Missouri River Recovery Program Standing Independent Science Advisory Panel (ISAP)
MEMBER BIOS

Quantitative Ecologist/Statistician

Steven M. Bartell, Ph.D.
Principal Scientist
E2 Consulting Engineers, Inc.

Formerly a research scientist in the Environmental Sciences Division at the Oak Ridge National Laboratory, Dr. Steven M. Bartell is currently a Principal Scientist with E2 Consulting Engineers, Inc. and manages the E2 office in Maryville, TN. He is also an adjunct faculty member in the Department of Ecology and Evolutionary Biology at the University of Tennessee, Knoxville.

Dr. Bartell's areas of expertise include systems ecology, ecological modeling, ecological risk analysis, risk-based decision analysis, vulnerability analysis, numerical sensitivity and uncertainty analysis, environmental chemistry, and environmental toxicology. He works with public and private clients in ecological risk assessment, environmental analysis, ecological planning, and ecosystem restoration. Dr. Bartell has conducted ecological risk assessments for a diverse set of environmental stressors: ecological disturbances from commercial navigation on the Upper Mississippi and Illinois Rivers (USACOE); risk of invasive species establishment (USDA); habitat alteration and degradation (USDOE, USACOE); multiple chemical stressors in the Patuxent River and estuary (NOAA, USEPA); radionuclides and toxic metals (several Canadian mining companies); and herbicides and pesticides (Syngenta). Bartell is currently working on large-scale projects in adaptive management and restoration for the Florida Everglades, the Lower Columbia River, and the Upper Mississippi River.

Least Tern/Piping Plover Specialist

Adrian H. Farmer, Ph.D.
Principal Scientist
Wild Ecological Solutions

Dr. Farmer conducts shorebird research, with an emphasis on effects of global change on migration schedules and fitness. As an integral part of his research on shorebird migration, he has collaborated with other scientists from North America and Europe to develop applications of dynamic programming in the study of bird migration.

Management of large river systems is of particular interest to Dr. Farmer. He has had considerable experience over the last 30 years with water and habitat management issues of the Platte River of Nebraska. Most of this work has been on modeling relationships between hydrology and crane habitat. For many years, he conducted migratory shorebird research along the Missouri River in the state of Missouri, and is familiar with the system dynamics as well as the general issues affecting bird use of that system. He has developed habitat models for both Least Terns and Piping Plovers for the US Army Corps of Engineers and US Bureau of Reclamation for purposes of habitat management in the Platte River and along the beaches of Fire Island, NY.

Sturgeon Specialist

Christopher S. Guy, Ph.D.
Assistant Unit Leader
Affiliate Associate Professor
U.S. Geological Survey – Biological Resources Division
Montana Cooperative Fishery Research Unit
Montana State University

Dr. Guy designs and conducts research funded by Federal, State, and private contracts and directs the research of graduate students and other personnel. He also leads research teams and serves as a bridge among resource managers and other researchers assuring appropriateness of research questions and hypotheses. The overall mission of the MTCFRU encompasses fish ecology, physiology, population dynamics, limnology, hydrology, wildlife, endangered species, habitat and landscape ecology, and environmental contaminants.

Dr. Guy's research contributes to understanding ecosystem-level issues that are scientifically challenging because of scale, complexity, and spatial and temporal dynamism. Most of his research falls within the broad mission of ecology of fishery and aquatic resources. A major, consistent research theme has been on native fish assemblage restoration, a prominent ecological and societal issue in Rocky Mountain and Great Plains ecosystems. Habitat degradation, introduction of non-native species, and overexploitation have caused widespread decreases in ranges and abundances of native fish species at the same time that anglers and agency administrators are becoming aware of ecological concepts, biodiversity issues, and the importance of maintaining naturally structured and functioning ecosystems. He has a comprehensive native species research program involving life history, movements, habitat use, population ecology and dynamics, exploitation, hybridization, non-native eradication, and disease components. His research includes evaluation of post-stocking dispersal of hatchery-reared pallid sturgeon; movements, diet, and habitat use of pallid sturgeon and shovelnose sturgeon; spawning locations and early life history of shovelnose sturgeon; effects of spawning location on survival of pallid sturgeon and shovelnose sturgeon; impacts of flow modifications on distribution and spawning by pallid sturgeon and shovelnose sturgeon; interactions between sauger and sympatric non-native walleye; distribution and population characteristics of non-native lake trout in Lake McDonald, Glacier National Park, with implications for suppression; landscape factors affecting the distribution and genetic diversity of bull trout and sympatric non-native lake trout in Glacier National Park; movement of resident and non-resident anglers and implications for transferring aquatic nuisance species; effects of angling on salmonids during high water temperatures; biogeographical and human influences on fish assemblages in prairie streams; and spatiotemporal dynamics of fishes in prairie streams.

River Hydrologist/Geomorphologist

Dr. William L. Graf, Ph.D.
Foundation University Distinguished Professor Emeritus of Geography
University of South Carolina

Dr. Graf is University Foundation Distinguished Professor Emeritus at the University of South Carolina. His B.A., MSc, Certificate in Water Resources Management, and Ph.D. in geography are from the University of Wisconsin, Madison. His research addresses geomorphology and hydrology of rivers, and

the intersection of science and policy for public land and water. He has conducted research and served in science review and oversight positions associated with water quality, water quantity, aquatic and riparian habitats, river dynamics, and endangered species in a variety of ecosystems including the Klamath River of California and Oregon, streams of the Colorado Plateau, Colorado River, Rio Grande in New Mexico, Platte River in Nebraska, and the Everglades, as well as rivers in the Southeastern United States including the Savannah. He is a National Associate of the National Academy of Sciences, and he has chaired or been a member of more than a twenty National Research Council committees and boards. He is a Past President of the Association of American Geographers; he was appointed to the Presidential Commission on American Heritage Rivers; and he has been a member and Chair of the Environmental Advisory Board to the Chief of the U.S. Army Corps of Engineers. His several books and more than 140 papers and book chapters have resulted from funding by agencies such as the National Science Foundation, National Park Service, U.S. Army Corps of Engineers, U.S. Department of Energy, U.S. Geological Survey, U.S. Department of Justice, and a variety of state and local agencies. His work has been recognized by awards from the Association of American Geographers and Geological Society of America. He has been awarded Guggenheim and Fulbright fellowships and appointed to the Presidential Commission on American Heritage Rivers, and to briefing teams for the Executive Office of the President.

