



**Department of
Environmental
Conservation**

Update on Hydrilla in New York State

**Great Lakes ANS Panel Fall Meeting
December 11, 2024**



Lindsay Yoder
AIS Coordinator, Region 9
NYS Department of Environmental Conservation
In coordination with the NYS Water Resources Institute at Cornell University

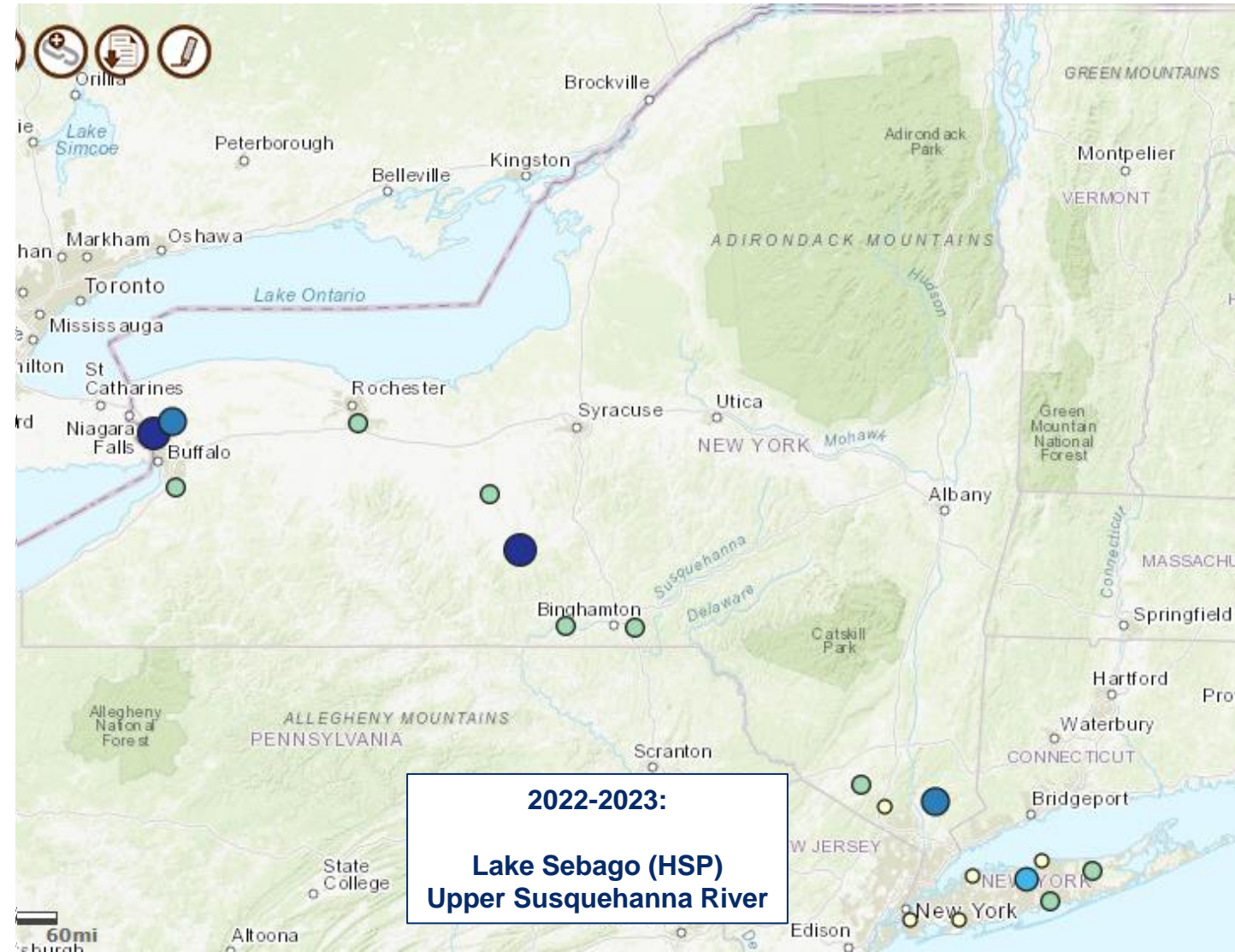
Hydrilla verticillata

In New York:

