional and national committees. She is interested in the Everglades ecology, management and restoration, and she teaches a two-week field course in the Everglades to LSU undergraduate and graduate students every other year.. Tracy received her Ph.D. in Marine Biosciences from the University of Delaware in 2010 and her M.S. in Ecology and Environmental Sciences from the University of Louisiana in 2005, and her B.S. in Wildlife and Fisheries Biology from the University of Vermont in 1998.

K. R. Reddy

Member

K. Ramesh Reddy is graduate research professor and director at the School of Natural Resources and Environment at the University of Florida. His research areas include biogeochemistry, soil and water quality, ecological indicators, and restoration of wetlands, and aquatic systems. Dr. Reddy investigates biogeochemical cycling of macro-nutrients in natural ecosystems, including wetlands, shallow lakes, estuaries, and constructed wetlands, as related to soil and water quality, carbon sequestration, and greenhouse gas emissions. He has served as a member of the U.S. National Committee for Soil Sciences and on the U.S. Environmental Protection Agency's Science Advisory Board Panel. He serves as co-chair for the biennial Greater Everglades Ecosystem Restoration science conference. Dr. Reddy earned his Ph.D. in agronomy and soil science from Louisiana State University in 1976.

Dr. Reddy served as a principal investigator on a SFWMD-funded study on evaluation of soil biogeochemical properties influencing phosphorus flux in the Everglades stormwater treatment areas from 2019-2020.

Helen Regan

Member

Helen M. Regan is professor of biology at the University of California, Riverside. Dr. Regan's research areas span quantitative conservation ecology and probabilistic risk assessment. She uses integrated modeling frameworks to link empirical data, population models, species distribution models, climate data, urban growth models, and fire data to investigate the impacts of climate change, habitat loss and fragmentation, and altered fire regime on plants. Dr. Regan's prior work has focused on the characterization and treatment of uncertainty in the assessment of risks in ecology and conservation biology. She currently serves on the Standards and Petitions Committee for the International Union for Conservation of Nature (IUCN) Red List Categories and Criteria and co-chairs the IUCN Species Survival Commission Climate Change Specialist Group. Dr. Regan received her B.S. from LaTrobe University and her Ph.D. from the University of New England, both in Australia.

Alan Steinman

Member

Alan D. Steinman is the Allen and Helen Hunting Research Professor of Water Resources at the Annis Water Resources Institute (AWRI), Grand Valley State University. Previously, he was director of AWRI for 22 years and prior to that, Director of the Lake Okeechobee Restoration Program at the South Florida Water Management District. Dr. Steinman's research interests include aquatic ecosystem restoration, harmful algal blooms, phosphorus cycling, and water resources policy. He is a fellow of the Society of Freshwater Science. Dr. Steinman was awarded a postdoctoral fellowship from Oak Ridge National Laboratory and earned a Ph.D. in botany/aquatic ecology from Oregon State University, an M.S. in botany from the University of Rhode Island, and a B.S. in botany from the University of Vermont.

Jeffrey R. Walters

Member

Jeffrey R. Walters is the Harold Bailey Professor of Biology at Virginia Tech, a position he has held since 1994. His professional experience includes assistant, associate, and full professorships at North Carolina State University from 1980 until 1994. His research interests are in the behavioral ecology, population biology, and conservation of birds, and his recent work has focused on cooperative breeding, dispersal behavior, and endangered species issues. Dr. Walters has done extensive research on endangered red-cockaded woodpeckers in North Carolina and Florida, and he chaired an American Ornithologists' Union Conservation Committee Review that looked at the biology, status, and management of the Cape Sable seaside sparrow, an endangered bird endemic to the Everglades. Dr. Walters served on two panels of the Sustainable Ecosystems Institute that addressed issues with endangered birds in the Everglades restoration in addition to previously serving as a member of the National Academies' Committee on Restoration of the Greater Everglades Ecosystem. He holds a B.A. from West Virginia University and a Ph.D. from the University of Chicago.

David Wegner

Member

David L. Wegner is a senior scientist at Woolpert Engineering. He is retired from a senior staff position on water, energy and transportation committees in the U.S. House of Representatives, where he worked on legislation that directly affected administration policy and federal agency actions related to the U.S. Army Corps of Engineers, the Department of the Interior, the Environmental Protection Agency, Tennessee Valley Authority, and the Department of Energy. Prior to serving in Washington, D.C., he worked for over 20 years for the Department of the Interior managing water and science programs in the Colorado River basin and the Grand Canyon, where he was instrumental in formulating the adaptive management approach for other river systems impacted by dams and river operations. He serves on the EPA Environmental Finance Advisory Board and sits of the advisory boards for the Alliance for Global Water Adaptation, and the International Association of Hydro-Environment Research. Mr. Wegner received his M.S. in engineering/fluvial geomorphology from Colorado State University.