EBC Dam Management Program
Sediment Assessment & Management for Dam Removal
What to do with all that Dam(n) Sediment!

Friday, April 12, 2019

Bowditch & Dewey, LLP | Framingham, Massachusetts

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AGENDA

8:00 a.m. **Welcome**
- Christopher D. Haker, P.E., Chair, EBC Dam Management Committee
  Principal Engineer, Tighe & Bond

Introduction and Program Overview – What you will learn
- Laura Wildman, P.E., Program Chair and Moderator
  Director, New England Regional Office, Princeton Hydro, LLC

8:15 a.m. **Sediment Investigation & Management for Dam Removal**
- Laura Wildman, P.E., Director, New England Regional Office
  Princeton Hydro, LLC

8:45 a.m. **Complications to the Complications – Case Studies**
- Amy Singler, Director, River Restoration, Connecticut River Basin
  American Rivers and The Nature Conservancy

9:15 a.m. **Preview of New Massachusetts Statewide Guidance**
- Alex Hackman, Restoration Ecologist, MA Division of Ecological Restoration

9:45 a.m. **Networking Break**

10:15 a.m. **Sediment Analysis & Dam Removal Case Studies**

- Paul Woodworth, Fluvial Geomorphologist, Princeton Hydro, LLC

10:45 a.m. **Moderated Discussion**

Panel Moderator: Laura Wildman, Princeton Hydro, LLC

Panel Members:

- Alex Hackman, MA Division of Ecological Restoration
- Amy Singler, American Rivers and The Nature Conservancy
- Chad Sumner, SumCo Eco-Contracting
- Paul Woodworth, Princeton Hydro LLC

12:00 p.m. **Adjourn – Closing Remarks – Chris Haker**

PROGRAM CHAIR AND MODERATOR

Laura Wildman, P.E., Director, New England Regional Office
Princeton Hydro, LLC
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Ms. Wildman is a practicing fisheries engineer that established and runs the New England Regional Office for Princeton Hydro focusing on ecological restoration consulting for aquatic systems. Her expertise and passion, centers on the restoration of rivers through the reestablishment of natural functions and aquatic connectivity. She is considered one of the foremost nation U.S. experts on barrier removal and alternative fish passage techniques, regularly lecturing, instructing, and publishing on these topics; including assisting with the instruction of courses for the University of Wisconsin for 15 years and Yale University for 10 years. She recently co-wrote the Dam Removal chapter in the book Sea to Source 2.0, in addition to a publication for a special edition of the Journal of Engineering Geology regarding the history and human dimensions of barrier removal projects. She has been involved in hundreds of river restoration, barrier removal, and fish passage projects throughout the U.S.; working on all aspects of the projects from inception through design and construction, both as a licensed professional engineer designing and managing the projects and as a non-profit project partner when she was the Chief Engineer of American Rivers. Ms. Wildman received her bachelor's in Civil Engineering from University of Vermont, her Master of Environmental Management from Yale University, and has conducted 2 years of post-graduate work at the University of Southampton, in England, focusing on international issues relating to the removal of dams and the restoration of aquatic connectivity. Ms. Wildman integrates both engineering and a deep understanding of river science into her restoration work.

SPEAKERS

Alex Hackman, Restoration Ecologist
Massachusetts Department of Fish & Game, Division of Ecological Restoration (DER)
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Mr. Hackman has been managing dam removal projects in Massachusetts for the past 12 years. In that time, he has been involved with over 25 dam removals, and worked extensively with Mass DEP along the way to develop structures and processes to permit a range of sediment management approaches. Building from that experience, Mr. Hackman is the lead author of a new (draft) statewide guidance document to help dam removal project teams develop and permit sediment management plans. A final review period will commence this spring, and ideally will involve feedback from this EBC program. When not working on dams and sediment, Mr. Hackman is helping local communities restore wetlands and streams on retired cranberry bogs. He directed the Tidmarsh Farms Project in Plymouth, the largest freshwater wetlands project to date in Massachusetts, which is now managed as a wildlife sanctuary by Mass Audubon. Through a new state program he manages, DER is assisting with 7 such bog projects representing almost 500 acres of future restored wetlands. In 2018, Mr. Hackman received the Excellence in Restoration award from the Society of Ecological Restoration (SER) New England Chapter. Today, he serves on the board of that organization, and is an SER Certified Ecological Restoration Practitioner (CERP).

