



Department of
Environmental
Conservation



comicvine.com

Overview of AIS in New York

Joint NEANS and MAPAIS Panels Meeting
December 10, 2019

Hydrilla in New York

High priority species prohibited
by Part 575

Often found near boat
launches

Aquarium releases and
waterfowl are also considered
vectors



www.sportsalcohol.com



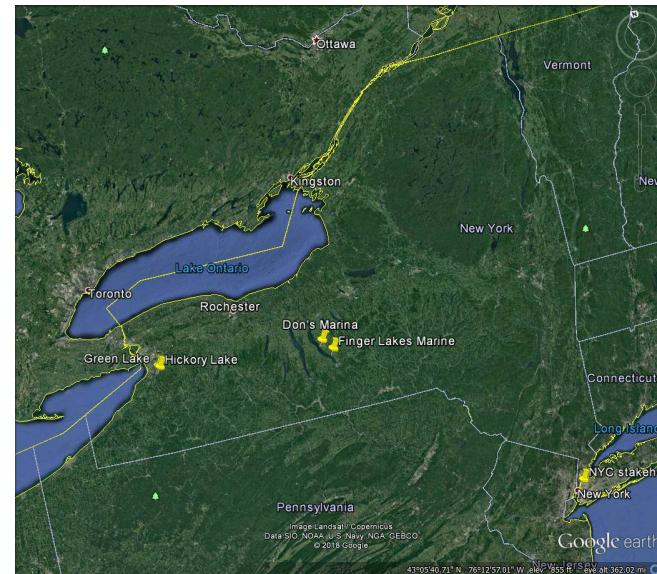
Most recent discoveries

2019

- Green Lake, Orchard Park
- Hickory Lake, Orchard Park
- Lansing, Cayuga Lake

2018

- King Ferry, Cayuga Lake



Continued Hydrilla Projects

- Erie Canal/ Tonawanda Creek (Erie/Niagara Counties)
- Cayuga Inlet/Fall Creek (Thompson County)
- Aurora, Cayuga Lake (Cayuga County)
- Croton River (Westchester County)
- Spencer Pond/Little Nanticoke Creek (Tioga County)
- Tinker Nature Pond (Monroe County)



Hilary Mosher, FL PRISM



Department of
Environmental
Conservation

Croton-on-Hudson



Full scale project-year 3:

119 of 120 day treatment plan

No hydrilla found at end of treatment season

Drinking water monitoring until “non-detect” two samples in a row at all well locations



Long Island Metro AIS Task Force

- First in-person meeting
- Action items:
 - list of focal species
 - fill knowledge gaps
 - control efforts
 - watercraft inspection steward program
 - collaboration!!
- Long Island AIS Coordinator (part time graduate student)



Aquatic Plant Monitoring

2020 -2022 Mohawk River

- From confluence with Hudson River to Delta Reservoir
- Three sections with a maximum of 35 locations each
- Point-intercept method based on grid layover (repeatable methodology!)



Aquatic Plant Monitoring

Hudson River

- 2015 survey north and south of Croton (fresh to brackish water)
- 2017-2021 survey up to Kingston-Rhinecliff Bridge
- 2018 survey from Kingston-Rhinecliff Bridge to Albany-Troy Dam



Sharing Data

- In the process of standardizing techniques statewide including monitoring protocols
- Independent aquatic plant surveys and those included in control projects provide invaluable data
- In the process of streamlining data collection and upload



Department of
Environmental
Conservation

Data Collection and Analysis

iMapInvasives

iMap Mobile App

Simple Aquatic Survey (SAS)

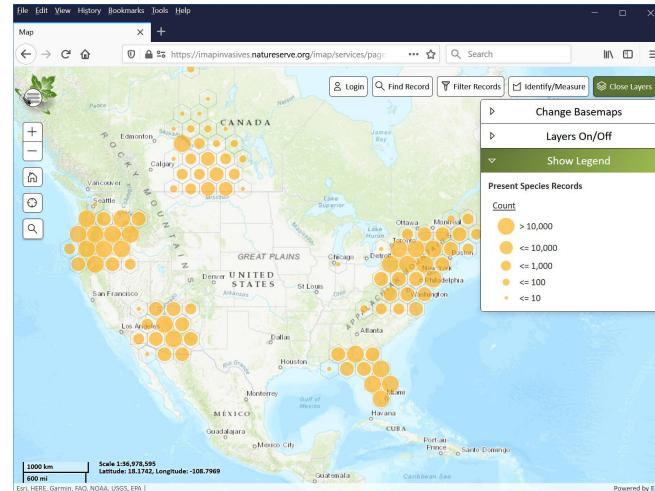
Lake Management Tracker

WISPA

iMapInvasives (“iMap3”)

