



Department of  
Environmental  
Conservation



## 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



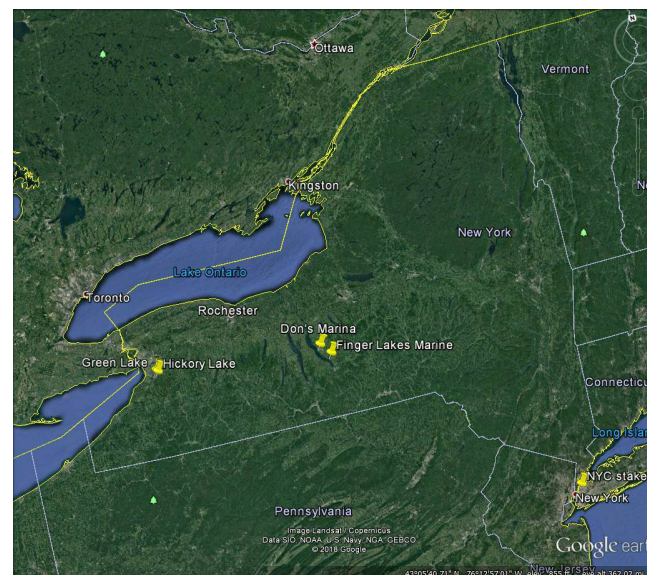
## Most recent discoveries

### 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)



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



## Data Collection and Analysis

iMapInvasives

iMap Mobile App

Simple Aquatic Survey (SAS)

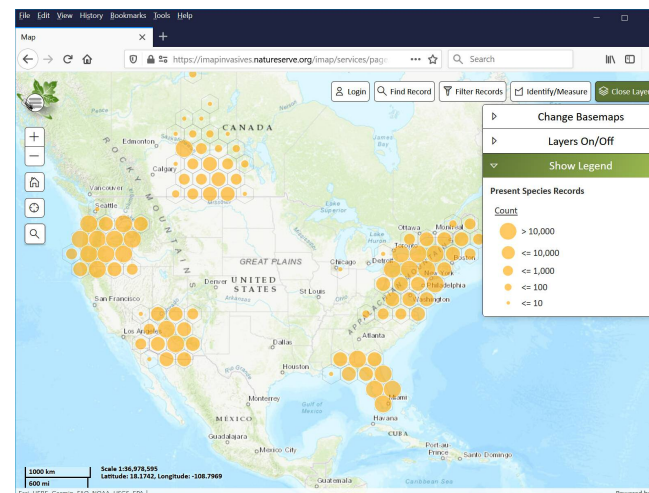
Lake Management Tracker

WISPA

## iMapInvasives (“iMap3”)

**NatureServe**  
Connecting Science With Conservation

- 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



## Simple Aquatic Survey (SAS)

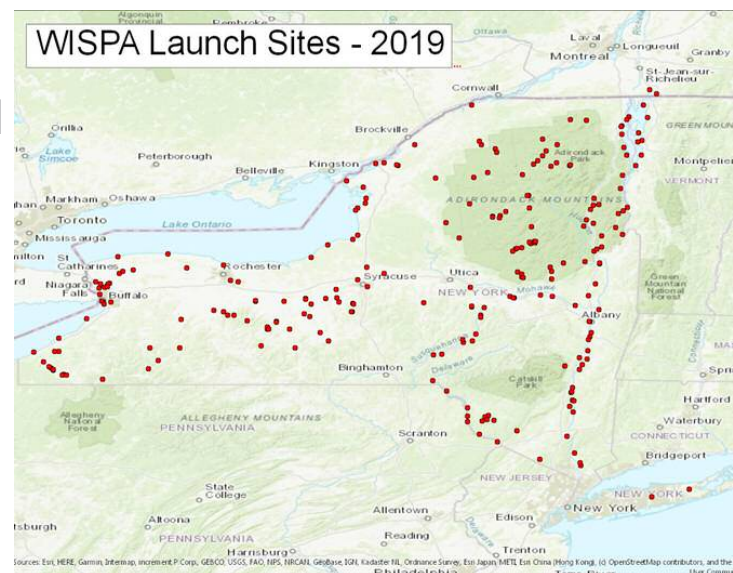
- Survey123 application to collect aquatic survey data
- Primary audience: Citizen Scientists
- 2019: Used in backcountry ponds in Adirondacks
- Future: “SAS Pro” for managers
  - More robust rake toss data

