

# Northeast Aquatic Biologists Conference

February 14-16, 2024

Lake Morey Resort

Fairlee, VT



9:00 - 11:00	<p><b>Pre-Conference Meeting: R Exchange</b> <b>*Registration Required*</b></p> <p><i>As a continuation of an ongoing initiative, this meeting aims to provide a platform for R coding enthusiasts in our region to share innovative methods. Participants will discuss how they are leveraging various R programs to streamline unique processes and address specific problems.</i></p>	<p><b>Pre-Conference Meeting: Streamgaging with USGS &amp; the States</b> <b>*Registration Required*</b></p> <p><i>This meeting enables state employees throughout the Northeast to connect with USGS contacts regarding our crucial network of streamgages. It also initiates a broader conversation about the need for funding endangered and priority streamgages.</i></p>	
12:00	<b>Registration</b>		
	<p><b>Continuous Monitoring &amp; Boatloads of Data</b> <b>Edgewater</b> moderator: TBD</p>	<p><b>Climate Change Impacts on Streams</b> <b>Theater</b> moderator: TBD</p>	<p><b>Cyanobacteria I</b> <b>Waterlot</b> moderator: TBD</p>
1:00	<p><u>Lower Hudson River Ambient Water-Quality Monitoring</u> <u>Natasha Scavotto, USGS</u></p>	<p><u>Floods, Drought and In-Between: Examining the Effects of Recent Climate Patterns on Vermont's Macroinvertebrate Communities</u> <u>Aaron Moore, VT DEC</u></p>	<p><u>Cyanobacterial Occurrence and Bloom Development in Oligotrophic Adirondack Lakes</u> <u>Rebecca Gorney, USGS</u></p>
1:30	<p><u>Analysis of Continuous Stream Temperature Data from Long-Term, High Quality (Reference) Monitoring Sites in the Northeast</u> <u>Jen Stamp, Tetra Tech</u></p>	<p><u>Climate Change Effects on Stream Macroinvertebrates in Maine: An Analysis of Long-Term Data</u> <u>Adam Pepi, ME DEP</u></p>	<p><u>Sustainable Restoration of an Oligotrophic Water Body Impacted by Cyanobacteria and Tree Pollen</u> <u>Jonathan Higgins, Higgins Environmental Associates</u></p>
2:00	<p><u>Simple Point-in-Time Samples Predict Conservation-Relevant Summer Stream Temperature Metrics Better than Regional Models</u> <u>Keith Fritschie, VT DEC</u></p>	<p><u>Freshwater Invasive Species in the Face of Climate Change: Monitoring and Management in Massachusetts</u> <u>David Wong, MassDEP</u></p>	<p><u>Phycocyanin: The Other Cyanobacterial Accessory Pigment</u> <u>Nancy Leland, University of New Hampshire</u> <u>Kimberley Crocker-Pearson, Town of Brewster Natural Resource Committee</u></p>
2:30	<b>Break</b>		

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## WEDNESDAY, FEBRUARY 14

	<b>Long-Term Monitoring Edgewater</b> moderator: TBD	<b>Stream Salinization &amp; Conductivity Monitoring Theater</b> moderator: TBD	<b>Lake Monitoring Waterlot</b> moderator: TBD
3:00	<u>Spatial and Temporal Extent of Hypoxia in Mount Hope Bay, 2016 - 2022</u>  Suzanne Flint, MassDEP	<u>Developing a Stream Conductivity Monitoring Program in Connecticut</u>  Ansel Aarrestad, CT DEEP Carriel Cataldi, CT DEEP	<u>Monitoring Least Disturbed Lakes in Vermont as Part of the Regional Lake Monitoring Network</u>  Kellie Merrell, VT DEC
3:30	<u>Twenty-Two Years on the Lower Kennebec River, Maine 2002-2023: Fish Assemblage Composition and Responses to Diadromous Fish Management</u>  Chris Yoder, Midwest Biodiversity Institute	<u>Characterizing Salinization of Headwater Streams in the Lake Champlain Basin, VT</u>  Molly Costanza-Robinson, Middlebury College	<u>Annual Variations in Lake Thermocline Depth Measured with Continuous Sensor Data</u>  Jeremy Deeds, ME DEP
4:00	<u>Reshaping Rivers: 50 Years of Cleaner Currents in The Hudson and Mohawk</u>  Makenzie Garrett, NYS DEC / NEIWPC	<u>Spatial and Temporal Variability in Stream Conductivity in the Boston Metropolitan Area</u>  Allison Roy, USGS, Massachusetts Cooperative Fish and Wildlife Research Unit, UMass Amherst	<u>Enhancing Lake Bioassessment in Connecticut</u>  Mary Becker, CT DEEP Tracy Lizotte, CT DEEP
4:30	<u>Unveiling the Flow of Change: A Weighted Regression on Time, Discharge, and Season Analysis of 50-Year Water Quality Trends in New York State (1972-2022).</u>  Charles Stoll, NYS DEC	<u>Lessons and Strategies Learned from NHDES Chloride Monitoring Programs</u>  Ted Walsh, NH DES	<u>Alum, Macroinvertebrates, and Water Quality: Implications for Sustainable Lake Management</u>  Matthew Kraft, NYS DEC
5:00	<b>Exhibitor &amp; Poster Session</b>		

