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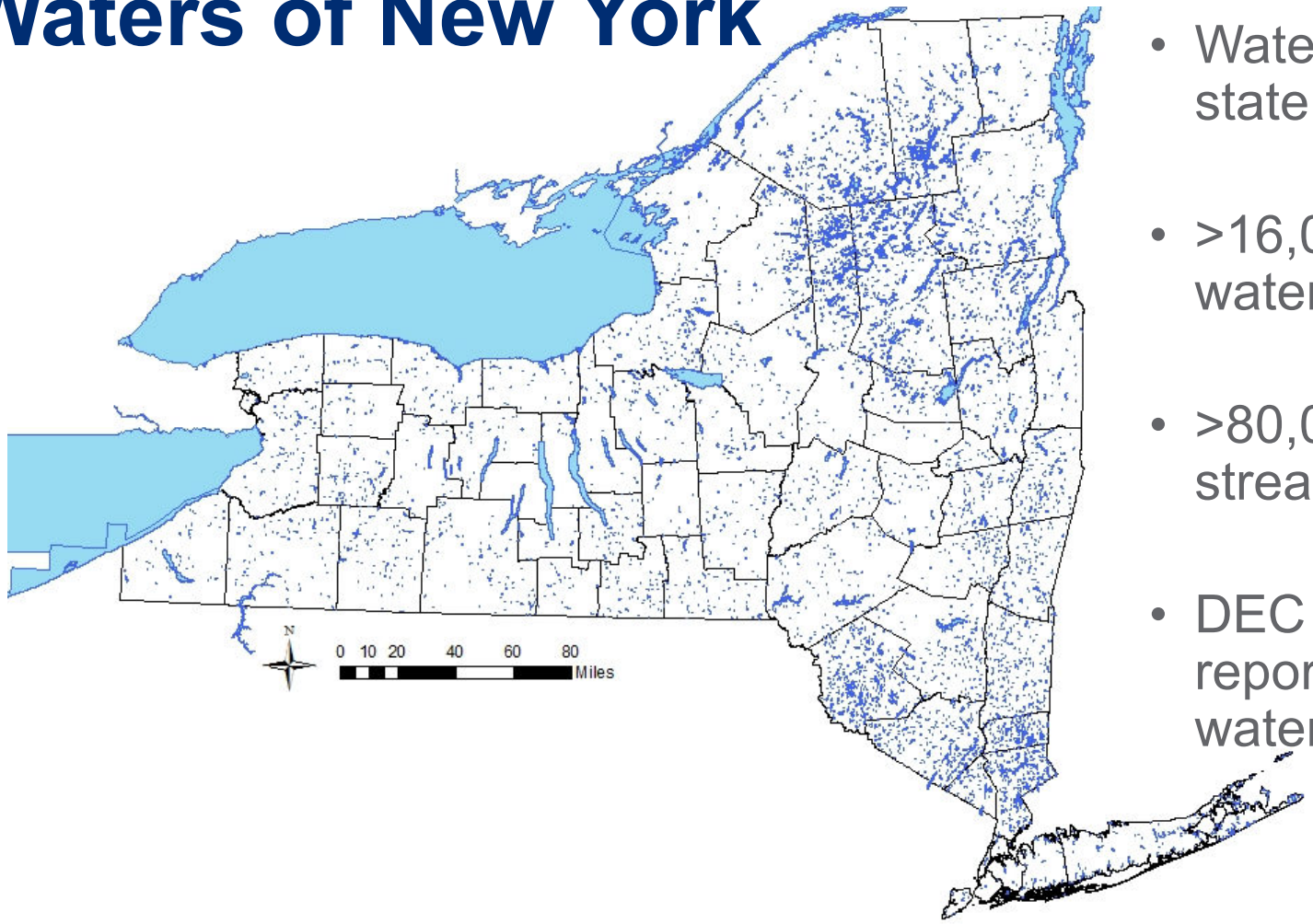
STATE OF
OPPORTUNITY

Department of
Environmental
Conservation

Water Resources in the Adirondacks

Partnerships and Opportunities

Waters of New York



- Water covers over 10% the state; all 5 water types
- >16,000 distinct ponded waters >0.1 acre in size
- >80,000 miles of rivers and streams
- DEC responsible for reporting on condition of water resources in NYS

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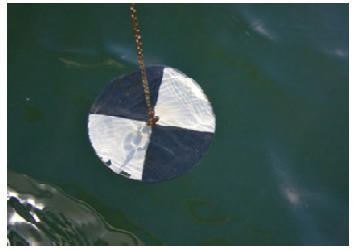
Monitoring Programs (DOW)