- Prohibited in NYS - 6 NYCRR Part 575 Prohibited and Regulated Invasive Species
 - Listed as a Tier 2-Early Detection species, eradication management goal
- NYSDEC focus on large-scale projects to ensure continued watershed protection

First found in Orange County, NY in 2008

- Has been found in 12 counties since, including large-scale infestations in Cayuga Lake, Erie Canal/Tonawanda Creek, Croton River/Reservoir, the upper Niagara River, and Lake Sebago



Past and Current Management Strategies

1. No management

- Lake Ronkonkama, many LI locations

2. Dredging

- Cayuga Lake/King's Ferry marina

3. Grass Carp

4. Herbicide

- Cayuga Lake, Niagara River, Lake Sebago, Croton River, New Croton Reservoir

5. Manual/Handpull

- Upper Susquehanna River

6. Benthic barrier

7. Combination (IPM)

- Erie Canal, Tinker Nature Center



Michael Gallo



Michael Robinson



Little Bear Environmental

Cayuga, Seneca, and Tompkins Counties: Cayuga Lake



USACE, NYSDEC, Little Bear Environmental, Solitude Lake Management

- Control began in the South end in 2011
- Population expanded to Aurora in 2016, followed by King's Ferry, Lansing, and Sheldrake
- Combination of liquid and pellet formulations of fluridone, endothall, and copper have been used throughout the duration of the project

2024

- Treatments of Fall Creek (South end), Lansing, Aurora, and Sheldrake
 - 13.5-20 ppb fluridone pellets weekly for 7-10 weeks
- Hydrilla not detected at Cayuga inlet and Stewart Park (South end) or King's Ferry (dredged in 2019)

Tioga County: Spencer Pond, Little Nanticoke Creek, Upper Susquehanna River

NYSDEC, Little Bear Environmental

- Control began in 2017
- Liquid endothall, fluridone pellet treatments

2024

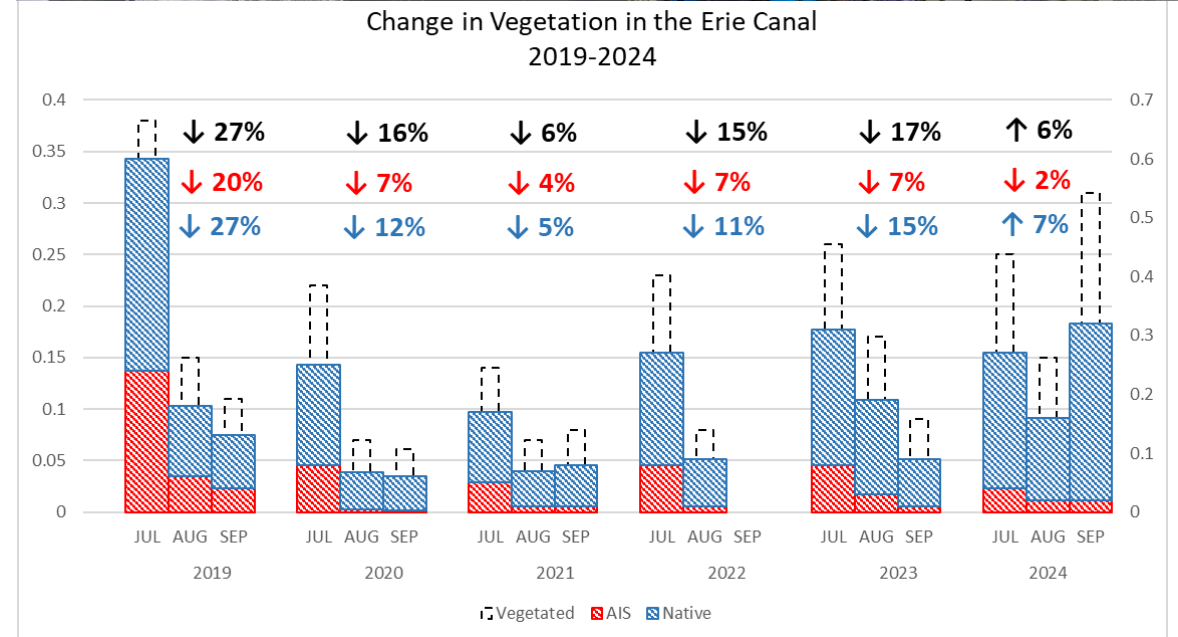
- Fluridone pellet treatment, difficulty in backwater areas
 - 3 bump applications over 10-weeks, 120 ppb in Spencer Pond and 30 ppb in Little Nanticoke Creek
- Hand-pulled 100 sqft in Upper Susquehanna



