

Agenda

Surface Water Behavior Flow measurement Historical records Hydraulics and hydrology modeling methods Understanding human impacts Causes of stream degradation	<i>G. Nail</i>
Basics of Geomorphology and Hydrology Fluvial geomorphology The four dimensions: section, planform, profile, time Channel evolution Stream hydraulics Stream ecology	<i>E. Wohl</i>
Fundamentals of Stream Restoration Design What is stream restoration? Watershed and stream assessment Setting project goals Design flows Design techniques	<i>T. Thompson</i>
Streambank Erosion and Stabilization Bank retreat processes The role of vegetation in bank retreat Bank stabilization techniques	<i>T. Thompson</i>
Stream Restoration Considerations Vegetation Aquatic habitat Wildlife habitat Impact of livestock and agriculture Human interaction	<i>G. MacGregor</i>
Complying with Federal and State Laws and Regulations Clean Water Act/waters of the U.S./wetlands permitting What are WUS and why and how have they been deliberated? Coordinating with various federal and state agencies and processes Stormwater management compliance considerations	<i>A. Der</i>

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Stream Restoration

Live, Interactive Webinar - Tuesday, August 20, 2024

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Learning Objectives

- You'll be able to:**
- Understand** human impacts on stream flow and identify causes of stream degradation.
 - Examine** stream hydraulics and stream ecology.
 - Comply** with the federal Clean Water Act and learn when to consult with the U.S. Army Corps of Engineers.
 - Explore** the evolution of stream restoration concepts and practices.
 - Consider** vegetation as a component of restoration projects.
 - Identify** techniques for streambank stabilization and erosion control.

HalfMoon Education Inc.,
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Stream Restoration

Live, Interactive Webinar - Tuesday, August 20, 2024



- Understand** the science of surface water behavior
- Identify** causes of stream degradation
- Explore** stream hydraulics and stream ecology
- Comply** with federal regulations when working on restoration projects
- Consider** vegetation options during the restoration process
- Discuss** streambank stability and erosion control

Continuing Education Credits

- | | |
|---|--|
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Webinar Information

Online - Tuesday, August 20, 2024

Log into Webinar 8:00 - 8:30 am CDT	Break 12:15 - 1:15 pm CDT
Morning Session 8:30 am - 12:15 pm CDT	Afternoon Session 1:15 - 5:00 pm CDT

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Faculty

Dr. Gregory H. Nail
The University of Tennessee at Martin - Engineering Department
Dr. Nail is an associate professor in the Engineering Department at the University of Tennessee at Martin where he teaches a variety of courses including fluid mechanics, hydraulics and hydrology, and hydraulic and hydrologic modeling. He holds a professional engineer's license based on having passed both the Civil and Mechanical discipline-specific exams. Prior to coming to UT-Martin in 2002 he worked as a research hydraulic engineer for the United States Army Corp of Engineers for 11 years. He is a former member of the Executive Committee of the Tennessee American Water Resources Association, and he has lectured on various HEC-RAS modeling topics at the Annual Tennessee Water Resources Symposium and at other venues. Dr. Nail earned his B.M.E. degree from Auburn University and his M.S. and Ph.D. degrees from Texas A&M University.

Ellen Wohl *Colorado State University Warner College of Natural Resources*
Professor Wohl received a B.S. degree in Geology from Arizona State University and a Ph.D. degree in Geosciences from the University of Arizona. She is a professor in the Department of Geosciences at Colorado State University and a University Distinguished Professor. Her research focuses on physical processes and forms in river channels and floodplains, and how these interact with biogeochemistry and ecological and human communities. She has conducted field research in diverse environments around the world.

Andrew Der *Executive Principal of Andrew T. Der & Associates, LLC*
As a water resources practitioner and manager for 33 years, Mr. Der provides regulatory and scientific expertise for public and private sector clients, with a commitment to equitable and sustainable solutions to complex projects while specializing in creative linkages between ecology and engineering. Mr. Der has been in private consulting practice since 2001, first as an Associate and Director of Environmental Services for two civil engineering firms in the greater Washington, DC and Baltimore metropolitan areas, then, since 2013, principal of his own consulting firm, Andrew T. Der & Associates, LLC. He previously completed 17 years of service with the Maryland Department of the Environment as a manager leading major new initiatives to regulate and restore Chesapeake Bay water resources, and is an appointed industry representative of the U. S. EPA Chesapeake Bay Program Executive Council Stakeholder's Advisory Committee.

Gregor MacGregor, Esq. *Teaching Assistant Professor, University of Colorado Department of Environmental Studies*
Mr. MacGregor is the Environmental and Natural Resources Specialization lead in the masters of the Environment professional degree program. He is also a faculty fellow at the University's Law School, where he teaches courses on natural resources and directs the Acequia Project, a pro bono effort to provide Hispano irrigators in southern Colorado with legal services related to their land, water rights, and businesses. In addition to his academic role, he also owns and operates a cottage food business and is a Colorado Native Plant Master, teaching and consulting on landscape management.

Tess Wynn Thompson
Associate Professor in Biological Systems Engineering at Virginia Tech
Dr. Thompson has degrees in agricultural, civil, and biological systems engineering and has worked as an engineer in state government and private consulting. Her research in stream and wetland restoration focuses on the role of vegetation in flow resistance and streambank erosion, mitigating the impacts of urban development on stream systems, and predicting the onset and rate of streambank erosion. She teaches courses in hydrology, fluvial geomorphology, and stream restoration and serves on the advisory board for the International Ecological Engineering Society.

Credit Information

This webinar is open to the public and is designed to qualify for 7.0 PDHs for professional engineers, 7.0 HSW continuing education hours for licensed architects, and 7.0 HSW continuing education hours for landscape architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

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The Association of State Floodplain Managers has approved this course for 7.0 CECs for floodplain managers.

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