



Connecticut Association of Wetland Scientists (CAWS)

2026 Annual Meeting
Wednesday, March 4, 2026

Presentation 1

Automated Mapping of Beaver-Influenced Wetlands

Evan Zocco (University of Connecticut)

ABSTRACT: Beavers have long shaped New England landscapes by damming streams and altering drainage networks. In doing so, they create wetlands that influence floodplain connectivity, surface-water storage, habitat availability, and biogeochemical processes. These changes carry important ecological and social implications, yet beaver-driven wetlands can be difficult to monitor consistently at landscape scale. In this presentation, we examine a scalable mapping approach to identify beaver-influenced floodplain inundations (BIFIs) using remotely sensed imagery. Examples of mapped beaver wetlands from across Connecticut and their spatial distribution statewide will be presented. Multi-temporal results will show how the density and extent of these wetlands vary through time. This work demonstrates a repeatable method for beaver wetland monitoring that can support landscape-scale assessment, conservation planning, and adaptive management in beaver-modified floodplains.

BIO: Evan Zocco is a Ph.D. student in the Department of Natural Resources and the Environment at the University of Connecticut. His research focuses on beaver-driven hydrogeomorphic change and the development of automated methods to map beaver-influenced floodplain inundations (BIFIs) using remote sensing and computer vision. He works with multi-temporal aerial imagery and geospatial data to quantify wetland extent, density, and change through time. His broader interests include landscape evolution, ecological mapping, and applying AI to improve monitoring of under-observed biotic drivers.

Presentation 2

2026 Nationwide Permits and 401 Water Quality Certification

Susan Jacobson & Darcy Winther (Connecticut Department of Energy and Environmental Protection) / Charlotte R. Skolnick & Paul M. Silva (U.S. Army Corps of Engineers)

ABSTRACT: The intent of this presentation will be to provide a comprehensive overview of the March 15, 2026, Department of Army Nationwide Permits (NWP) and technology updates related to the Regulatory Request System (RRS). CT DEEP will review Connecticut's 401 water quality certification of the Corps' Nationwide Permits with a focus on the thresholds, criteria, and general conditions related to permitting.

BIOS:

Sue Jacobson is a Supervising Environmental Analyst for the Land and Water Resources Division of CT DEEP. She has been involved with the Department's coastal management program for 30 years and with the regulation of inland wetland and watercourses for the last nine years. Sue served on her municipal Conservation/Inland Wetlands Commission for eight years. She is a UConn graduate and has a Master's in Resource Management and Administration from Antioch University New England.

Darcy Winther has been with CT DEEP for over 35 years and is currently the supervisor of the Land and Water Resources Division's Regulatory Section, East Region, overseeing coastal and inland permitting programs. Previously, she spent 27 years in the Inland Wetlands Management Program, guiding municipalities, stakeholders, and citizens in the administration of Connecticut's Inland Wetlands and Watercourses Act. Darcy holds a degree from the University of New Hampshire and a New England Regional Soil Science Certificate from the University of Massachusetts. Outside of her professional role, she serves on the board of a CT Community Water System and continues her environmental advocacy as an instructor at a nature center, teaching children and caring for the center's animals.

Charlotte Skolnick and Paul Silva are both Senior Project Managers with the U.S. Army Corps of Engineers New England District Regulatory Division, CT & RI Section. Their responsibilities with the Regulatory Division include the review and evaluation of activities within jurisdictional waters of the U.S., resolution of enforcement activities, field verification of wetland delineations and jurisdictional determinations. In addition to project management, Charlotte also provides support to the district for database management, geospatial tools, and other technology initiatives. Charlotte holds a B.S. in Environmental Geoscience from University of Massachusetts, Lowell. For over 20 years, Paul has worked within the environmental industry performing assessment and remediation for residential, commercial and industrial clients, and managing insurance claims throughout the northeast. Most recently before joining the Corps, Paul worked as the Environmental Manager for the Cape Cod Space Force Station.

Presentation 3

Vegetated Riparian Buffers Working Group Update

Rep. Mary Mushinsky (State Representative / Co-Chair, Riparian Buffers Working Group)

ABSTRACT: This presentation will discuss the latest developments of the Connecticut General Assembly's Vegetated Riparian Buffers Working Group.