Erie/Niagara County: Erie Canal

Erie Canal

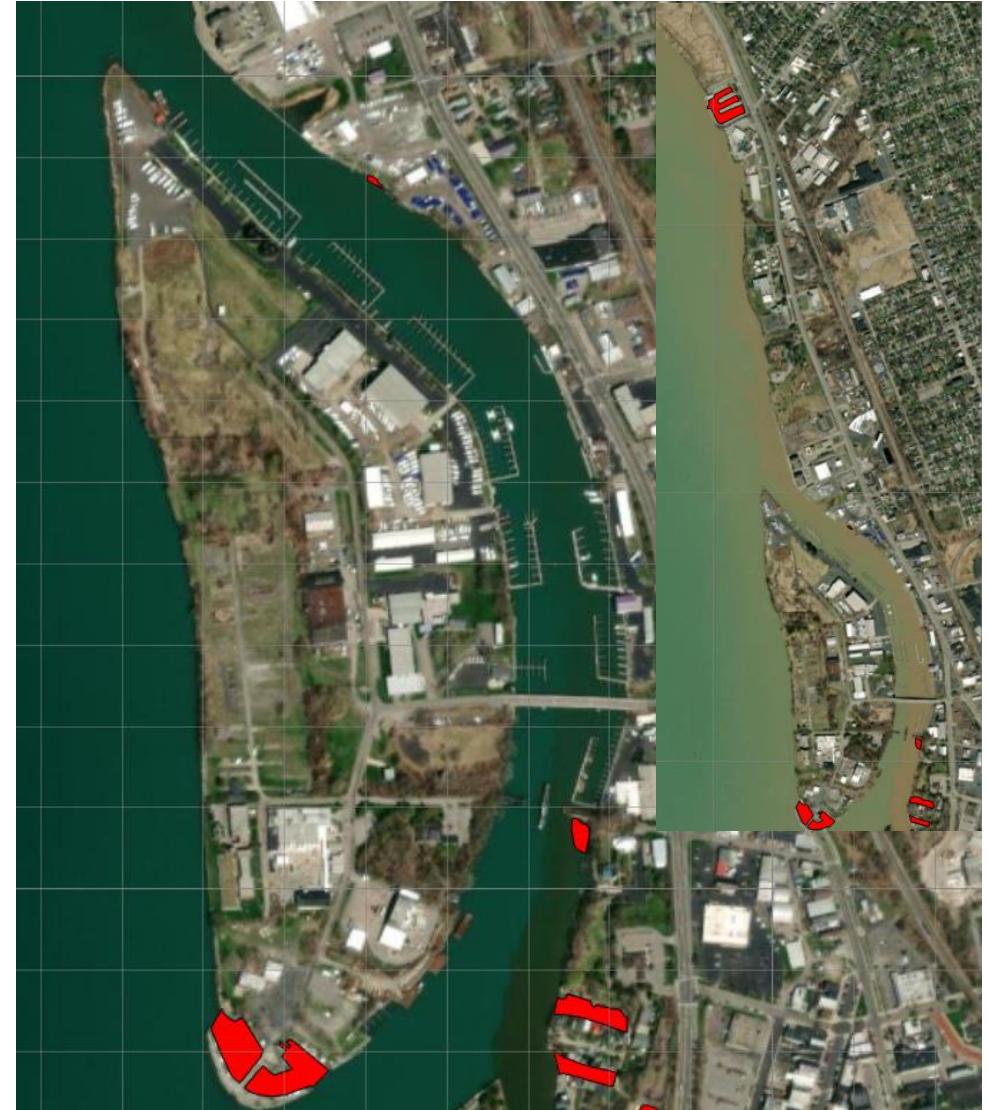
- Treatments began in 2014 by USACE, now majority led by NYSDEC Region 9
- 90-day injection liquid fluridone, 2 ppb
- Single application florpyrauxifen-benzyl in higher density areas (oxbows), 50 ppb
- Follow-up manual removal, benthic barrier installation
- No documented impact on native plants (active restoration and existing seed bank)
- USACE still covering westernmost treatments at confluence with NR (endothall)