Amy Singler, Director, River Restoration, Connecticut River Basin
American Rivers and The Nature Conservancy
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Ms. Singler works in a shared position for American Rivers and The Nature Conservancy advancing river restoration and dam removal implementation and policy in the United States. She has over 18 years of experience managing river restoration projects and coordinating outreach and training programs with a focus in New England. Working nationally, she identifies opportunities to improve federal agency practice and regulatory policy around river restoration. Ms. Singler joined American Rivers in 2009. Amy has previously worked for the Massachusetts Riverways Program where she worked as a project manager and outreach coordinator, providing outreach and trainings to communities statewide to promote river protection and implementation of restoration projects. She has a B.S. Ecology and Evolutionary Biology from the University of Rochester and an M.S. Water Resources Management from the University of Wisconsin, Madison.

Chad Sumner, Principal
SumCo Eco-Contracting
16 Front Street, Salem, MA 01970
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Chad Sumner is a Founder and Principal at SumCo Eco-Contracting, a site / civil construction company focused on ecological and environmental improvement projects throughout New England. Since 1999, Chad has helped choreograph over 200 ecological construction projects, including dam rehabilitation and removal, river restoration, wetland and salt marsh restoration, dune nourishment, mechanical dredging, ecologically-sensitive site developments, native plantings, invasive species management and fish passage. In addition to their other projects, SumCo Eco-Contracting has removed 22 dams (with 5

more currently underway); constructed naturalized fish passages at 3 more; and completed 6 dam rehabilitation projects. Chad has a Bachelor's Degree in Geology and Biology and a Masters in Conservation Biology.

Paul Woodworth, Fluvial Geomorphologist
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Mr. Woodworth is the primary fluvial geomorphologist at Princeton Hydro and applies his extensive expertise to a range of projects involving dam removal and the assessment, management and restoration of streams, large rivers, floodplains, and wetlands. Mr. Woodworth has been involved with well over 60 barrier removals while at Princeton Hydro. He has completed detailed studies that demonstrate dam removal feasibility and identify project constraints and special considerations for engineering designs including bank erosion and infrastructure protection. In the planning and design phases, Mr. Woodworth assesses and anticipates channel adjustment processes, samples substrates and impounded sediments, conducts topographic survey of channels, and supports bathymetric survey of impoundments. Mr. Woodworth applies field data, geomorphologic principles, analytical techniques and hydraulic modeling to assess and design for sediment stability and mobility, and the potential for channel adjustments (degradation, aggradation) following dam removal or other significant disturbances. Mr. Woodworth has conducted multi-year, repeat geomorphic surveys to monitor the performance of stabilized banks and grade controls, to track bank erosion and upstream movement of headcuts, and to monitor changes in grain size of stream substrates. Mr. Woodworth lead a multi-year data collection effort focused on tracking changes in stream substrates and channel conditions for a controversial mountain-top development. Mr. Woodworth has utilized widely-used geomorphic assessment protocols, such as the Vermont Stream Geomorphic Assessment Protocols, to assess the geomorphic condition of rivers, and has adapted and synthesized such practices in the development of a unique stream functional assessment protocol for the NJ Highlands Commission. Mr. Woodworth's work on dam removal designs involve the responsible management of sediments, restoration of channel-forming processes, enhancement of in-stream habitat and restoration of riparian plant communities. In addition to removal of obsolete barriers, Mr. Woodworth has worked on more complex removal or modification of active dams, to design creative solutions balancing river connectivity and aquatic organism passage with existing dam services.

UPCOMING EBC PROGRAMS

April 18 – Dam Practice for the Ascending Professional – An Advanced Introduction
April 24 – Connecticut Update from the CT DEEP Leadership
April 26 – Climate Change Program: Business and Facility Planning and Preparedness
April 29 – Solid Waste Management Program: "Talking Trash" Southern New England
May 2 – Emerging Contaminants Program: PFAS Overview
May 7 – New Hampshire Program: Update on NHDES Wetlands Rulemaking
May 9 – Rhode Island Program: ENVISION Briefing
May 9 – Spotlight on Success: The 2018 Ascending Leaders Award Recipients Panel
May 10 – Emerging Contaminants Program: PCB Air Sampling and Encapsulation
May 16 – Connecticut Dam Management Program: Emergency Action Planning
May 17 – Climate Change Program: Regional Flood Pathways
May 23 – Evening Program: Climate Programs from the City of Boston and the Commonwealth
June 10 – Dam Management Committee Program Planning Luncheon
June 19 – EBC 26th Annual EBEE Awards and 29th Annual Meeting