## 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

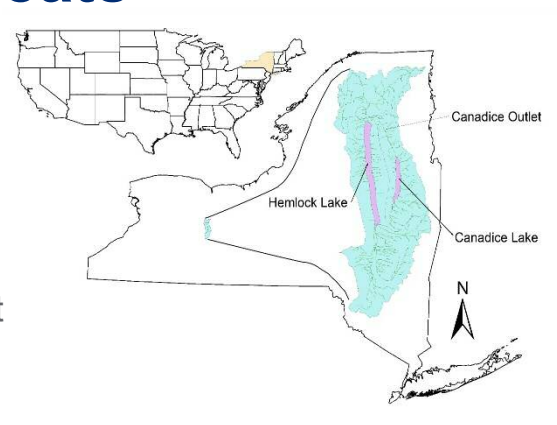
- Technique experimentation
  - Specimen preservation
    - Desiccation in silica gel
    - Freeze Drying
    - Ethanol preservation
    - Desiccation in Dehydrator
  - Resin casting
    - Number of layers
    - Curing time



## Recent Threats

Gangetic eel – *Monopterus albus*

- 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

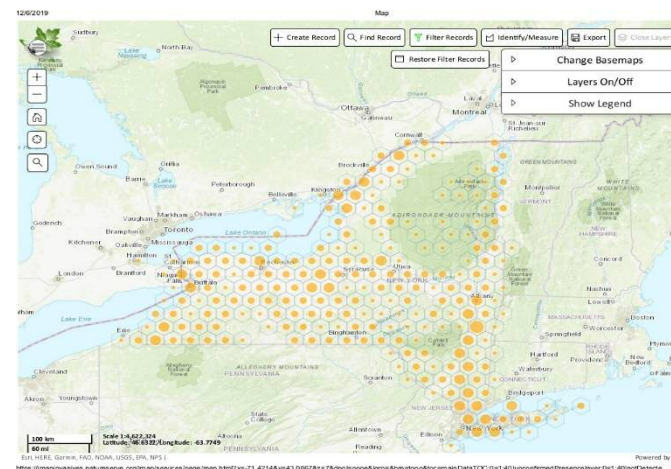
Goal: Work across jurisdictional boundaries to develop standard practices and procedures





## 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

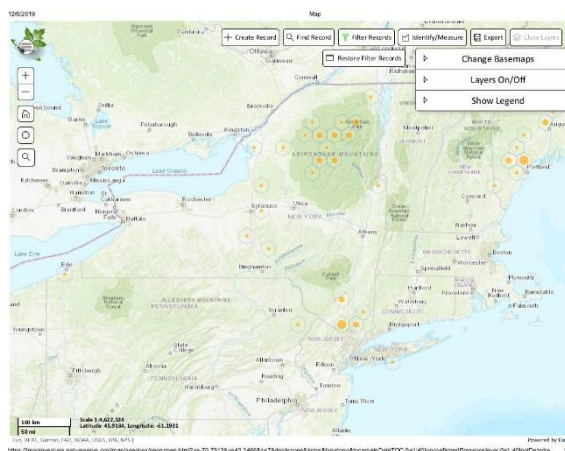
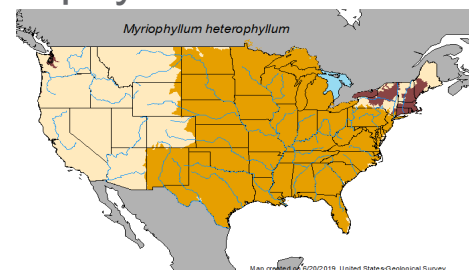


Crayfish: Rusty crayfish  
Red swamp

## 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](mailto:catherine.mcglynn@dec.ny.gov)