Erie/Niagara County: Niagara River

Niagara River

- Treatments began in 2020 (USACE)
- Six known locations: Wardell Boat Yard, Lumberjack Marina, Gratwick Park, East Pier, Shores Waterfront Restaurant, Winfield Marina
- Combination fluoridone pellets, chelated copper and endothall
- Difficulty maintaining concentrations in high flow areas



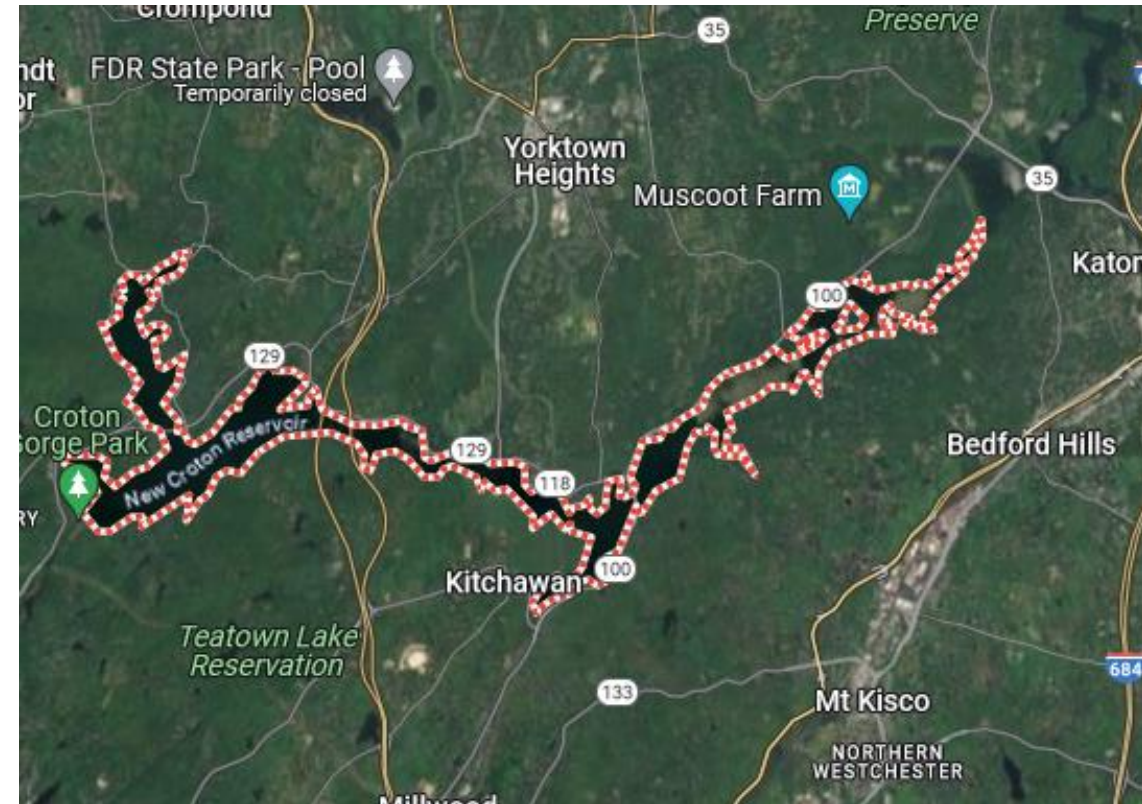
Westchester County: New Croton Reservoir

NYCDEP

- Found in 2014 following 2013 discovery in downstream Croton River
- First pilot fluridone pellet treatment in 2018