# THURSDAY, FEBRUARY 15

7:45	<b>Breakfast</b>		
8:45	<b>Words of Welcome</b> <b>TBD</b> <i>Terrace Ballroom</i>		
9:15	<b>Plenary Session</b> <b>TBD</b> <i>Terrace Ballroom</i>		
10:15	<b>Break</b>		
	<b>Stream Acidification</b> <b><i>Edgewater</i></b> moderator: TBD	<b>Species Dynamics</b> <b><i>Theater</i></b> moderator: TBD	<b>Innovative Monitoring Technology</b> <b><i>Waterlot</i></b> moderator: TBD
10:45	<u>Comparison of Indicators Used to Assess Stream Recovery from Mining Drainage: A Meta-Analysis</u> <u>Alexa Hershberger, UMass Amherst</u>	<u>Environmental Influences on Crayfish Behavior in Streams and Reservoirs and Implications for Invasives Management</u> <u>Melanie Giangreco, University of Florida</u>	<u>Internet of Things-Enabled Portable LoRaWAN Potentiostat for Real-Time Monitoring of Water and Soil Quality</u> <u>Tian Xia, University of Vermont</u> <u>Parmida Amngostar, University of Vermont</u>
11:15	<u>Impacts of Clam Shell Additions to an Episodically Acidic Stream in Eastern Maine</u> <u>Emily Zimmermann, ME DEP</u>	<u>Characterizing Habitat and Predicting Population Hotspots for Yellow Lampmussel in the Connecticut River</u> <u>Stefanie Farrington, UMass Amherst, US FWS</u>	<u>Persistent Monitoring of Large Environments with Robot Deployment Scheduling in between Remote Sensing Cycles</u> <u>Kizito Masaba, Dartmouth College</u> <u>Mingi Jeong, Dartmouth College</u>
12:00	<b>Lunch</b> <i>Lakeside Dining Room</i>		