BIO: Elected to the Connecticut House in 1980 on a platform of environmental and consumer advocacy, Rep. Mary Mushinsky now serves as Assistant Deputy Speaker Pro Tempore. A biologist, she has led major environmental laws on recycling, open space, climate, and endangered species. She has co-chaired key committees on workforce development, children, and the environment, passed the state's anti-bullying law, and advanced apprenticeship, efficiency, and community initiatives in Wallingford. Rep. Mushinsky was recently appointed to serve as Co-Chairperson of the Connecticut General Assembly Environment Committee's Working Group on Riparian Buffers.

Presentation 4

Connecticut Wetland In-Lieu Fee (ILF) 2026 Grant Program Update

Anthony Zemba (LANDTECH)

ABSTRACT: A discussion of the ILF Grant Program, which appropriates funds for wetland mitigation projects.

BIO: Anthony Zemba is Senior Environmental Analyst at LANDTECH. He is a Certified Ecologist, Certified Soil Scientist, with extensive experience in environmental assessment/impact statements and mitigation; habitat assessment, restoration, and enhancement; and natural resource conservation planning. Specialties include NEPA compliance, wildlife biology, avian ecology, marine and oceanic island ecology, wetland science, habitat restoration, conservation biology and planning. In this capacity he has served a variety of clients including municipal, state, and federal government sector clients, private clients, Non-profit and Non-governmental Organizations.

Presentation 5a

The Effects of Sediment Addition Depth on Denitrification in Coastal CT Salt Marshes

Michael Lefor Grant Winner 2025 — Carly Shaw (University of Connecticut)

ABSTRACT: Accelerated sea level rise enhanced by anthropogenic activity is drowning coastal salt marshes. Adding sediment to the surface of salt marshes is an emerging adaptation strategy to promote coastal resiliency and reduce flooding frequency. However, we do not fully understand accelerated sea level rise exacerbated by anthropogenic activity is threatening the survival of coastal salt marshes. One emerging solution to help salt marshes keep pace with sea level rise is the addition of sediment. Sediment addition projects are becoming more common in New England, but little is known about how this management strategy affects salt marsh biogeochemistry. The objective of Carly's research is to determine how experimental addition of various sediment depths affects greenhouse gas exchange and denitrification over time, after plant recovery, in a coastal Connecticut marsh.

BIO: Carly Shaw is a MS student in the Department of Natural Resources and the Environment at UConn. She is broadly interested in coastal biogeochemistry and water quality. Her research involves analyzing salt marsh responses to sediment additions, including changes in greenhouse gas exchange, nitrogen cycling, and plant biomass. Carly received her B.S. in Coastal Environmental Science from Flagler College in 2024. She also worked with the New Jersey Division of Fish and Wildlife and The Wetlands Institute as a coastal field research intern, where she researched salt marsh ecology and diamondback terrapin conservation.

Presentation 5b

Restoration of Indian Paintbrush in Northwest CT

Les Mehrhoff Grant Winner 2025 — Maria Grace (Northwest Connecticut Land Conservancy)

ABSTRACT: Northwest Connecticut Land Conservancy (NCLC) continues work on the Connecticut restoration of Indian Paintbrush (*Castilleja coccinea*), a native biennial wildflower that once grew throughout New England. In 2025, with support from the Connecticut Association of Wetland Scientists, NCLC and consulting botanist Heather Liljegren of LocalLand Consulting conducted two surveys of the study site, looking for both Indian paintbrush specimens and host plants that play a vital role in the species' long-term survival. No Indian paintbrush specimens were found, but abundant host-plant populations were observed throughout the study site. Ms. Liljegren hypothesized that disturbance is a major factor missing from the study site.

NCLC staff and Ms. Liljegren developed and conducted disturbance experiments throughout the study area. Plots were established in October 2025, and treatments were applied in November. Locations were chosen based on sites that historically supported plants or were in the vicinity of historical populations that still harbor persisting host species. Plots were divided into three sections, each receiving one of three treatments. Follow-up monitoring visits are planned for early spring (April-May 2026) and early summer (June 2026).

