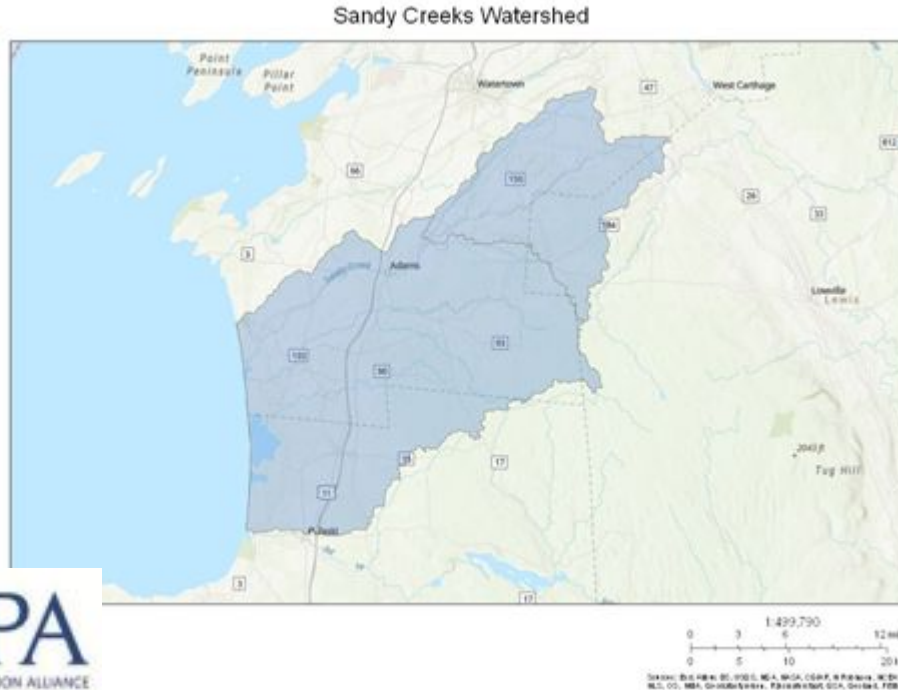


Sandy Creeks Clean Water 9 Element Plan



Clean Water Planning and the 9 Element (9E) Watershed Plan

A 9E plan is a non-regulatory clean water plan that:

- Identifies and addresses water quality concerns at the watershed scale
- Can be developed by non-agency stakeholders
- Can target waterbodies based on stakeholder interests
- Standardized framework for success to improve water quality
- Identifies Best Management Practices (BMPs) to improve water quality (WQ) in target areas
- Includes 9 Key Elements (as developed by EPA)

A regulatory plan for limiting pollutant loading to a waterway is a Total Maximum Daily Load (or TMDL)



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Nine Key Elements of a 9E Plan

- A.** Identify & quantify pollution sources in watershed
- B.** Establish pollutant load reduction targets to reach WQ goal(s)
- C.** Identify BMPs to reduce pollutants, considering landowner interests, and estimate load reduction and BMPs needed to achieve WQ goal(s)
- D.** Identify grant funding to implement BMPs identified in C
- E.** Build relationships with local stakeholders and integrate stakeholder input into plan to facilitate plan implementation
- F.** Develop BMP implementation schedule based on stakeholder input
- G.** Plan to evaluate progress on BMP implementation
- H.** Establish criteria to assess water quality improvement from BMP implementation
- I.** Develop and implement monitoring plan to collect WQ data and measure success