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# THURSDAY, FEBRUARY 15

	<b>Stream Assessment Edgewater</b> moderator: TBD	<b>Nutrient Assessment in Lakes Theater</b> moderator: TBD	<b>Water Quality Data &amp; Management Session Room</b> moderator: TBD
1:30	<u>Compassionate Biology: Piloting a Mortality Reduction Method for Macroinvertebrate Biomonitoring</u> Michelle Graziosi, VT DEC	<u>Why are Vermont's Low-Nutrient Lakes Increasing in Phosphorus?</u> Leslie Matthews, VT DEC Kellie Merrell, VT DEC	<u>Science Communication Technologies and Furthering "the Death of MS Word"</u> Benjamin Block, Tetra Tech
2:00	<u>Diatoms in Massachusetts Streams - What are They Telling Us?</u> Ismar Biberovic, Tetra Tech James Meek, MassDEP	<u>The Influence of Nitrogen to Phosphorus Ratios on the Growth of Phytoplankton in Cape Cod Ponds</u> Kimberley Crocker-Pearson, Town of Brewster Natural Resource Committee	<u>NEON in the Northeast: Aquatic Data and Resources to Understand Changing Ecosystems</u> Annie Saball, NEON-Batelle
2:30	<u>The Effects of Stormwater on Highly Urbanized Streams</u> Rosemary Gatter-Evarts, CT DEEP	<u>Land Disturbance Influences on Lake Phosphorus Concentrations Across New York State - Opportunity to Define Thresholds for Watershed Protection</u> Alene Onion, NYS DEC	<u>Forging Ahead - Ecosystem-Based Assessment and Planning for Actionable Integration Water Resource Management of Biontegrity and Nutrients Along a Gradient</u> Paul Stacey, Footprints in the Water
3:00	<u>A Confluence of Data and Data Needs: Highlighting a Process for Connecting Non-Targeted Stream Monitoring and Permit Limit Development Using Estimated Ambient Values</u> Keleigh Reynolds, NYS DEC	<u>Reservoir Monitoring, the Importance and the Discoveries</u> Stephanie Disla, MWRA	<u>Monitoring for What is Required or Monitoring for What is Needed to Protect and Restore Our Waters: Some Findings from a State Program Review Process: 2022-23</u> Chris Yoder, Midwest Biodiversity Institute
3:30	<b>Social</b> <i>Outdoors: Complimentary ice skate and cross-country ski rentals, snowshoeing, sledding, and hiking trails</i> <i>Indoors: Boardgames in Lounge</i>		
3:30	<b>Banquet &amp; Awards</b> <i>Lakeside Dining Room</i>		

# FRIDAY, FEBRUARY 16

8:00	Breakfast		
	<b>Cyanobacteria II Edgewater</b> moderator: TBD	<b>Restoration Theater</b> moderator: TBD	<b>Macroinvertebrate Indices Waterlot</b> moderator: TBD
9:00	<u>New Hampshire Department of Environmental Service's Cyanobacteria Harmful Algal Bloom Program Improvements</u>  Michele Condon, NH DES	<u>Valley Brook Restoration Project</u>  Patrick Hurley, Memphremagog Watershed Association	<u>A Kansas Stream Macroinvertebrate MMI Calibrated to Predicted Natural Conditions per Site Instead of Discrete Site Classes</u>  Ben Jessup, Tetra Tech
9:30	<u>Harmful Algae Bloom Monitoring and Lake Evaluation Methodology in New York using Sentinel-2 satellite data</u>  Lewis McCaffrey, NYS DEC	<u>Beyond Run-of-the-River: Considerations for Removing a Dam with a Sizeable Impoundment and Lakeside Residents in Concord, MA</u>  Alex Patterson, EA Engineering, Science, and Technology, Inc., PBC Delia Kaye, Town of Concord, MA	<u>Taxonomic Barriers for Usability of Volunteer Monitoring Benthic Macroinvertebrate Data for a Massachusetts Index of Biological Integrity</u>  Robert Smith, MassDEP
10:00	<u>Autonomous UAV-Mounted LoRaWAN System for Real-Time Monitoring of Harmful Algal Blooms (HABs) and Water Quality</u>  Tian Xia, University of Vermont Soheyl Faghir Hagh, University of Vermont	<u>A Case Study of Restoration on The Muddy River, Boston, MA</u>  Lisa Kumpf, Charles River Watershed Association	<u>A Stressor Specific Approach to Revising Vermont's Macroinvertebrate Biocriteria</u>  Aaron Moore, VT DEC
10:30	Break		
	<b>Wetlands Edgewater</b> moderator: TBD	<b>PFAS Theater</b> moderator: TBD	<b>Environmental Justice Waterlot</b> moderator: TBD
11:00	<u>Factors Affecting Phosphorus Retention in Restored, Riparian Wetlands on Formerly Farmed Land</u>  Tiffany Chin, University of Vermont	<u>PFAS in Aquatic Environments</u>  Thomas Danielson, ME DEP	<u>Review and Implementation: Developing Approaches for Surface Water Monitoring of Environmental Justice Areas and Disadvantaged Communities</u>  Alene Onion, NYS DEC Charles Stoll, NYS DEC
11:30	<u>Vermont Bioassessment: A Look into the Past, Present, and Future of the Program</u>  Tina Heath, VT DEC Charlie Hohn, VT DEC	<u>PFAS, Nutrients, and Other Contaminants along the New York Shores of Lake Ontario, April - October 2023</u>  Jessica Treviño, USGS	<u>Harmful Cyanobacterial Blooms, Related Loss of Recreational Opportunities and Environmental Justice Areas in New York</u>  Sabina Gifford, USGS