- Version 3.0 live in April
- Completely redesigned
- Primarily developed by NatureServe
- Map-centric
- US & Canada
 - Full-functionality in participating jurisdictions
 - Limited functionality in non-participating jurisdictions

NatureServe
Connecting Science With Conservation



Simple Aquatic Survey (SAS)

- Survey123 application to collect aquatic survey data
- Primary audience: Citizen Scientists
- 2019: Used in backcountry ponds in Adirondacks
- Future: “SAS Pro” for managers
 - More robust rake toss data

Lake Management Tracker

- Survey123 form to track management efforts
- Captures rake toss abundance for native and key invasive species
- Originally developed by Adirondack Park Agency and APIPP (Adirondack Park Invasive Plant Program)
- Working to make pilot available in 2020; *one lake association in each PRISM*

WISPA

- Coverage at approximately 200 locations
- Most coverage is Memorial Day through Labor Day
- AIS Spread Prevention Grants Program (began 2016)
- 16 participating organizations
- Program standardization
- 248,139 records collected in 2019



Outreach and Education

Resin Casting

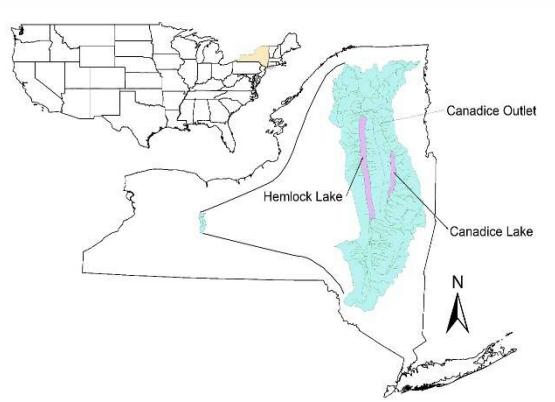
- Technique experimentation
 - Specimen preservation
 - Desiccation in silica gel
 - Freeze Drying
 - Ethanol preservation
 - Desiccation in Dehydrator
 - Resin casting
 - Number of layers
 - Curing time



Recent Threats

Gangetic eel – *Monopterus cuchia*

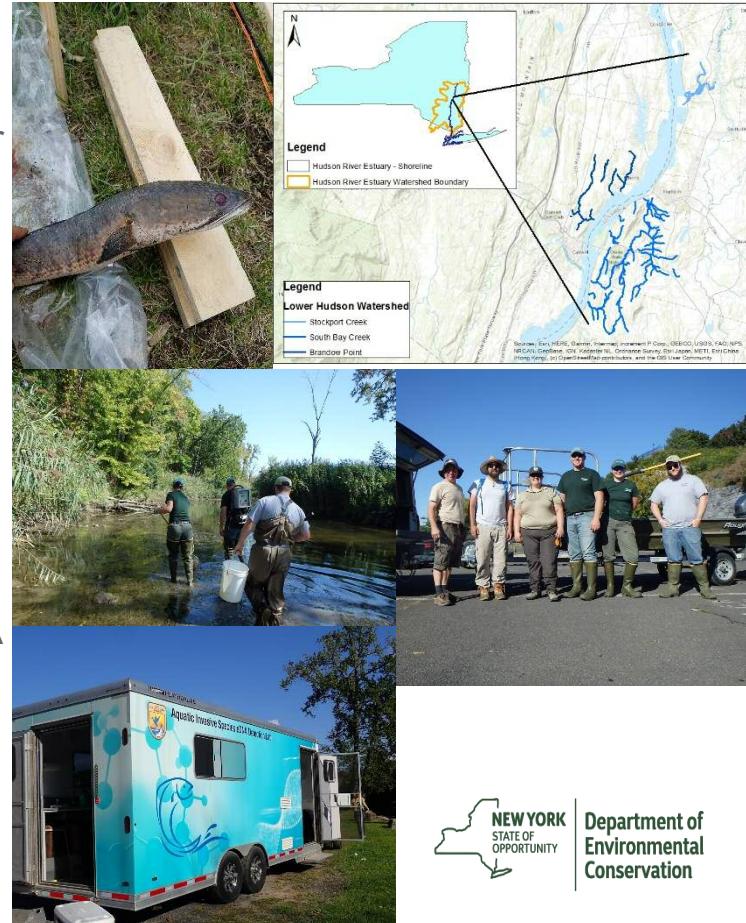
- Discovery
 - April 16, 2019 – Dead
- NYS DEC/Survey – Electrofishing/visual surveys
 - April 18 – May 22 ~100 person hrs.
 - 18 discovered – non-live
- Identification by state ichthyologist, Jeremy Wright
- Size, sex age class
 - 450 – 500 mm
 - 650 – 700 mm
 - At least 4 sexually mature females
- Necropsies (n=8)
 - Empty stomachs
 - Gravid females (n=1), 4 sexually mature
- Introduction pathway
 - Pet trade releases
 - Religious ceremonial release
 - Cultural release as a food source