Aquatic /Riverine Ecologist

Gary Lamberti, Ph.D.
Professor of Biological Sciences
Director, Stream and Wetland Ecology Laboratory (SWEL)
University of Notre Dame

Dr. Lamberti is Professor of Biological Sciences and Director of the Stream and Wetland Ecology Laboratory at the University of Notre Dame, where he teaches Biostatistics, Stream Ecology, and Restoration Ecology. He also directs the interdisciplinary GLOBES Graduate Program in Environment and Society. Dr. Lamberti has conducted research in complex terrestrial-aquatic systems from South Florida to Alaska and points in between. He served a a 6-year term as department chair from 2008-2014, and has held many professional and leadership positions as editor, officer, chair, board member, panelist, reviewer, judge, organizer, member, and volunteer in professional societies and university and community service. He serves on several advisory boards for aquatic research institutes around the Great Lakes. Dr. Lamberti is a fellow of the American Association for the Advancement of Science and a past-President of the Society for Freshwater Science.

Dr. Lamberti's primary research interests are in stream and wetland ecology, and include identifying and remediating human impacts on aquatic ecosystems; the ecology of native and introduced Pacific salmon; and the control of invasive aquatic organisms. Of possible interest to MRRIC, Dr. Lamberti's research includes: (1) factors that regulate nutrient cycling in streams, such as the decomposition of salmon in nutrient-poor streams of Alaska and the processing of organic carbon, (2) the ecological integrity of coastal wetlands in the Great Lakes and Alaska under climate change, (3) the biological transport of contaminants by anadromous fish, (4) the historical ecology of aquatic ecosystems in the Great Lakes watershed, and (5) the role of ecosystem restoration in modifying the impacts of human disturbance on streams and wetlands. He and collaborators are establishing and implementing a monitoring and assessment program to aid in adaptive management of coastal wetlands across the

Great Lakes basin. Dr. Lamberti has over 175 publications dealing with various aspects of aquatic ecology, and has edited the Elsevier book entitled Methods in Stream Ecology, now in its 3rd edition.

Conservation Biologist

Dennis D. Murphy, Ph.D.
Adjunct Research Professor
University of Nevada, Reno

Dr. Murphy has worked on conflict resolution in land-use planning on private property since the first federal Habitat Conservation Plan on San Bruno Mountain. He won industry's oldest and most respected prize in conservation, the Chevron Conservation Award, has been named a Pew Scholar in Conservation and the Environment, and received the California Governor's Leadership Award in Economics and the Environment. He has authored or co-authored more than 200 scientific journal articles and book chapters in ecology, conservation biology, and applied sciences.

Dr. Murphy has served a number of scientific societies and environmental organizations, and is Past President of the Society for Conservation Biology. He has served on the Water Science and Technology Board and Board on Environmental Studies and Toxicology at the National Research Council (of the National Academy of Sciences). His professional activities outside of academia include service on the Interagency Spotted Owl Scientific Advisory Committee, enjoined by Congress to develop a solution to that planning crisis in the Pacific Northwest, as chair of the National Park Service's Scientific Advisory Committee on Bighorn Sheep, as co-chair of the State Department's American-Russian Young Investigators Program in Biodiversity and Ecology, as co-director of the statewide Nevada Biodiversity Initiative based at the University of Nevada at Reno, and as chair of the Scientific Review Panel to California's first Natural Community Conservation Planning Program in southern California's coastal sage scrub ecosystem. He served the National Academy of Sciences on its Committee on Scientific Issues in the Endangered Species Act, on the Committee on Threatened and Endangered Species on the Platte River, and on the Committee on Hydrology, Ecology, and the Fishes of the Klamath River Basin.

Dr. Murphy's activities in the area of conservation planning and adaptive management include service on the Science Board to the CalFed Ecosystem Restoration Planning Program for the Sacramento and San Joaquin river systems, development of a conservation strategy for the imperiled Tahoe yellow cress for the U.S. Fish and Wildlife Service, development of a watershed-based ecosystem management framework for the Truckee, Carson, and Walker hydrological units in the Humboldt-Toiyabe National Forest, and in science design for the nation's largest Habitat Conservation Plan under the Endangered Species Act, in Clark County, Nevada, and several other major HCP efforts in southern California and southern Nevada. Dr. Murphy served as team leader for the committee of scientists carrying out the Lake Tahoe Watershed Assessment, a Presidential deliverable to the Tahoe Federal Interagency Partnership via the U.S. Forest Service, and subsequently sat with the science committee of the Tahoe Science Consortium. He also has chaired a number of commissions and committees for NGOs, recently including the Commission on Performance Measures for State Wildlife Conservation Strategies at the Heinz Center in Washington, D.C. Dr. Murphy has testified more than a dozen times before Senate and House committees and subcommittees on issues mostly pertaining to implementation of the federal Endangered Species Act.