

Riparian Buffer Practitioners' Meeting

March 30-31, 2022
Schedule of sessions

The Zoom link has been distributed to meeting attendees. We will use the same link and call-in information for all sessions, and the “room” will stay open for casual conversations during breaks. If you do not have the link, please contact Alison Adams at alison.adams@uvm.edu.

Detailed session/presentation descriptions, where available, are linked later in the document.

March 30 (Wednesday)

9:00am – 11:00am: [Introductions & partner updates](#)

- Meeting background, logistics, and structure – Alison Adams
- Various brief partner updates

11:00am – 11:30am: *Break*

11:30am – 12:00pm: [Updates on direct seeding and site prep work](#)

- Annalise Carington (Vermont Land Trust), Pete Emerson (VTFWD), Dr. Fritz Gerhardt (Connecticut River Conservancy)

12:00pm – 1:00pm: [The role of mycorrhizae in riparian forest restoration](#)

- Dr. Thomas Horton (SUNY-ESF), Jess Rubin, (UVM & MycoEvolve), Lynda Prim (Intervale Conservation Nursery),

1:00pm – 1:30pm: *Break*

1:30pm – 2:30pm: [Managing riparian areas for pollinators, birds, and other biodiversity](#)

- Bob Zaino (VTFWD), Cassie Wolfanger (Audubon Vermont & Lake Champlain Sea Grant), Jason Mazurowski (UVM Gund Institute)

2:30pm – 3:00pm: [Act 76 updates](#)

- Gianna Petito (VT Department of Environmental Conservation)

3:00pm – 3:30pm: *Break*

3:30pm – 4:30pm: [Buffers & Profitable Agroforestry Opportunities for the Lake Champlain Basin](#)

- Audrey Epp Schmidt (Propagate), Mandy St. Hilaire (Propagate), Teddi Stark (Pennsylvania Dep't of Conservation and Natural Resources)

March 31 (Thursday)

9:00am – 10:00am: [Herbaceous competition and invasives: from phragmites to knotweed to stone mulch](#)

- Kelly Stettner (Black River Action Team), Dr. Simon Pearish (Norwich University), Ben Machin & Bill Musson (Redstart Consulting)

10:00am – 11:00am: [Managing emerald ash borer in riparian forests](#)

- Dr. Tony D'Amato (UVM), Allaire Diamond (Vermont Land Trust), Joanne Garton (VT Urban & Community Forestry Program)

11:00am – 1:30pm: *Break (Note: Unfortunately, the session on forward contracting has been canceled, but there will be a discussion on this topic at a later date. If you'd like to be involved in that conversation, please email Alison at alison.adams@uvm.edu to let her know).*

1:30pm – 3:00: [In-stream restoration and strategic woody additions](#)

- Ben Gabos (VAAF), Patrick Hurley (Memphremagog Watershed Association), Allaire Diamond (Vermont Land Trust), Shayne Jaquith (The Nature Conservancy), Dr. Jud Kratzer (VTFWD), Kelley Tucker (Ausable River Association)

3:00pm – 3:30pm: *Break*

3:30pm – 4:30pm: [Finding new and creative ways to fund projects](#)

- Discussion led by Alison Adams (Watershed Forestry Partnership)

Detailed session/presentation descriptions

(Where available; note that several presentations do not have associated descriptions)

Introductions & partner updates

Alison Adams (Watershed Forestry Partnership, UVM), Various partners

Alison will provide a brief introduction to the meeting. We will then hear 5-minute updates from ~20 Watershed Forestry Partnership partners, covering recent projects and programming, upcoming work, and funding opportunities.

Updates on direct seeding and site prep work

Annalise Carrington (Vermont Land Trust), Pete Emerson (VTFWD), Dr. Fritz Gerhardt (Connecticut River Conservancy)

Pete Emerson of the Vermont Fish and Wildlife Department and Annalise Carrington, now at the Vermont Land Trust, have been partnering on a novel method of reclaiming floodplain forest where quasi-grasslands have been established by generations of agricultural uses. Partners such as Fritz Gerhardt at the Connecticut River Conservancy and others have worked with Pete and Annalise to test the methods at sites on Vermont Fish and Wildlife, National Wildlife Refuge, Municipal Forest and Privately owned lands across the State. Pete and Annalise will provide updates on this work, including a case study from McKenzie Park in Burlington.