Nine Element Watershed Plans in NY

Approved 9E Plans

1. Genesee River
2. Black River
3. Suffolk County
4. Owasco Lake
5. Seneca-Keuka Lakes



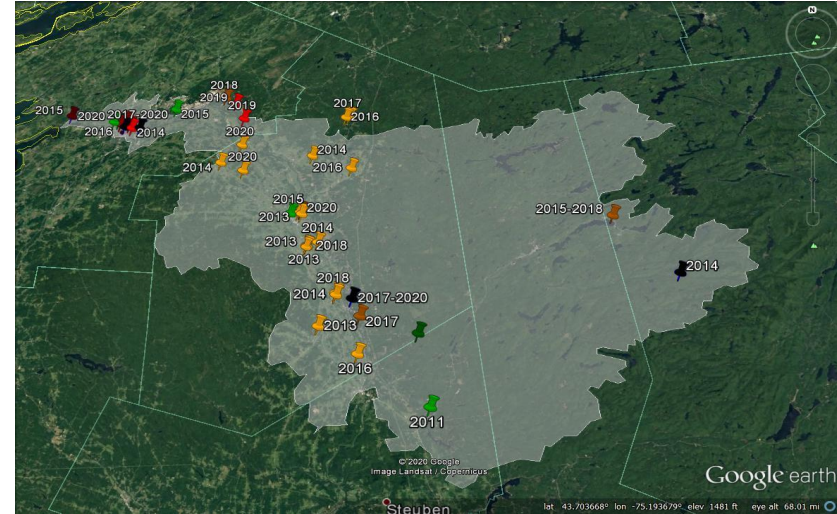
9E Plans Under Development

- | | |
|---------------------|--|
| 1. Wappingers Creek | 6. Lake Erie Tributaries |
| 2. Skaneateles Lake | 7. Nassau County |
| 3. Oneida Lake | 8. DeRuyter Lake |
| 4. Canandaigua Lake | 9. Pine Brook,
Stephenson Brook,
and Burling Brook |
| 5. Hutchinson River | 10. Sandy Creeks* |



Black River 9E Watershed Management Successes

- The Black River Initiative has supported watershed management since 2010, implementing over 72 actions and leveraging over \$35 million in funding
- A 9E Plan was state approved in 2016, leading to more funding for wastewater treatment improvements, green infrastructure, implementation of agricultural best management practices, and restoration projects.



Projects implemented include remediation (red), wastewater treatment improvements (brown), Ag BMPs (orange), Restoration and green infrastructure (green), and recreation access (black). From the Black River Initiative Progress Report 2010-2020.



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Projects in the Black River watershed