Lakes

- Lake Classification and Inventory (LCI)
- Citizens Statewide Lake Assessment Program (CSLAP)
- Harmful Algal Bloom (HABs) Program

Rivers and Streams

- Biological Monitoring Program
- Water Chemistry Sampling Program
- Water Assessment by Volunteer Evaluators (WAVE)
- Toxicity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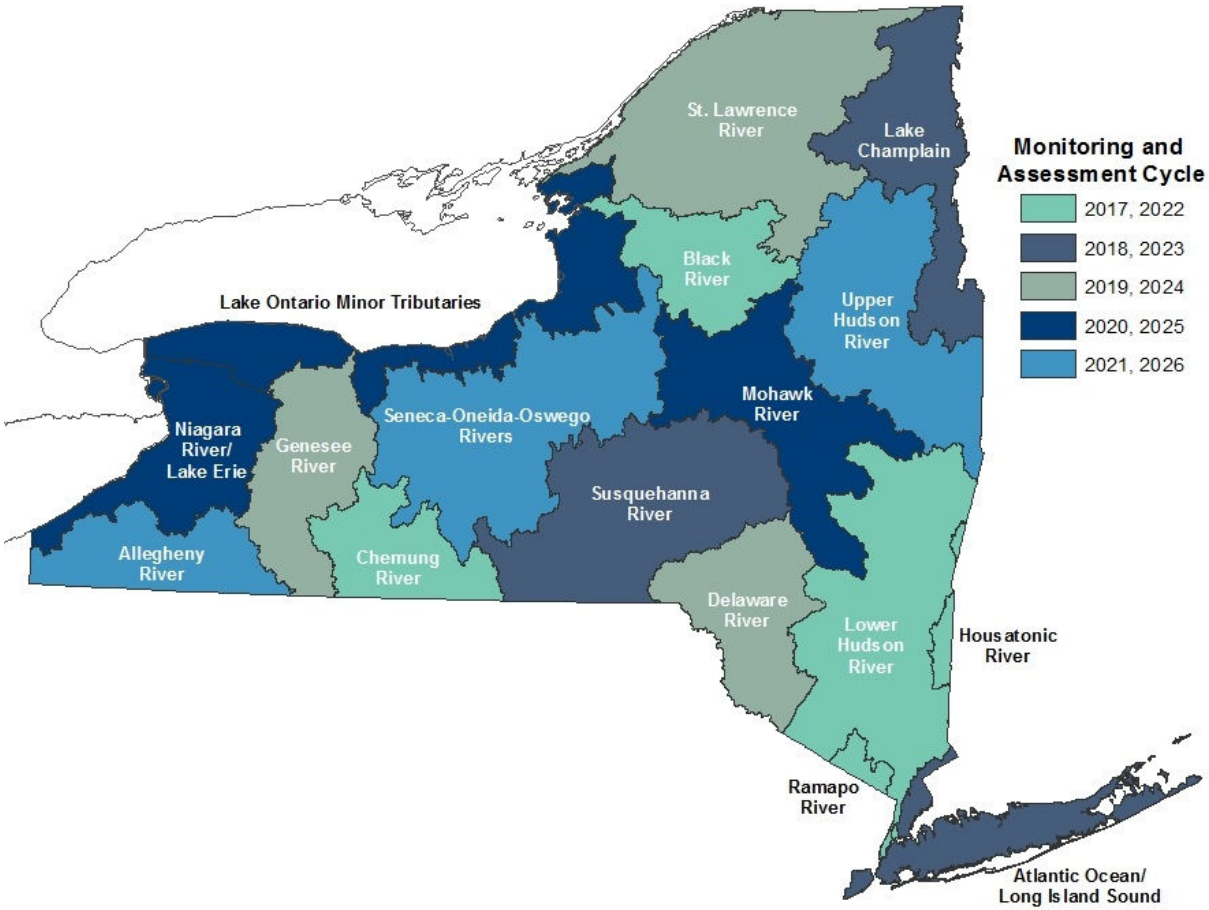
DEC Rotational Monitoring Cycle



DEC Lakes and Streams professional programs rotate through the major drainage basins, collecting water quality and supplemental information to inform 305(b) and 303(d) assessments

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Monitoring Contaminants in Fish (F&W)

- Routinely measure organic pollutants and heavy metals in fish collected from waterbodies across the state.
- Data used by NYS Department of Health to set fish consumption advisories.
- Long-term record used to track recovery after superfund sites are cleaned up.
- Provides an overall status of contaminants in the environment.