BIO: Maria Grace is the director of stewardship for Northwest Connecticut Land Conservancy. She is the former executive director of Sharon Land Trust and also worked for NCLC partner, Housatonic Valley Association, as the New York Watershed Program Manager, building partnerships and running conservation programs within the Ten Mile River watershed. She is a member of the Inland Wetlands and Watercourse Commission in the Town of Salisbury and is also chair of the town's Conservation Commission. Before relocating to Connecticut in 2014, Maria was the education and outreach manager for the Conserve Wildlife Foundation of NJ, a conservation organization focused on New Jersey's endangered, threatened, and rare wildlife. She holds a B.S. in Environmental Science from Stockton College (now University), and an M.A. in Environmental Studies from Montclair State University, where she was a graduate teaching assistant at the New Jersey School of Conservation.

Presentation 6

Panel Discussion: The Life Cycle of a Project — Challenges and Solutions

Moderators: Joshua Weiss (Stantec) and Brian Golembiewski (CT DEEP)

BIOS: Josh Weiss is a professional soil scientist at Stantec who specializes in wetland delineation, field data collection and documentation, rare and endangered species surveys and habitat characterization, construction inspection, and permitting. He also has expertise in geographic information systems (GIS). Josh manages environmental projects for local, state, and federal entities and has a thorough understanding of the National Environmental Policy Act (NEPA) and Connecticut Environmental Policy Act (CEPA), having worked on numerous environmental impact statements and environmental assessments. Josh is the immediate past president of the Connecticut Association of Wetland Scientists (CAWS) and currently serves as Treasurer. When not at work, Josh is a volunteer firefighter for the Town of Simsbury.

Brian Golembiewski has been a DEEP employee for 35-plus years, with expertise in the regulation of inland and tidal water resources. Currently, he is a Supervisor of the Land & Water Resources Division Enforcement Section and serves as the Commissioner's designee on the CT Siting Council. Brian graduated with a B.S. in Biological Sciences from UConn Storrs and is a soil scientist.

■ SITE ASSESSMENT

Using Molecular Genetic Techniques to Confirm Rare Plant Identification

Brian Connolly (Eastern Connecticut State University)

ABSTRACT: Plants found on a site occasionally do not cleanly fit the morphological boundaries found in botanical references, and regional or state experts are unable to definitively identify the plant. In cases such as these DNA or molecular genetic techniques can be employed to help place the individuals found on site within a species, this talk will briefly cover a few cases where DNA was used to separate rare species from non-regulated ones.

BIO: Dr. Bryan Connolly has a Ph.D. from the Department of Plant Science and Landscape Architecture at UConn. He served as the Massachusetts State Botanist for six years and is currently an Associate Professor of biology at Eastern Connecticut State University, he also works independently as a botanical consultant.

■ DESIGN

Higganum Cove Superfund Site & Ecological Restoration

Bill Kenny (William Kenny Associates, LLC)

ABSTRACT: Higganum Cove in Haddam, CT was an industrial hub from the 1670s through the 1980s, hosting diverse mills, including sawmills, textile, and oakum factories. Following a devastating 1989 fire, the site underwent significant environmental remediation, including wetland and upland habitat restoration, and has been redeveloped into a nature park and public amenity. The project overcame a number of challenges related to the rich cultural and ecological history of the site, the significant past contamination, and remediation health and safety protocols, as well as many of the typical ecological restoration design challenges.

BIO: William L. Kenny is a Wetland Scientist, Soil Scientist and Landscape Architect and the owner of William Kenny Associates LLC, a firm that provides Landscape Architectural and Ecological Consulting services, and the owner of NATIVE LLC, a native plant nursery. He has more than 35 years of experience in landscape architecture and ecological restoration, serving as lead designer, project manager, collaborating design professional, or construction contractor on a wide range of public and private projects.

■ PERMITTING

Dealing with Rare Species: Tips and Strategies for a Successful NDDB Determination

Matt Arsenault (Stantec)

ABSTRACT: Stantec's Senior Ecologist and Botanist Matt Arsenault will lead a discussion on the coordination process with the Natural Diversity Data Base (NDDB) that is critical to the successful DEEP permitting of a larger project. We will discuss proactive pre-screening methods, strategies and insights for initiating a formal NDDB filing, and addressing requests for additional information. The presentation will also address potential deficiencies to avoid and key elements of the NDDB determination to be aware of (e.g., expiration dates). The presentation will draw upon our practical experience gained through many years of successful NDDB consultations.