Photo Credits from
top left- BCA
Architects and
Engineers, NYSDEC,
Lewis County Soil
and Water.



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Looking to implement projects? There are grants for that! ([Handout](#))

- NYSDEC Water Quality Improvement Projects
- NYS Environmental Facilities Corporation
- NYS Dept of Agriculture and Markets
- US Department of Agriculture
- Federal Emergency Management Agency
- Great Lakes Restoration Initiative
- NYS Consolidated Funding Application
- NY Sea Grant Great Lakes Small Grants
- Great Lakes Restoration Initiative
- And many more!

Consolidated Funding Application Resources

Services News Government COVID-19

Consolidated Funding Application Help Regional Economic Development Councils CFA Project Info

Available Resources

New York's Great Lakes Basin Small Grants Program

Program Overview Apply for Funding Dashboard StoryMaps Additional Resources Stay Connected Contact Us

New York's Great Lakes Basin Small Grants Program

Now accepting proposals for 2022 funding!
Click below to apply by July 1st, 2022, or register for our informational webinar happening on May 19th, 2022.

[Apply for Funding](#)

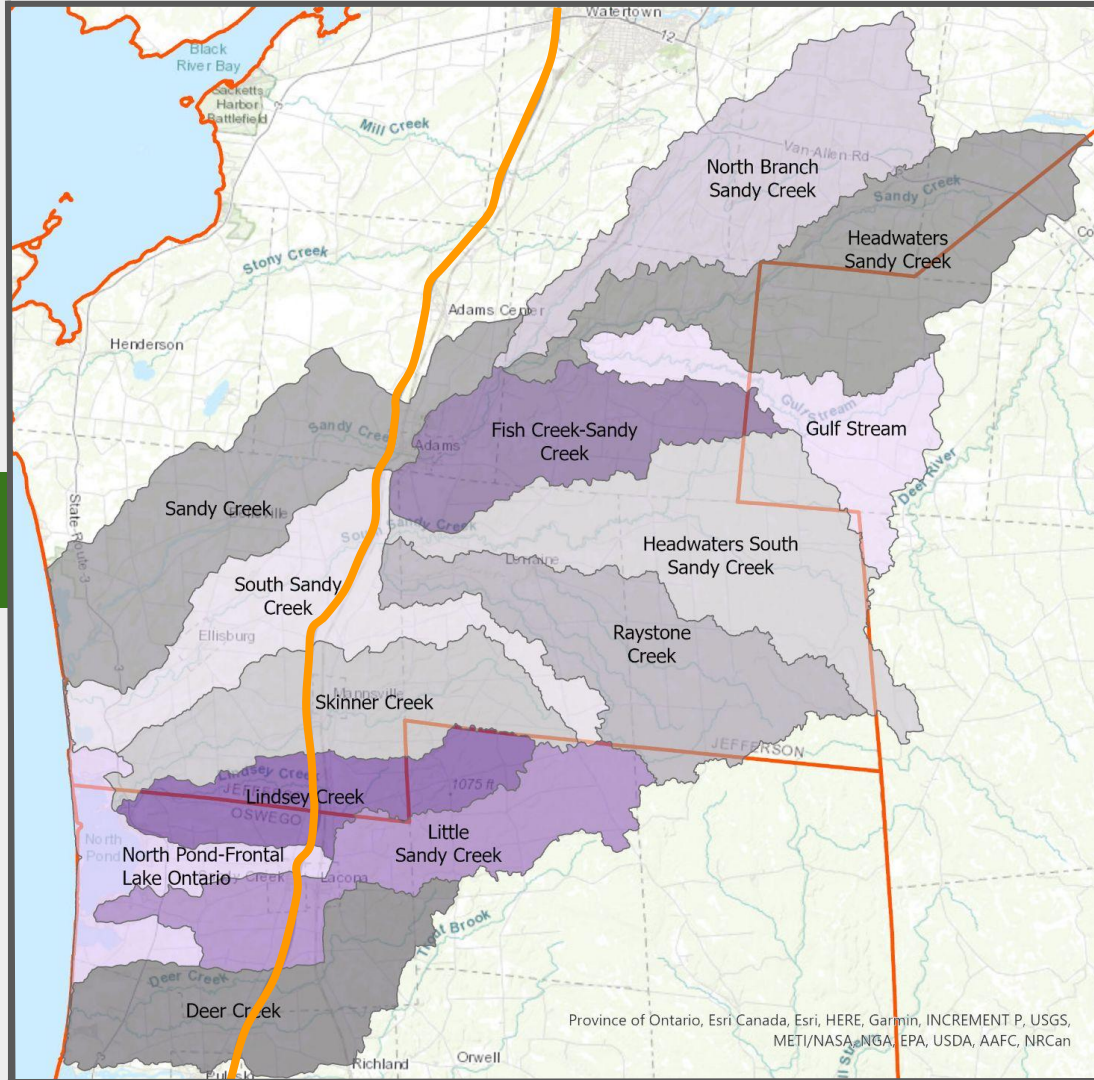
[Register for Webinar](#)