Citizen Science Opportunities

Citizen scientists commonly used in biology, ecology and conservation fields

- "…scientific citizenship… opening up science and science policy processes to the public…" (Alan Irwin, 1995)
- Science can be responsive to citizens' needs and concerns, and citizens can produce reliable science

Opportunities with DEC

- Citizens Statewide Lake Assessment Program (CSLAP)
- Water Assessment by Volunteer Evaluators (WAVE)

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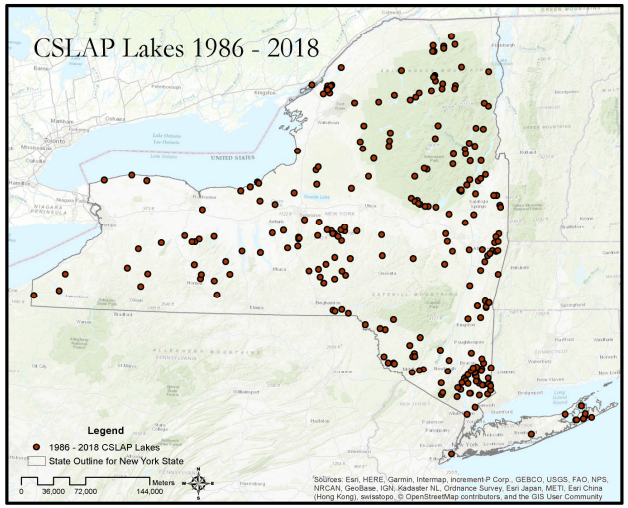
What is CSLAP?

Managed by DEC and New York State Federation of Lake Associations (NYSFOLA)

- Program initiated 1986 and mandated by ECL (17-0305)

Citizen science lake monitoring and education

- Collect chemical, physical and biological data
- Identify baseline water quality and changes in lake health
- Educate and engage public about lake preservation, management and restoration



Data used for assessments

- Waterbody Inventory, Priority Waterbodies List and small lake TMDL modeling

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What is WAVE?

Citizen scientists collect biological data for assessment of water quality on wadeable streams

- Get trained on line!
- Collect benthic macroinvertebrates
- Preserved specimens are identified by DEC
- Data used to calculate water quality assessment

WAVE data augment DEC professional streams monitoring

- Track existing conditions, detect threats early, and evaluate statewide patterns
- Inform DEC where additional monitoring might be needed
- Informs Waterbody Inventory 305(b)

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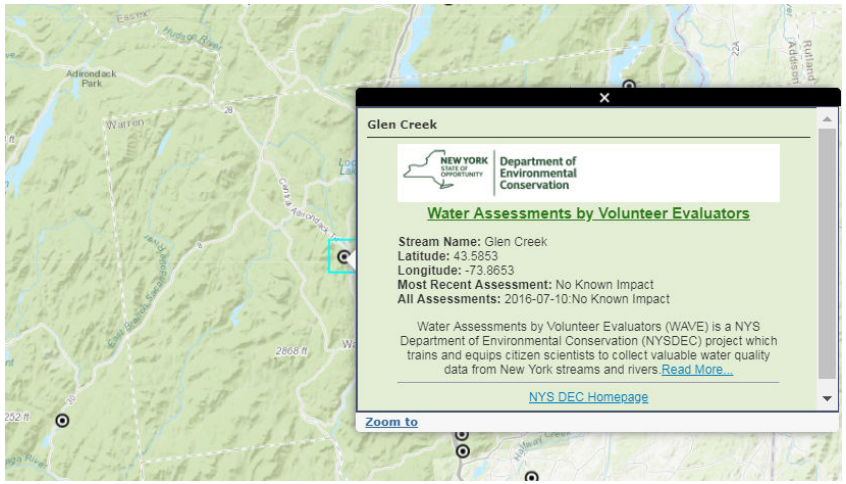
Benefits of Citizen Science



Consistent monitoring approach

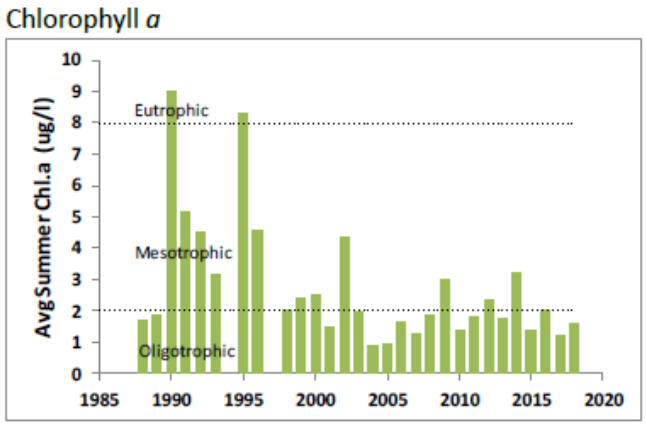
- Trained volunteers that use approved methods (standard operating procedures) under Quality Assurance Project or Management Plan