Recent Threats

Northern snakehead—*Channa argus*

- Credible report and photo
- Environmental Conservation Officer was shown the photo on August 24
 - Photo dated June, 2019
- NYS DEC/USFWS Surveys
 - Electrofishing, seining, eDNA
 - 4 tidal wetlands-
 - Traditional >8 hours
 - 3 by boat
 - 1 with backpack
 - 3 tidal wetland for eDNA
 - 10 sites per wetland for eDNA
- Results
 - >30 fish species documented
 - No snakehead



eDNA Lab development

Goal: Develop the capacity to collect, prepare, run and analyze samples for eDNA species detection

- qPCR for single species detection
- PCR for sequencing runs
 - Outsourced sequencing
 - In-house data analysis

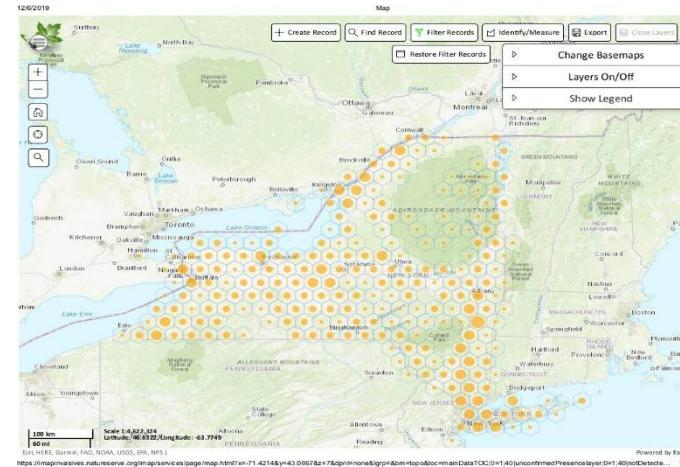
Goal: Develop a template for communication plans between DEC and eDNA practitioners

Goal: Work across jurisdictional boundaries to develop standard practices and procedures



Aquatic invertebrates abundance and distribution

1. Relate invasive aquatic plant communities with community composition of macro-invertebrate samples.
 - Samples collected as part of another study on herbicides
2. Develop a database of known invasive aquatic invertebrate species, reported NY locations and potential impacts.
3. Develop survey techniques and a plan to determine the distribution of invasive aquatic invertebrates

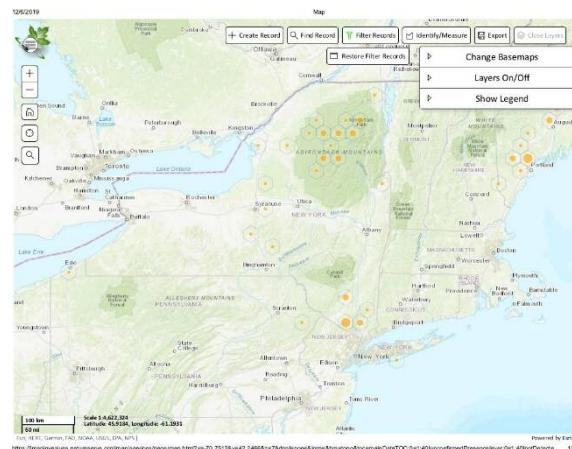
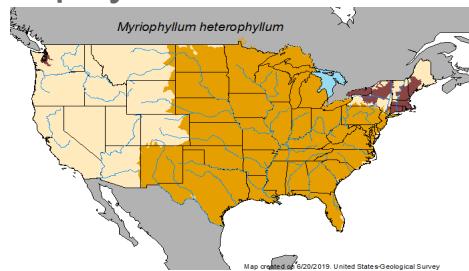


Crayfish: Rusty crayfish
Red swamp

Under-reported and mis-identified species

Variable leaved milfoil – *Myriophyllum heterophyllum*

- Native to mid-Atlantic
- Hybrid is prohibited species in NY State
 - *M. heterophyllum* x *M. laxum*
 - Hybrid is difficult to distinguish
- Both considered invasive in northeast US and Canada



- Are reported sightings the native species or the hybrid?
- If it is the native species, is this a naturally occurring or anthropogenic aided range expansion?





Thank you!

Cathy McGlynn
AIS Coordinator
Bureau of Invasive Species
and Ecosystem Health
Invasive Species Coordination Section
catherine.mcglynn@dec.ny.gov