The role of mycorrhizae in riparian forest restoration

Dr. Thomas Horton (SUNY-ESF), Jess Rubin, (UVM & MycoEvolve), Lynda Prim (Intervale Conservation Nursery),

Hear from three professionals involved in work with mycorrhizae. Dr. Tom Horton will discuss mycorrhizal ecology with current challenges to watch out for, Jess Rubin will discuss research working with mycorrhizae and native plants for water quality protection and pollinator habitat enhancement in riparian buffers, and Lynda Prim will discuss applications at the Intervale Conservation Nursery.

Mycorrhizal ecology

Dr. Tom Horton, Professor, SUNY-ESF

Mycorrhizae and native plants for water quality protection

Jess Rubin, Myco-Phytoremediation Researcher, Practitioner & Educator, UVM & MycoEvolve

Mycorrhizae at the Intervale Conservation Nursery

Lynda Prim, Manager, Intervale Conservation Nursery

Mycorrhizae are part of the tools and systems that ICN is working to develop for nursery production that is more ecologically sustainable and stable. The other tools in our system include primary tillage with a spader (minimal till/subsoiling) that is matched to our plant lifter (harvest implement), cover cropping, ramial wood chip mulch, and timed application of reduced irrigation. There is mounting data that from a plant uptake perspective, microbial N is the most-efficient form of N, so we are taking steps to reduce

applied nitrogen from organic sources and experimenting with applying mycorrhizae together with soluble sources of nitrogen and kelp extracts as catalysts for soil microbial populations to convert available N into a form more readily taken up by the plants in a living soil web.

Managing riparian areas for pollinators, birds, and other biodiversity

Bob Zaino (VTFWD), Cassie Wolfanger (Audubon Vermont & Lake Champlain Sea Grant), Jason Mazurowski (UVM Gund Institute)

Natural Communities and Riparian Areas

Bob Zaino, Natural Community Ecologist, VT Fish & Wildlife Department

Natural Communities and Riparian Areas: Natural communities are a powerful tool for conserving biological diversity and planning conservation and management practices. Learn about some of the natural communities, and the plants and animals they comprise, along Vermont's rivers and streams.

What Does the Literature Say? Riparian Restoration with Birds in Mind

Cassie Wolfanger, Conservation Fellow, Audubon VT & Lake Champlain Sea Grant

There are several bird-friendly considerations that are easy to incorporate into existing riparian restoration plans that can help to get the biggest biodiversity bang for your buck. This presentation will use examples from scientific literature to cover some general recommendations for native plant species selection, vegetative structure, strategic site locations, and buffer scale that are important for enhancing bird habitat in riparian areas.

Native bee conservation in riparian habitat

Jason Mazurowski, Researcher & Adjunct Instructor, Gund Institute for Environment

Among the myriad ecosystem services provided by riparian buffers, their potential as habitat for declining pollinator populations must not be overlooked. From floodplain forests to marginal farmland, riparian habitats provide essential floral resources for conserving Vermont's native bees – from the specialists threatened most by habitat loss, to the generalists contributing to crop pollination.

Buffers & Profitable Agroforestry Opportunities for the Lake Champlain Basin

Audrey Epp Schmidt (Propagate), Mandy St. Hilaire (Propagate), Teddi Stark (Pennsylvania Dep't of Conservation and Natural Resources)

Agroforestry is the strategic integration of fruit, nut, timber crops and biodiversity species into existing agricultural operations. We will share case studies of how Propagate is piloting innovative agroforestry systems that measurably benefit ecological outcomes (e.g. water quality and soil health) while also achieving farmer goals for production and income. Agroforestry presents a unique opportunity to increase riparian acreage in the Lake Champlain Basin and has the potential to “unlock” the adoption of conservation practices on additional acreage by speaking to farmers' bottom line. We will share the nuances and considerations when designing, installing, and operating perennial cropping systems. Propagate will present the differences between traditional, multifunctional, and commercial riparian buffers in the context of agroforestry, and Teddi from PA will be sharing about trends towards this work in Pennsylvania.

Act 76 updates

Gianna Petito, Grants Coordinator, DEC Clean Water Initiative Program

This session will provide a brief review of how Act 76 impacts the structure and scale of DEC-CWIP funding opportunities for riparian restoration and will summarize future processes for accessing these funds through "Formula" and "Enhancement" grants.

