

 **The Evolution of Stream Restoration Webinar #1 Speakers**

**Mike Adams, Stantec, Civil/Water Resources Engineer**

Mike is a civil/water resources engineer experienced in stream restoration, geomorphic stream design, process-based design, natural channel design, fluvial geomorphology, dam removal, and stream assessment. Mike’s responsibilities include project management, technical review, design, project scoping, geomorphic assessments, stream and watershed studies, development of restoration alternatives, and community outreach. He has been involved in all phases of a stream restoration design project including developing project goals and objectives, scoping, field data collection, design calculations, development of plans and specifications, public meetings, permitting, construction oversight and monitoring. Mike serves as a Discipline Lead and Subject Matter Expert in Stream Restoration for Stantec.

**Dr. Derek Booth, Geomorphologist; King County Surface Water Management**

Dr Derek Booth is a geomorphologist with over 35 years of experience in federal and local public agencies (US Geological Survey, King County Surface Water Management), academia (University of Washington, UC Santa Barbara), and private consulting (Stillwater Sciences). He has been the Senior Editor of the international journal *Quaternary Research* for nearly 20 years, and is a licensed geologist and civil engineer. His primary focus of research and application is the fluvial geomorphology of human-disturbed environments, which includes authorship or co-authorship of more than 90 peer-reviewed journal articles, book chapters, and other publications; and over 100 projects as lead and/or supervising geomorphologist involving watershed analysis and restoration design.

**Barbara Doll,** **Ph.D., PE North Carolina State; Associate Extension Professor**

**NC Sea Grant & Biological & Agricultural Engineering Dept.**

Barbara Doll is an Extension Associate Professor in the Biological & Agricultural Engineering Department and Extension Specialist for NC Sea Grant based at North Carolina State University located in Raleigh, North Carolina. Barbara holds a Ph.D. in Biological and Agricultural Engineering and is a licensed professional engineer. Barbara leads the Stream Restoration Program at NC State University, which carries out research, trains students, conducts numerous training workshops for professionals and organizes EcoStream, the Southeast Regional Stream Restoration Conference. Barbara conducts outreach, research and academic programs focused on evaluating the performance of stream restoration efforts, developing new techniques for ecological restoration and assisting communities with flooding and water quality challenges.

**Will Harman, Founder; Stream Mechanics and Ecosystem Planning and Restoration**

Will Harman is a founder of Stream Mechanics and Ecosystem Planning and Restoration. In the course of his 33-year career, he has participated in hundreds of stream restoration projects, representing a wide variety of landscape settings and techniques. Examples include steep gradient, step-pool designs in Alaska to low gradient meandering streams in North Carolina, and urban solutions in San Antonio, Texas.

He has authored numerous peer-reviewed journal articles and proceeding papers on stream assessment and restoration methods and was the principal author of two design manuals. He developed the Stream Functions Pyramid Framework and co-developed the Stream Quantification Tool, which is being used by many state and federal agencies to quantify the functional uplift from stream restoration practices.

Prior to working in the private sector, Will was on the faculty at NC State University where he co-founded the NC Stream Restoration Program. He is a licensed geologist in North Carolina.

**Dorothy Merritts, Professor of Geoscience; Franklin Marshall College; Dept. of Earth & Environment**

Dorothy Merritts is a geomorphologist recognized for her work on the history of landscapes and processes that shape them. She is known particularly for her research on landscapes perturbed by geologic events and climate change during the past ~130,000 years, and by human activities during the past ~400 years. Merritts was born in Altoona, PA, and grew up in the Appalachian Mountains in central Pennsylvania. She graduated from Indiana University of Pennsylvania with a degree in geology, from Stanford University with a M. S. in Engineering Geology, and from University of Arizona with a Ph. D. in geosciences in 1987. At University of Arizona, she focused on active tectonics, soil formation on tectonically uplifted landforms, and the response of streams and coastlines to rapid uplift along the northernmost tip of the San Andreas fault, which she and collaborators located from geomorphic evidence. She joined the faculty at Franklin and Marshall College Department of Earth and Environment (formerly Geosciences) in 1987. She was president of the American Geophysical Union Earth and Planetary Surface Processes Section, is a fellow of the Geological Society of America (GSA), was a co-recipient of the GSA Kirk Bryan award for outstanding scholarship, and received the Distinguished Career award from the GSA Quaternary Geology and Geomorphology Division in 2022.