Certified labs analyze water samples, if applicable

- NYS ELAP certification

Data interpreted by professionals

- Long-term data set for NYS waters and individual lakes or streams



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Applications of Citizen Science Data

Cossayuna Lake (1103-0002) **Impaired Seg**

Waterbody Location Information Revised: 12/06/2006

Water Index No:	H-301-17-P79	**Drain Basin:**	Upper Hudson River
Hydro Unit Code:	02020003/080 **Str Class:** A		Upper Hudson-Hoosic
Waterbody Type:	Lake	**Reg/County:**	5/Washington Co. (58)
Waterbody Size:	659.3 Acres	**Quad Map:**	COSSAYUNA (I-27-1)
Seg Description:	entire lake		

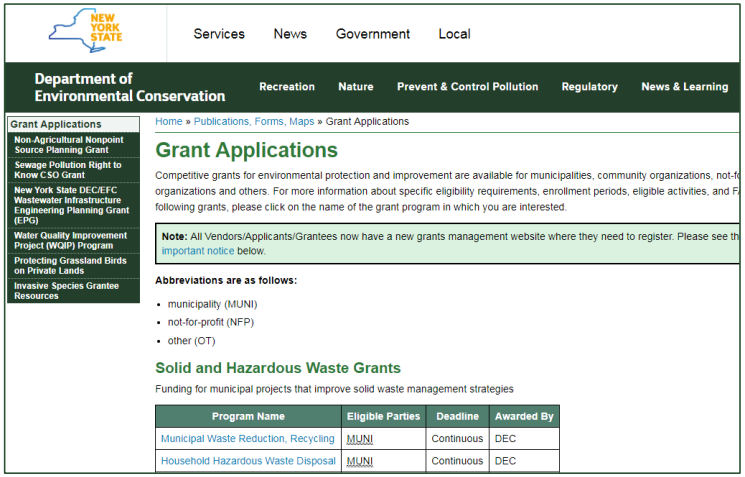
Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
RECREATION	Impaired	Known
HABITAT/HYDROLGY	Impaired	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus), PROBLEM SPECIES, Silt/Sediment
Suspected: - - -
Possible: Pathogens

Source(s) of Pollutant(s)



DEC may require multiple years of data to conduct water assessments

DEC also requires ELAP certification for sample analysis and QAMPs/QAPPs to use data for assessments

Data and information collected through DEC monitoring programs, including citizen science, can be used in support of grant applications

- E.g. Water Quality Improvement Project Program (WQIP)

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Water Quality Improvement Project

WQIP

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WQIP Overview: up to $70 million statewide

- Wastewater Treatment Improvement
  - High Priority Projects
  - General Wastewater Treatment Improvement
- Non-Agricultural Nonpoint Source
- Land Acquisition for Source Water Protection
- Salt Storage
- Aquatic Connectivity Restoration
- Municipal Separate Storm Sewer Systems (MS4)

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Non-Agricultural Nonpoint Source
Up to $3 Million

Eligible projects & programs (25% match)

- Nonpoint source best management practices (BMPs)

Eligible categories

- Decentralized Wastewater Treatment Facilities for Failing Septic Systems or Septic Systems to abate Nitrogen in Long Island
- Green Infrastructure Practice/Stormwater Retrofits
- Great Lakes Nature-Based Shoreline
- Streambank Stabilization and Riparian Buffers
- In-Waterbody Controls for Nutrients
- Beach Restoration
- Culvert Repair and Replacement
- Nonpoint Source Programs

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Aquatic Organism Passage & Water Quality Improvement Program (WQIP) Grants

Aquatic Connectivity Restoration

- Projects to replace culverts and bridges or remover dams;
- Purpose is to eliminate barriers to fish and other wildlife;
- Other benefits: reduce flooding and erosion;
- Projects of up to $250,000
- Match – 25% of the total award
- Municipalities & NGOs are eligible

Nonpoint Source Reduction Program

- Projects that improve documented water quality impairment;
- Includes “Culvert Repair and Replacement” to address erosion;
- Other benefits: removes barriers, improves habitat, reduces flooding;
- Projects up to $1,000,000;
- Match – 25% of award total
- Municipalities eligible

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Land Acquisition for Source Water Protection

Up to $ 4 Million

Eligible projects & programs (25% match)

- Protect surface and groundwater public drinking water supplies
- Purchase or easements

Other information

- Municipalities, soil and water conservation districts and not-for-profits, such as land trusts, are eligible
- For “projects” or “programs”

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Thank you

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