2024

- Multiple applications of liquid and pellet formulations of fluridone
- 105 days of treatment
- Difficulty maintaining concentration in Eastern/upstream area of the reservoir



Rockland County: Lake Sebago, Harriman State Park

NYSOPRHP, Little Bear Environmental

- Discovered in 2022, first treated in 2023 with high success
- High phenotypic variability and in bloom
- First documented occurrence of *Aetokthonos hydrillicola* north of Virginia in 2023

2024

- Liquid (North basin) and pellet (South basin) fluridone applications
- 6 applications over 12 weeks, 2-4 ppb



Aetokthonos hydrillicola

- Cyanobacteria grows on hydrilla and some other aquatic plants
- It is not free-floating
- Produces neurotoxin (Aetokthonotoxin) in the presence of bromide
- The toxin produces VM vacuolar myelinopathy when consumed (so herbivores and carnivores are susceptible)

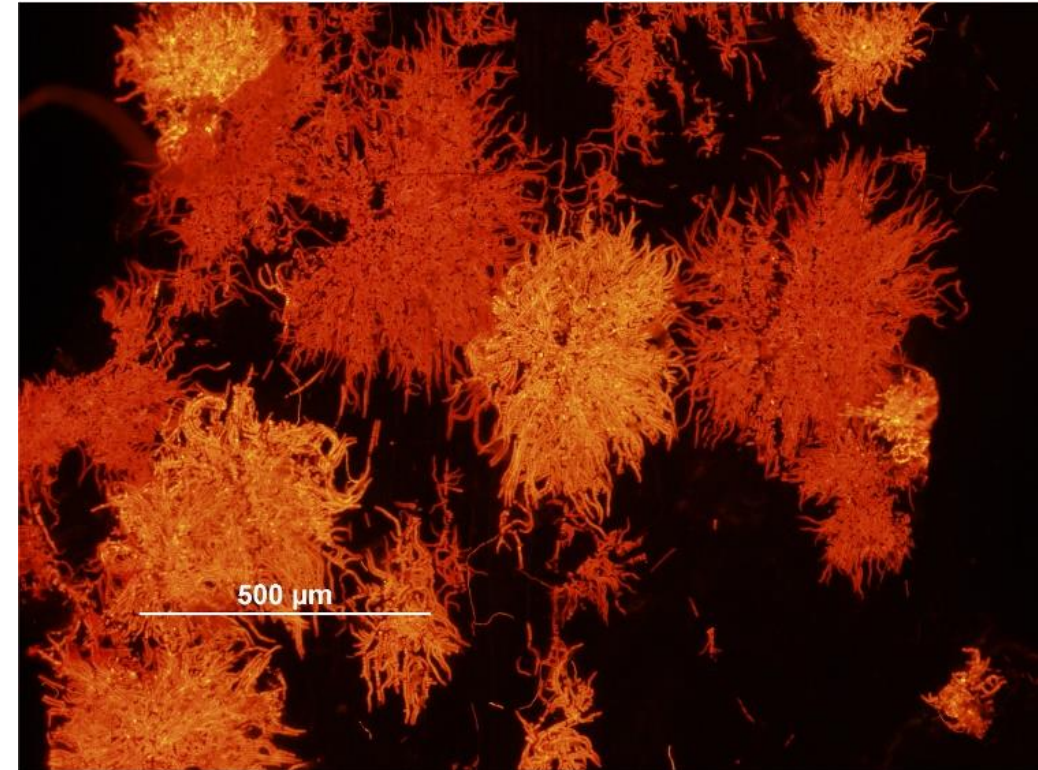
Sample Testing

Dr. Susan Wilde

Warnell School of Forestry & Natural Resources

University of Georgia

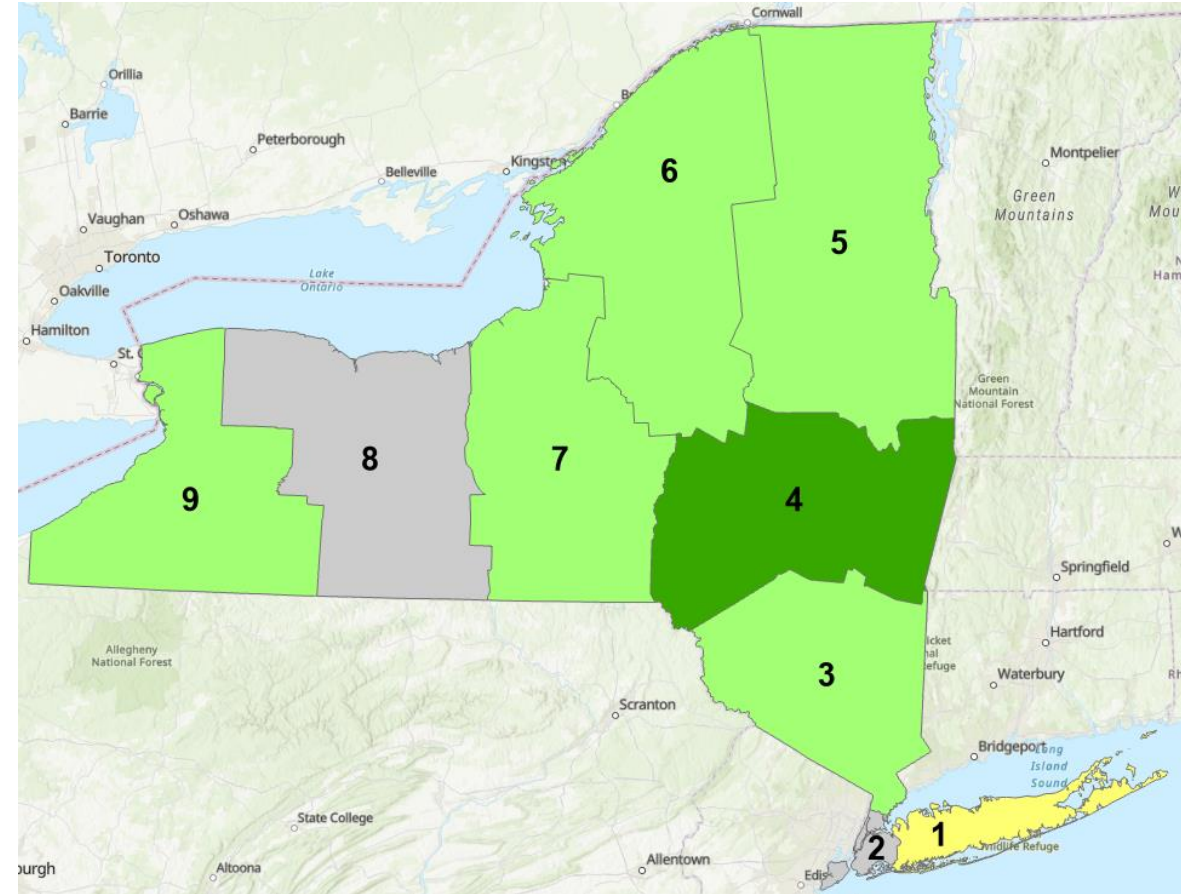
swilde@uga.edu



A. hydrillicola as seen through epi-fluorescence microscopy. (UGA)

The Future of Hydrilla Management in NYS

- Expansion of regional network of AIS Coordinators to lead and/or assist with control (certified commercial pesticide applicators)
- Continued focus on prevention and early detection and raising public awareness and adaptive management
- Remaining flexible regarding control methods
- Re-assessment of management methods for smaller infestations (Suffolk County in particular)
- NYS Hydrilla Management Plan in progress
- Continued communication across state and international borders



Acknowledgements

USACE

USFWS

FL PRISM

WNY PRISM

Cayuga Lake Watershed Network

NYC DEP

NYS OPRHP

Little Bear Environmental

NYS DEC:

- **Cathy McGlynn & Steve Pearson (CO)**
- **Emily Timkey (Region 7)**
- **Ashley Morris (Region 3)**



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Contact Information

Lindsay Yoder

Region 9 AIS Coordinator

Lindsay.yoder@dec.ny.gov

Cathy McGlynn, Ph.D.

NYS AIS Coordinator

Catherine.mcglynn@dec.ny.gov



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