

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Future of Water Quality in Coeur d'Alene Lake

Meeting 2 Speaker Bios

Erin Brooks is an Associate Professor in the Soil & Water Systems department at the University of Idaho and is a certified Professional Engineer in the State of Idaho. His research focuses on the site-specific nutrient and water management in forested and agricultural systems using extensive field-based experimentation and process-based geospatial models. He has been involved in multiple research project exploring the impacts of forest management on phosphorus transport within the Coeur D'Alene basin and across the Lake Tahoe Basin. His research team, in collaboration with the US Forest Service, has developed an online process-based watershed model called WEPPcloud that is being used extensively by BAER (Burned Area Emergency Response) teams across the Pacific Northwest to direct post-wildfire management which mitigate export of sediment and nutrients to downstream water bodies. His research team has ongoing projects with the public municipalities in Portland and Seattle to develop fuel management and post-fire mitigation strategies in their unfiltered drinking water supplies derived for forested watersheds. He has authored over 70 publications in scientific peer-reviewed journals over his career with 40 publications over the last 5 years. His BS, MS, and PhD degrees were in Biological and Agricultural Engineering from Washington State University, University of Minnesota, and University of Idaho, respectively.

Dale Chess is a limnologist and water quality specialist in the Coeur d'Alene Tribe Lake Management Department where he developed the Tribe's Coeur d'Alene Lake water quality and lake ecology research program. The program has been instrumental in elevating the Tribe's standing as a resource manager and active research participant on large lake ecosystems. He was previously the principal fisheries scientist for the Coeur d'Alene Tribe where he developed the fisheries monitoring and research program related to the conservation and management of native salmonids in the Coeur d'Alene Lake ecosystem, and has collaborated with colleagues to design and implement natural resource and science curriculum to develop young Coeur d'Alene Tribe members and young students in the region. Dr. Chess holds a BS and MS in Biology from Eastern Washington University and a PhD in Organismal Biology and Ecology from the University of Montana.

Craig Cooper is a senior scientist with the Idaho Dept. of Environmental Quality Lake Management Plan, where he serves as the DEQ technical lead for limnological studies in the Coeur d'Alene Basin. He has over 25 years' of diverse experience in environmental science and energy/environmental technology and policy. Dr. Cooper's main area of expertise is in the biogeochemistry of metal contaminated systems. His additional areas of expertise include limnology and oceanography; environmental geochemistry; water quality data collection and analysis; environmental systems analysis; and energy/water/climate technology and policy. He has published research and served as a reviewer for various biogeochemical and environmental science and journals; conducted energy technology and policy analyses and reviews for the U.S. DOE Climate Change Technology Program; and holds patents in radionuclide decontamination technology. Dr. Cooper has previously held research positions at Indiana University and the Idaho National Laboratory.

Guillaume Mauger is a research scientist at the UW Climate Impacts Group. Specializing in Climate Science, his work focuses on understanding and adapting to the impacts of climate change on flooding

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

and stormwater in the Pacific Northwest. Guillaume has worked on projects that assess hydrologic changes across a variety of Northwest watersheds, worked to apply climate information in habitat connectivity planning and collaborated with floodplain managers to integrate climate change into their work. In addition to his research, Guillaume serves as a resource to stakeholders that are interested in obtaining and understanding the numerous climate and hydrologic projections that are now available.

Chris Mebane is a water quality specialist with the U.S. Geological Survey, Idaho Water Science Center. He is a "dirty water biologist" with interests and experience in water pollution ecology in streams, that is, relating human-influences on stream environments to biological effects and estimating risks of adverse effects. His recent interests and work have included effects of mining and trace elements on stream ecosystems, developing biotic ligand models (BLMs) to predict effects of metal mixtures in natural waters, and studies of nutrient enrichments and eutrophication in streams.

James G. Moberly is an Associate Professor in the Chemical and Biological Engineering Department at the University of Idaho. His research focuses on discovering how microorganisms or their bioproducts can be applied to solve engineering and environmental problems, improve human health, and increase accessibility to high quality water sources. Dr. Moberly has worked on research in the Coeur d'Alene basin during his graduate work and as a faculty member at the University of Idaho. His post-doc at Oak Ridge National Lab focused on determination of the biogeochemical factors and bacterial genes or pathways which produce highly toxic methylmercury. In the private sector, he performed contaminated site characterization, remediation, and treatability testing. He holds a B.S. in chemical engineering from the University of Idaho, an M.S. in chemical engineering from Washington State University, and a Ph.D. in chemical engineering from Montana State University.

Ed Moreen is a licensed civil engineer in Idaho and a 1994 graduate of Washington State University in Civil/Environmental Engineering. Ed has been employed for the EPA since 2003 as a remedial project manager and prior to joining EPA, he was employed by the U.S. Army Corps of Engineers as a project engineer working at the Hanford Nuclear Reservation, on civil works projects, and the Bunker Hill Superfund Site. Ed's current responsibilities include management and oversight of the operate/design/build upgrade contract of the Central Treatment Plant, an industrial plant treating acid mine drainage and groundwater contaminated by mine waste and investigating contaminated sediment transport in the Lower Coeur d'Alene River Basin (37 river miles and adjacent 18,000 acres of contaminated lateral lakes, wetlands and floodplains). Ed's focus also included negotiation of a settlement agreement and subsequent monitoring/coordination with the Bunker Hill Mine purchaser. His 20+ years of working on this very large and complex heavy metal site has yielded extensive expertise in addressing the issues associated with implementation of CERCLA and development of relationships with the communities affected by it.

Dan Wise is a hydrologist with the U.S. Geological Survey at the Oregon Water Science Center in Portland, Oregon. He received a B.S. in Civil and Environmental Engineering from Drexel University in 1990, an M.S. in Civil and Environmental Engineering from the University of Rhode Island in 1993, and an M.S. in Geography from Oregon State University in 2001 - and he has been with the USGS since 2001. Dan's work has centered primarily on the interpretation of regional water quality data. His current research focuses on relating surface-water nutrient and sediment conditions to landscape

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

characteristics using the USGS SPARROW model. He has also recently begun working on the Integrated Water Availability Assessment for the Upper Colorado River Basin.

Lauren Zinsser is a hydrologist with the U.S. Geological Survey, Idaho Water Science Center, where she has worked on water resources projects across Idaho since 2016. In the Coeur d'Alene Basin, Lauren manages the surface water monitoring program; conducts trends analyses for long-term water-quality datasets; and studies surface water-groundwater exchanges. Lauren received her B.S. in Geology from Bates Colleges and her M.S. in Environmental Science from the University of Idaho.