## POSTER PRESENTATIONS

**Ansel Aarestad, CT DEEP**

Comparing Results for the PME Minidot and Onset U26 Dissolved Oxygen Data Loggers

**Anna Baynes, UMass Amherst**

Alteration of Flow and Fish Assemblages Downstream of Surface Water Reservoirs

**Aidan Bowler, College of the Holy Cross**

Road Salt Salinization of Freshwater Ecosystems: The Impact on Blackstone Invertebrates

**Rachel Cray, University of Vermont**

Calm Before (and After) the Storm: Phytoplankton Community Turnover After Severe 2023 VT Flooding Event

**Melissa Czarnowski, CT DEEP**

A Success Story: Trail Camera Images Provide Data to Support Streamflow Conditions in Permit

**Elyse Duff, College of the Holy Cross**

Wastewater Treatment Plants: Impacts of Effluent on Benthic Algae Communities in the Blackstone River Headwaters

**Chloe Edwards, CT DEEP**

25 Years of Successful Volunteer-Based Benthic Macroinvertebrate Sampling: Connecticut's Riffle Bioassessment by Volunteers (RBV) Program

**Ben Fisher & Megan Essig, USGS**

Lake Champlain Environmental Sensitivity Index Mapping

**Maura Gould, US EPA**

Using Real-Time Water Quality Monitoring Data to Predict Harmful Algal Blooms in Urban Rivers

**Philip Hampson, University of Vermont**

Long-term Analysis of Aquatic Macroinvertebrate Variability in Headwater Stream in Vermont

**Xinchen He, UMass Amherst**

Estimating 40-Year Daily Lake Ice Cover Under the Climate Change for Northern Temperate Lakes

**Alexa Hershberger, UMass Amherst**

Assessing Short-term Effects of a Phased Dam Removal on Freshwater Mussels and Habitat

**Donald Jeandervin, USGS**

US Geological Survey Water-Velocity Measurements to Support Model Development in Selected Embayments of Long Island Sound

**Mingi Jeong & Kizito Masaba, Dartmouth College**

Revolutionizing Water Quality Monitoring: Autonomous Surface Vehicles and Artificial Intelligence Integration

**Marielena Lima, Charles River Watershed Association**

Chloride Monitoring on Tributaries of the Charles River

**WEDNESDAY, FEBRUARY 15**

## POSTER PRESENTATIONS

**Benni Marques, Neponset River Watershed Association**

Surface Water Conductivity and Chloride Concentration in the Neponset River Watershed (Greater Boston, MA)

**Aaron Moore, VT DEC**

The Cotton Brook Landslide: Effects on Water Quality and Macroinvertebrate Community Health

**Thomas Pacious, College of the Holy Cross**

Assessing the Freshwater Fish Community Structure Across the Blackstone Headwater Streams

**Joshua Rosen, USGS**

The U.S. Geological Survey Soil and Low Ionic Strength Water Quality Laboratory: 41 Years of Service to Science

**Jakob Stankoski, Oak Ridge Associated Universities**

Comparing Fluorometric Methods (in-Vivo vs Extracted) for CyanoHAB Monitoring in Six Rhode Island Ponds

**Leanna Thalmann, NYS DEC**

Microtox® as an Indicator of Biological Integrity Across Stream Monitoring Sites in New York State

**Maya Thomson & Pablo E. Gutiérrez-Fonseca, University of Vermont**

Organic Matter Processing and Aquatic Macroinvertebrates in Urban and Forested Streams in Vermont

**Walter Tokarz, CT DEEP**

Evaluating Recreational Uses in a Highly Urbanized Connecticut Pond

**Liza Toll, Middlebury College**

Road Salt and Urbanization Effects on Burlington Stream Macroinvertebrate Communities

**Clayton Williams, Saint Michael's College**

Development and Evaluation of a Low-Cost, Customizable Water Quality Sensing System

**Francisco Zafón-Whalen, College of the Holy Cross**

Road Salinization of Freshwater Ecosystems: Impact on Organic Matter in the Blackstone

**WEDNESDAY, FEBRUARY 15**