BIO: Matt Arsenault is a Senior Ecologist, Botanist, and Professional Wetland Scientist for Stantec Consulting and leads botanical survey and vegetation assessment and monitoring services for projects throughout the northeastern U.S. His work includes surveys for threatened and endangered species, habitat assessments, species protection and mitigation plans, incidental take permitting, and long-term vegetation monitoring. He has a B.S. in Botany from the University of Maine.

■ CONSTRUCTION

Challenges and Solutions to Planting 1,300 Trees on Steep Slopes

Patti Burns (Davey)

ABSTRACT: This ongoing project involves the post-remediation ecological restoration at a former industrial facility that is situated along the banks of the Hudson River in Rensselaer County, New York. The installation work focuses on planting 1,300 trees and installing erosion control measures. DRG was subcontracted by the remediation contractor using the site plans that were prepared by a reputable environmental engineering firm and approved by NYSDEC in 2017 — eight years before remediation started. Rather than a focus on the nuts and bolts of tree planting, this presentation shares the experience of working collaboratively with stakeholders in order to implement an already approved restoration site plan, in order to achieve optimal restoration results and a safe work environment.

BIO: Patti Burns is a Professional Wetlands Scientist and Certified Ecological Restoration Practitioner, and she holds a certificate in Ecological Collaboration and Conflict Resolution. Patti oversees Davey Resource Group's New England area wetlands and ecological projects. She brings stakeholders together to resolve land use issues surrounding wetlands and natural areas. Patti has managed ecological restoration from analysis to design, permitting, installation, construction oversight, monitoring, and maintenance in the northeast. She has provided expert testimony, taught principles of ecological restoration at Temple University, served on NJ's Wetlands Mitigation Council, and played a pivotal role in conserving 1,695 acres of NH greenways. She received a B.S. in Natural Resource Studies from UMass Amherst and a M.S. in Forest Science (Soils) from Michigan Technological University.

■ MAINTENANCE

Mechanical (Chemical-Free) Management of Invasive Plants

Colin Bennett (Swamp Yankee Earthcare)

ABSTRACT: This presentation examines the opportunities and limitations of managing invasive plant species without the use of herbicides, with a focus on real-world application in Connecticut. The primary objective is to equip participants with a practical understanding of mechanical and non-chemical control strategies,

emphasizing when these approaches are effective, where they fall short, and how they can be integrated into long-term management plans. Case studies from Connecticut will be used to illustrate both successful management efforts and common challenges, including labor demands, repeated follow-up requirements, unintended ecological impacts, and site-specific constraints. By highlighting lessons learned from on-the-ground projects, the presentation will move beyond theory to provide actionable insights.

BIO: Colin Bennett is a tireless advocate for the natural world, blending his experience as a master naturalist with his role as a dedicated forest manager. With a profound love for nature and the outdoors, Colin has devoted his adult life to helping others and is most passionate about protecting and preserving our environment. His deep commitment to environmental stewardship drives his work, as he strives to ensure the health and sustainability of ecosystems while fostering a greater appreciation for nature among others

■ RESTORATION

Creating Native Meadows Using Native Plants

Peter Picone (CT DEEP)

ABSTRACT: Restoring native plant diversity is challenging but rewarding. Mr. Picone will share his experience restoring an abandoned corn field at Robbins Swamp WMA with native vegetation and creating an ecotone. He will touch on the tools, techniques, and strategies used in the restoration process, which included managing invasives, and planting natives (as seeds, plugs, and bare root).

BIO: Peter Picone is Senior Wildlife Biologist at the Connecticut Department of Environmental Protection, Wildlife Division, Sessions Woods Wildlife Management Area, in Burlington, CT. He oversees western district wildlife management areas and state land agricultural agreements; provides technical assistance in enhancement of wildlife habitat, specializing in the use of native plants and managing invasive non-natives; publishes guides and technical literature to educate the public about habitat and wildlife management; gives presentations using a variety of visual media; posts educational content on social media and other communication channels; conducts field research and surveys; supports deer and beaver nuisance control; and collaborates with other natural resource professional in related fields. He is a graduate of UConn with a B.S. in Renewable Natural Resources.