Program Overview

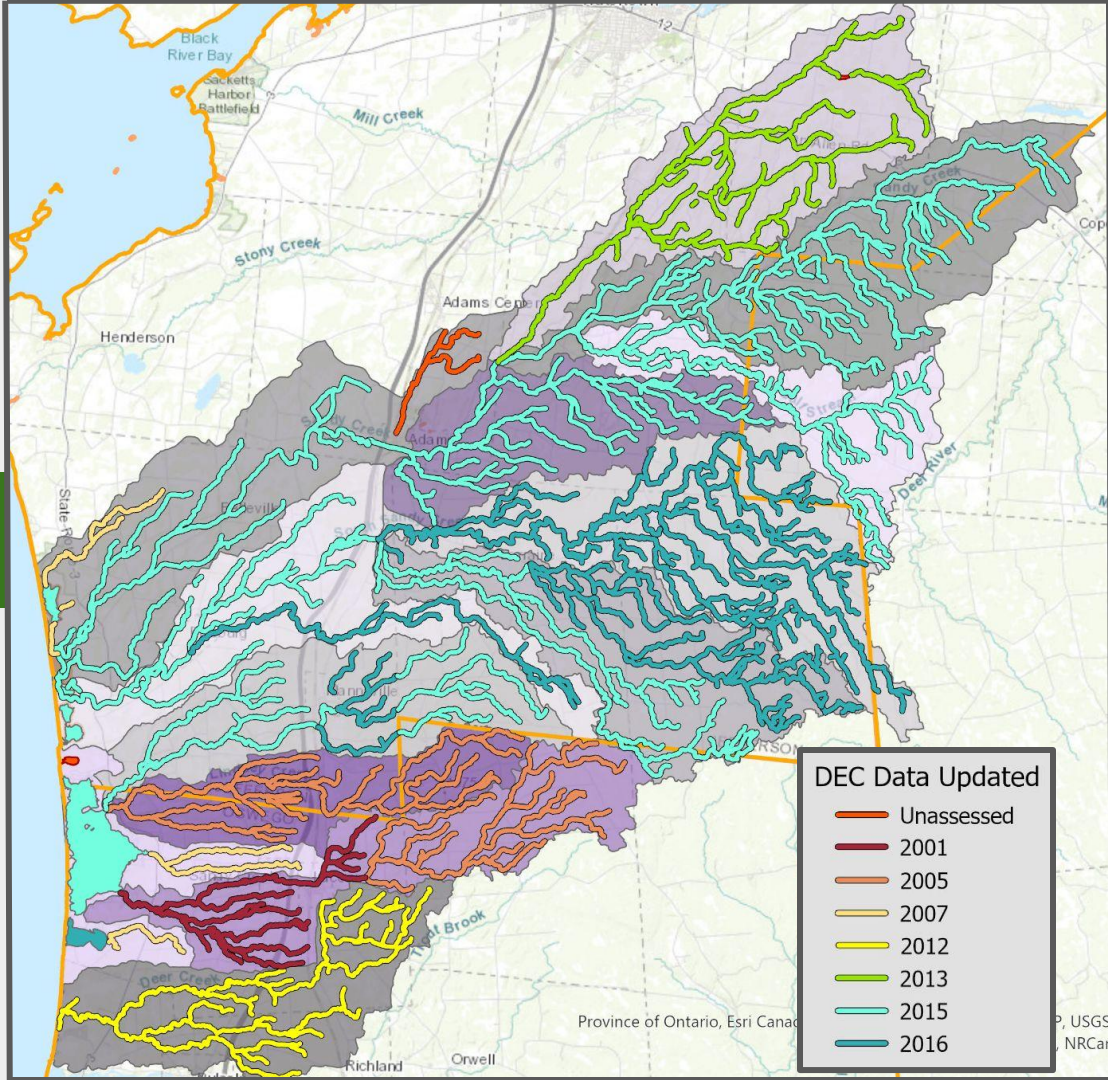


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Sandy Creeks Subwatersheds



Year of Last Available DEC Assessment

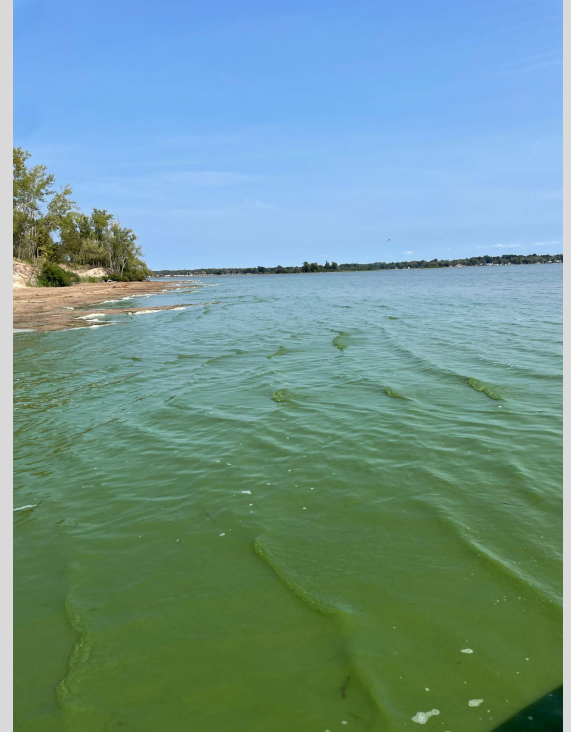




Sandy Creeks - Monitoring Data and Plan

Purpose of monitoring

- *Nutrients and bacteria* - impairment, areas for improvement
 - Phosphorus & nitrogen - primary nutrients for ecosystem productivity (algae, HABs, benthic *Cladophora*)
- Streams and receiving water bodies (i.e., North Sandy Pond)
- Modeling



North Sandy Pond - September 2022
Photo credit: Ron Fisher

Sandy Creeks - Monitoring Data and Plan

Existing tributary data - NYSDEC (2012-2020)