### ***Research Interests***

Dorothy Merritts explores landscapes responding to geologic and human events and studies the Quaternary record of recurrent coseismic uplift along active faults, the evidence for late Pleistocene permafrost and its thaw south of the North American ice sheet in the eastern US, and the response of valley-bottom landscapes to widespread mill damming for water power during the past few centuries. She has used high-resolution topographic data, particularly from airborne lidar, to identify ubiquitous relict landforms?including lobes of frost-shattered rubble--indicative of downslope mass movement during permafrost thaw at the end of the last full glacial episode, circa 16,000 years ago. This work has significance for understanding landscape response to modern permafrost thaw. Her work with collaborators on more recent geomorphic processes has determined that fine-grained sediment stored throughout thousands of km of valley bottoms in the eastern US was trapped for centuries upstream of now obsolete mill dams, many of which have breached or are slated for removal. This work has transformed understanding of the history of streams in the region and led to new stream restoration and dam removal practices.

**Art Parola, Riverine Systems/Director University of Louisville**

Dr. Parola is the principal of Riverine Systems and director of the University of Louisville Stream Institute. He specializes in the design of stream-wetland systems, riverine mechanics, and sediment transport. He has directed the design of more than 275,000 feet of stream channel re-establishment, rehabilitation, and enhancement, and hundreds of acres of riparian habitat restoration, including re-establishment, rehabilita­tion, and enhancement of floodplain wetlands. Art has partnered with state and federal agencies on stream restoration projects requiring complex riverine modeling, including two-dimensional hydrodynamic and sediment transport analysis. He also provides training to contractors and agency personnel to improve techniques used in restorations. He has extensive experience with urban restoration and has designed best management practice approaches for urban outfalls, bridges/culverts, and other infrastructure.

**Rich Starr, Ecosystem Planning & Restoration**

Mr. Starr has over 33 years of experience in watershed and stream assessment, planning, and restoration. Currently, he is the Office Manager for the Ecosystem Planning and Restoration Baltimore Office where he is responsible for managing all aspects associated with budgets, workload, staff performance, product quality assurance, and office growth and development. He has led comprehensive and critical studies for major watershed-based ecosystem restoration projects. He has extensive experience in developing, designing, and monitoring projects for wildlife and fisheries habitat enhancement projects, stream restoration projects, stormwater management, MS4/TMDL reduction projects, and floodplain management projects. He has conducted numerous geomorphic watershed and stream assessments; implemented stream, wetland, and floodplain restoration projects; provided construction oversight; reviewed as-built drawings; developed stream assessment protocols and tools; produced technical and planning documents; and developed training courses on functional-based stream assessment and restoration. During his career, he has led and/or participated in numerous technical committees that advanced stream restoration through stream regulations, policies, protocols, and research findings. He has worked with all levels of government, including Federal, State, and local governments, as well as a variety of non-governmental and non-profit organizations.

Prior to EPR, he was the Branch Chief of Habitat Restoration, Chesapeake Bay Field Office, U.S. Fish and Wildlife Service for 16 years where he led and managed the Stream Habitat Assessment and Restoration Team, Partners for Fish and Wildlife Program, and the Schoolyard Habitats Program. Before the U.S. Fish and Wildlife Service, Mr. Starr worked for the U.S. Army Corps of Engineers, Baltimore District, for nine years, where he led complex water resources development projects.