Presentation 7

Detecting Northern Hydrilla (*Hydrilla verticillata* subsp. *lithuanica*) in the Connecticut River with Satellite Imagery

Summer Weidman (Connecticut Agricultural Experiment Station Office of Invasive Aquatic Species)

ABSTRACT: The Connecticut Agricultural Experiment Station Office of Aquatic Invasive Species (CAES OAIS) has surveyed freshwater systems in Connecticut since 2004, discovering northern hydrilla (*Hydrilla verticillata* L.f. Royle) in the Connecticut River in 2016. Since then, northern hydrilla has spread to at least 11 waterbodies in the region, posing significant ecological and recreational threats due to its rapid growth, high adaptability, and ability to outcompete native vegetation. Traditional survey methods to map hydrilla, such as point-intercept surveys, are time-consuming, labor-intensive, and costly for an area as large as the Connecticut River. This study investigates the use of satellite imagery and Random Forest classification to develop a more efficient monitoring technique. Using September 2019 satellite imagery, vegetation indices (e.g., NDVI, NDWI, MNDWI) were calculated and used in a Random Forest model to predict hydrilla, no hydrilla, and terrestrial. While the model effectively distinguished land from aquatic vegetation, further refinement is needed to improve hydrilla detection and reduce overclassification.

BIO: Summer Weidman: Summer Weidman is a Research Technician II and Lake Manager Associate at the Connecticut Agricultural Experiment Station in the Office of Aquatic Invasive Species. She has nearly a decade of experience leading statewide surveys to monitor invasive aquatic plants, specializing in field identification, distribution mapping, and geospatial analysis. Her work supports the development of effective management strategies for hydrilla and other invasive species by combining rigorous field data collection with advanced mapping tools. In addition to her applied research role, Summer is pursuing a Ph.D. in Natural Resources at the University of Connecticut, where her research focuses on applying remote sensing technologies to improve detection and monitoring of invasive species, specifically hydrilla.

Presentation 8

A Citizen Scientist Program for Monitoring Kettle Lakes and Ponds

Heidi Cunnick (Cornwall, CT Lake Task Force)

ABSTRACT: The Northeastern United States is dotted with fluvioglacial landforms known as kettle lakes and kettle ponds. These kettles, formed ~15,000 years ago in the wake of the receding Laurentide ice sheet, are frequently today beloved sites of recreation, picnicking, swimming, and skating. Despite the plentitude of these lakes, and their importance to our communities, they are rarely monitored for the state of their health. This is unsurprising given the relative scarcity of professional limnologists, the cost of having the kettles monitored on a regular basis, and the lack of training available for citizen scientists who want to develop their own monitoring program. In the eleventh hour, when a lake's health is visibly in decline, and professional help is called in, it is often too late to intervene except at tremendous expense. Cornwall, CT has taken a different approach to protecting its own community lake, Cream Hill. It is an approach that could be taken by more towns that are interested in protecting their lakes' health but are stymied by financial concerns. By developing a volunteer lake monitoring protocol, and monitoring lake health parameters, concerning issues can be addressed early and communities can be educated as to how to care for their lakes. When professionals are called in, their analysis of the lake conditions benefits from the existence of a temporal dataset, and the resulting intervention is likely to be less expensive.

BIO: Heidi Cunnick has been chair of the Cornwall, CT Lake Task Force (LTF), created to monitor the health of Cream Hill Lake, since its formation in 2013. She has a Masters degree in Ecology and Evolutionary Biology from Columbia University and a Ph.D. in Earth and Environmental Science from Lehigh University. Three times or more a year, the Lake Task Force samples the Cream Hill Lake's water column for temperature, pH, clarity, levels of dissolved oxygen, and a slate of nutrients. Samples are sent to UConn for nutrient analysis and results are analyzed with simple statistical techniques. The Lake Task Force presents findings to the town and lake club on an as-needed or as-requested basis.