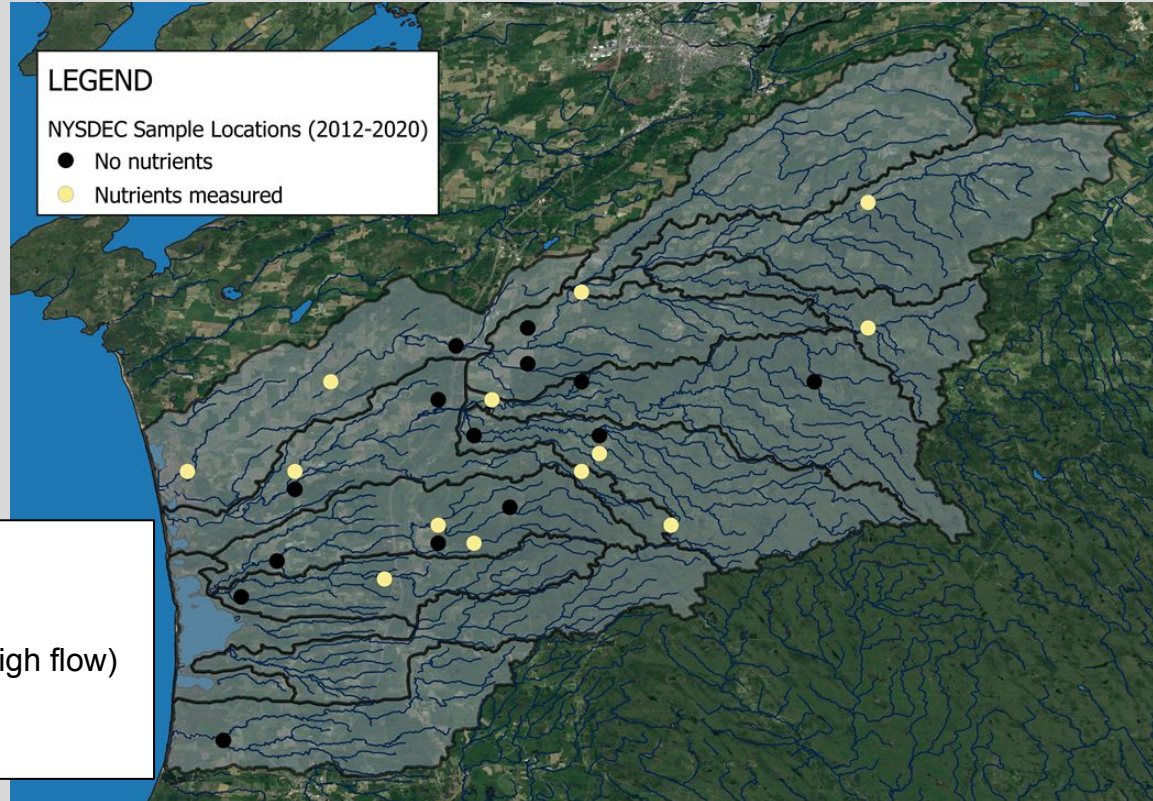
Most sites w/out nutrient
data

*When measured, majority 1
day in a year*

9EP:

- **Geographically not representative**
- **Temporally not resolute** (wet weather, high flow)

(although still useful!)

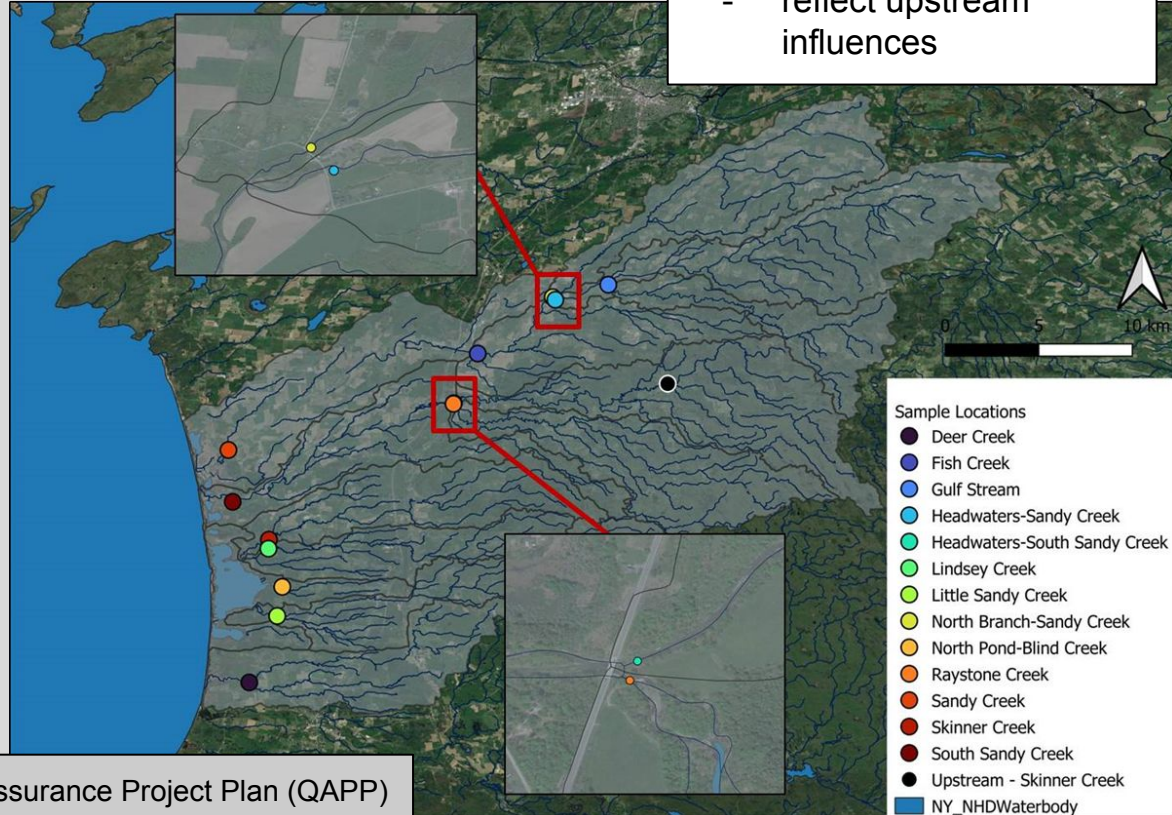


Sandy Creeks - Monitoring Data and Plan

Planned monitoring:

- 13 sub-watersheds
- Sampling 2x/month for 12 months
- Nutrients
 - TP, TDP, SRP
 - TN, NO_x, T-NH₃
- Total suspended solids
- Fecal coliform (bacteria)
- Water velocity/flow
- Temperature, pH, dissolved oxygen (DO), specific conductance, turbidity

Sample locations at terminal point of sub-watersheds
- reflect upstream influences



Quality Assurance Project Plan (QAPP)

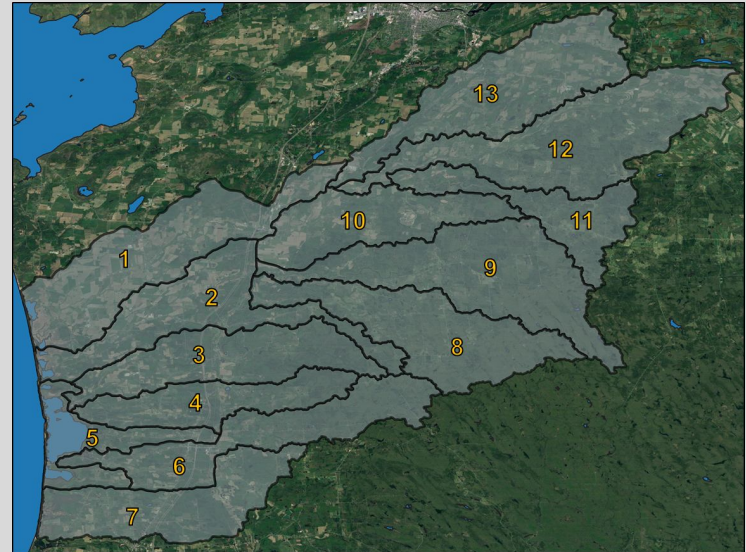
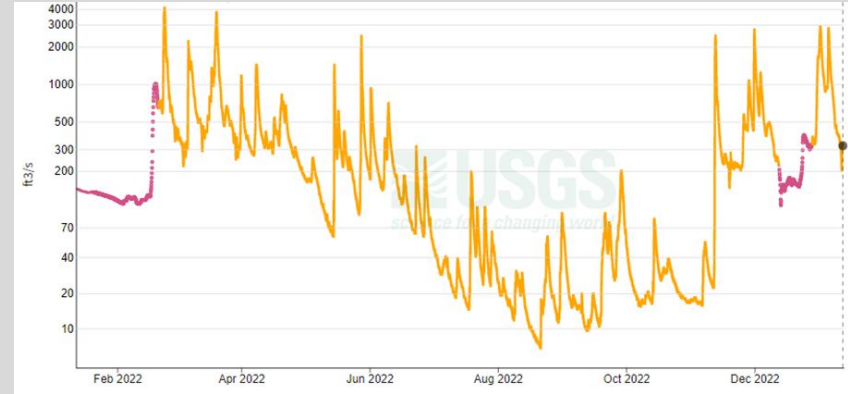
Watershed Modeling

- Land cover
- Weather
(precipitation/temperature)
- Nutrient concentrations and loads

Watershed model output for each sub-watershed (13)

- Compare (relative) contribution of nutrients, bacteria, sediment
- Identify priority areas and potential actions for 9EP

Sandy Creek USGS gage - Jan-Dec, 2022



Public Perceptions

Stakeholder input on watershed concerns and monitoring needs

Concerns included:

- drought in the headwaters
- large scale farming and manure spreading (central)
- Septics, harmful algal blooms, low water levels in the embayments
- Shoreline beach closures

Suggested monitoring locations included:

- Southwick Beach
- Sandy Pond
- South Sandy Pond
- Deer Creek
- Sandy Creeks tributaries east of Rt. 11