Herbaceous competition and invasives: from phragmites to knotweed to stone mulch

Kelly Stettner (Black River Action Team), Dr. Simon Pearish (Norwich University), Ben Machin & Bill Musson (Redstart Consulting)

Mechanical management of phragmites in Plymouth, VT

Kelly Stettner, Black River Action Team

Drone monitoring of Japanese knotweed

Dr. Simon Pearish, Associate Professor of Biology, Norwich University

I will present a novel approach to monitoring Japanese knotweed using images taken by unmanned aerial vehicles (aka drones). The current focus of the project combines aerial imagery with surveys conducted on the ground to train computer algorithms to recognize the light wavelength signature of Japanese knotweed. This multi-disciplinary project is a collaboration between faculty from several academic disciplines at Norwich University, undergraduate researchers, and middle school students and educators. It was made possible by LCBP Education and Outreach Grant funding awarded to the Dog River Conservancy, a branch of the Center for Global Resilience and Security at Norwich University.

Using stone mulch to control herbaceous competition

Ben Machin & Bill Musson, Redstart Consulting

Managing emerald ash borer in riparian forests

Dr. Tony D'Amato (UVM), Allaire Diamond (Vermont Land Trust), Joanne Garton (VT Urban & Community Forestry Program)

Preserving ash on our landscape in the face of Emerald Ash Borer (EAB)

Dr. Tony D'Amato, Professor of Forestry, University of Vermont

Vermont Land Trust monitoring and landowner outreach around EAB

Allaire Diamond, Vermont Land Trust

Tackling EAB at the municipality-level

Joanne Garton, Technical Assistance Coordinator, Vermont Urban and Community Forestry Program, VT FPR & UVM Extension

Anticipating the impact of emerald ash borer to publicly managed ash trees is the current work of municipal staff, tree wardens, and many local volunteers. Through on-the-ground ash tree inventories and ongoing grant applications, municipalities are tackling ash tree

removal, treatment with insecticide, or a phased approach of both to ensure healthy tree canopy in their downtowns and along their rural roads. The Vermont Urban & Community Forestry Program retains a database of all community-collected data points of ash tree locations, size, condition, and management priorities within in public properties and municipal right-of-ways. We are always training up new communities ready to plan for the loss of community ash trees in light of EAB.

In-stream restoration and strategic woody additions

Ben Gabos (VAAF), Patrick Hurley (Memphremagog Watershed Association), Allaire Diamond (Vermont Land Trust), Shayne Jaquith (The Nature Conservancy), Dr. Jud Kratzer (VTFWD), Kelley Tucker (Ausable River Association)

This session will focus on approaches to planning, designing, and implementing riverscape restoration. The presentations will discuss different approaches ranging from the use of low-tech, hand-built structures on headwater streams in both upland and lowland settings to drive natural and dynamic processes, to larger-scale natural stream restoration projects on fourth and fifth-order rivers that restore lost functions (e.g., geomorphic, hydraulic) in a manner that is self-sustaining and creates ecological uplift through habitat enhancement.

Restoration on first- and second-order streams

Ben Gabos, CREP Coordinator, Vermont Agency of Agriculture

Process-based restoration and strategic woody additions

Patrick Hurley, Project Manager, Memphremagog Watershed Association

Crooked Creek Process-Based Restoration

Allaire Diamond, Ecologist, Vermont Land Trust & Shayne Jaquith, Watershed Restoration Manager, The Nature Conservancy VT

This presentation will walk through the 2021 VLT-TNC implementation of process-based restoration techniques on Crooked Creek at the VLT conserved Button Farm in Colchester.

The role of SWA in improving fish habitat and stream function

Dr. Jud Kratzer, Fisheries Biologist, Vermont Fish & Wildlife Department

I will explain what strategic wood addition is and what it does to improve fish habitat and stream function.

Riverscape restoration at the Ausable River

Kelley Tucker, Executive Director, Ausable River Association

Finding new and creative ways to fund projects

Alison Adams (Watershed Forestry Partnership, UVM)

Alison will lead a collaborative brainstorming and discussion session around new and creative ways to fund riparian forest restoration projects. Come with ideas, thoughts, and questions!