Focus Groups



Photo credit: Global News

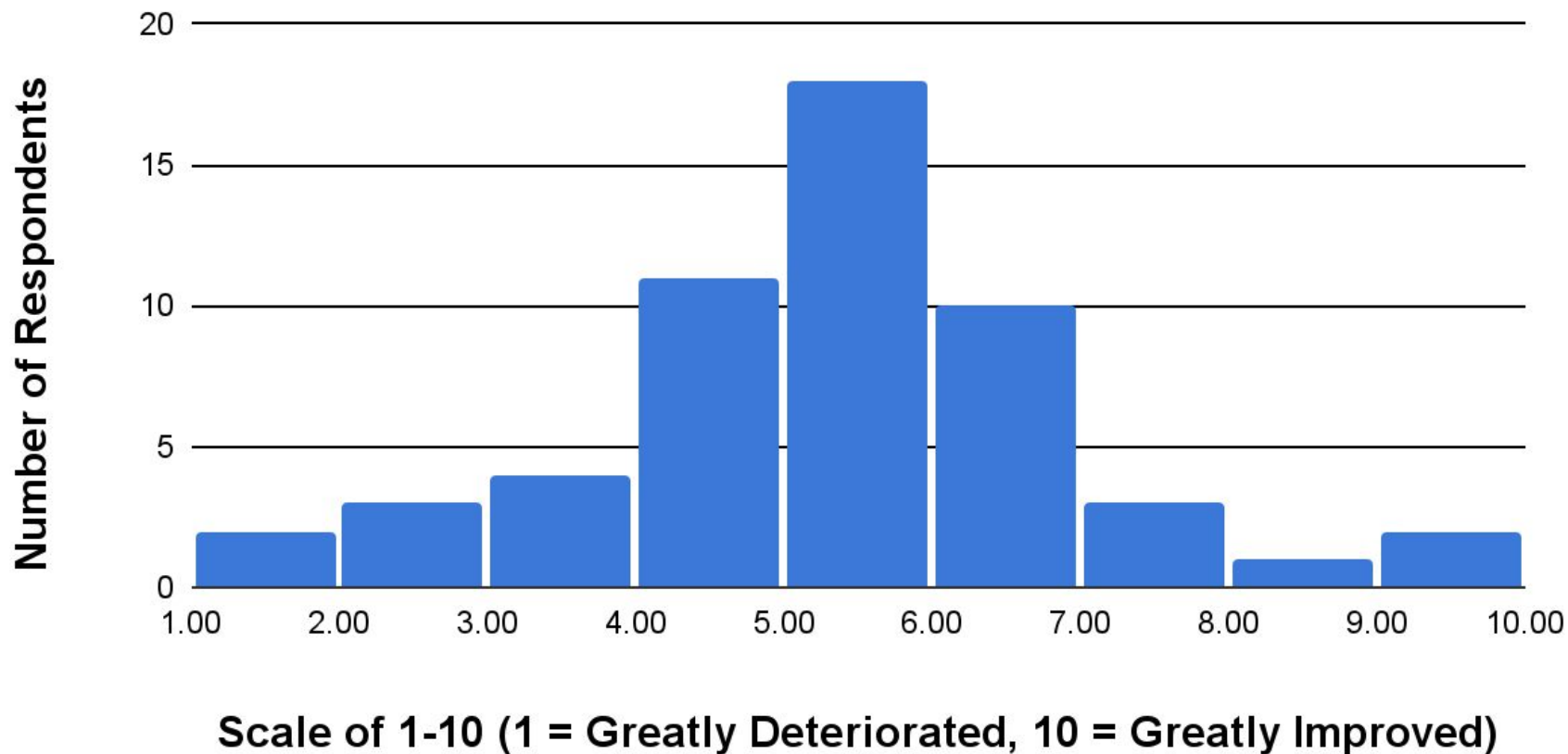


Photo credit: Realtor.com



Photo credit: Eastern L. Ontario Dune Coalition

How has water quality changed in the watershed in the past 15 years?



Perceived Changes over the Past 15 Years

Conservation:

- Noted Increase in large agricultural operations and manure spreading
- Increased number and use of shoreline cottages
- Increase in number of invasive species
- Concern that beavers in headwaters have negatively impacted stream flow patterns

Municipal Leaders:

- Increased solar and housing development pressure
- Shoreline camps are no longer weekend/ summer "cottages"
- More people utilizing the lakeshore/ shoreline
- Covid and remote work has put more pressure on residential septic systems
- Perceive an increase of sediment in waterways
- Several municipalities have expanded public water infrastructure

Business and Recreation:

- Marina has had issues with nitrates in wells
- Varying water levels have negatively impacted health of the pond
- Increasing number of aquatic invasive species

Shoreline/ Riparian Owners:

- Public water has increased water usage, adding more stress to septic systems
- More year-round residents
- Increased algal blooms in Sandy Pond
- Noted changing land use in headwaters
- Changes in precipitation- wells have been going dry in summer

Agriculture and Forestry:

- Agriculture has shifted away from small family farms and pasturing animals
- Management and regulations on agricultural lands have improved- expanded use of no-till and other BMP's
- Animals no longer pastured along streams
- Forests being cleared for solar projects
- Invasive species/forest pests threatening forest health
- Challenges with regeneration

**In your experience, what changes to land use or water use
have affected water quality in the Sandy Creeks watershed?**

Responses received 2+ times

- Agricultural runoff
- Failing / lack of septics
- Not sure
- Riparian development
- General development
- Erosion
- Climate change
- More intense storms
- IJC / Plan 2014

Responses received once

- Uncontrolled Public Access
- Invasive species
- Water table level
- Conservation efforts
- Damaging sand dunes
- Residential fertilizers near water
- Watercraft help break up weeds in Sandy Pond
- Ruining habitat
- Lack of information and communication
- Decrease in agriculture
- Less small farm pastures in tributaries
- Stakeholder awareness
- Better agricultural practices improving water quality

Concerns

Conservation:

- Failing shoreline septics
- Clearcutting in headwaters
- Current development trends are unsustainable- need for stronger regulations/ enforcement
- Lack of water quality (WQ) testing
- Impacts of climate change
- Manure spreading

Municipal Leaders:

- Increased development
- Shoreline camps are no longer weekend/ summer “cottages”
- Increased pressure on residential septic systems
- Solar’s impact on stormwater and hydrology
- Need for stormwater infrastructure
- Zoning laws

Business and Recreation:

- Flooding
- Dry/contaminated wells and access to clean water
- Extreme high/low water levels
- Aquatic and terrestrial invasive species
- Maintaining the “cut”- connection between Sandy Pond and L. Ontario
- Loss of business if WQ deteriorates

Shoreline/ Riparian Owners:

- Increased algal blooms in Sandy Pond
- Lack of WQ testing
- Failing septic systems
- Changing precipitation patterns
- Extreme high/low water levels
- High water levels affects leach fields around Sandy Pond
- Impacts of upstream land use on Sandy Pond (development/ farming)
- Concerns about human health around Sandy Pond/ L. Ontario shoreline
- Maintaining the “cut”- connection between Sandy Pond and L. Ontario

Agriculture and Forestry:

- Negative public perception of ag.
- Riparian buffers take land out of farming production
- Increased pressure on groundwater resources
- Working with “plain sect growers” to implement conservation practices without using technology
- Carbon sequestration payments available from the state do not reward past practices
- Forests being cleared for solar projects
- Invasive species/forest pests threatening forest health
- Lack of healthy regeneration

If money was no issue what actions would you take *or* what Best Management Practices (BMPs) would you implement?

Conservation:

- Septic improvements (cluster systems)
- Planting trees (after timber harvest)
- Riparian protection and restoration (including invasive species management and native plant restoration along waterways)
- Improvements to habitat at state parks, and educational programs

Municipal Leaders:

- Expanded sewer system into Sandy Pond Area
- Implement BMP's (must benefit community as a whole. Not just certain areas)
- Modify zoning laws

Business and Recreation:

- Expand public water access
- Control negative impacts of invasive species
- Continue dredging, or construct a permanent solution, to maintain the connection between Sandy Pond and L. Ontario

Shoreline/ Riparian Owners:

- Install public sewer
- Better enforcement of septic laws
- Education, and voluntary dye tests so homeowners better understand their impact on the pond
- Reduce nutrient loading from farms
- Long-term water monitoring and management
- Form a voluntary association so pond is eligible to enroll in CSLAP monitoring program
- Continue dredging, or construct a permanent solution, to maintain the connection between Sandy Pond and L. Ontario

Agriculture and Forestry:

- Operations and maintenance grant funding to offset costs of BMPs
- Advancements in digester technology and program to pay for costly repairs
- Carbon sequestration payment program rewarding those who have been doing good work; not just those "late to the party" and just now starting
- Law keeping forests from being cleared for solar projects (forests sequester more carbon than panels save)
- Focus on healthy regeneration; promoting forestry BMPs

Next Steps for the Sandy Creeks 9E Plan

Watershed plans are a multi-year process.

With our current partnerships and funding we hope to complete the monitoring, modeling, and writing of the plan by 2025.

Next steps for this year:

- Jefferson, Oswego, and Lewis SWCD staff working with Upstate Freshwater Institute to collect water samples
- Jefferson SWCD will hire interns to conduct culvert assessments over next two field seasons
- Jefferson SWCD will host volunteer water chestnut pull in Mannsville in July (date TBD)
 - This pull will act as an informal education event on watersheds, invasive species, and a forum to share updates on water quality testing.

