



Department of  
Environmental  
Conservation

# Genesee River Watershed Implementation Plan

## Engagement Forum

**May 16, 2024**

**Ryan Elliott – Southwest Lake Ontario Watershed Coordinator, NYSDEC Great Lakes Program in partnership with the NYS Water Resources Institute at Cornell University**

**Kelly Emerick – Executive Director, Monroe County Soil and Water Conservation District**

# Engagement Forum Agenda

1. Geographic Setting: Genesee River Watershed
2. Watershed Implementation Plan Overview
3. Implementation Strategy
4. Next Steps



# Geographic Setting

## Genesee River Watershed

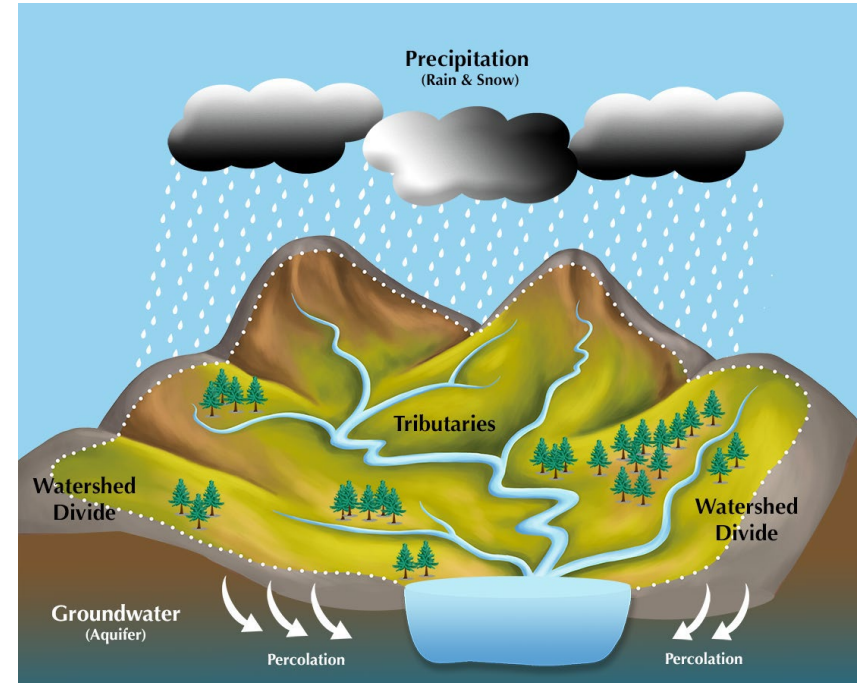


Department of  
Environmental  
Conservation

# What is a watershed?

A watershed is the land that drains to a common body of water.

We all live in a watershed.

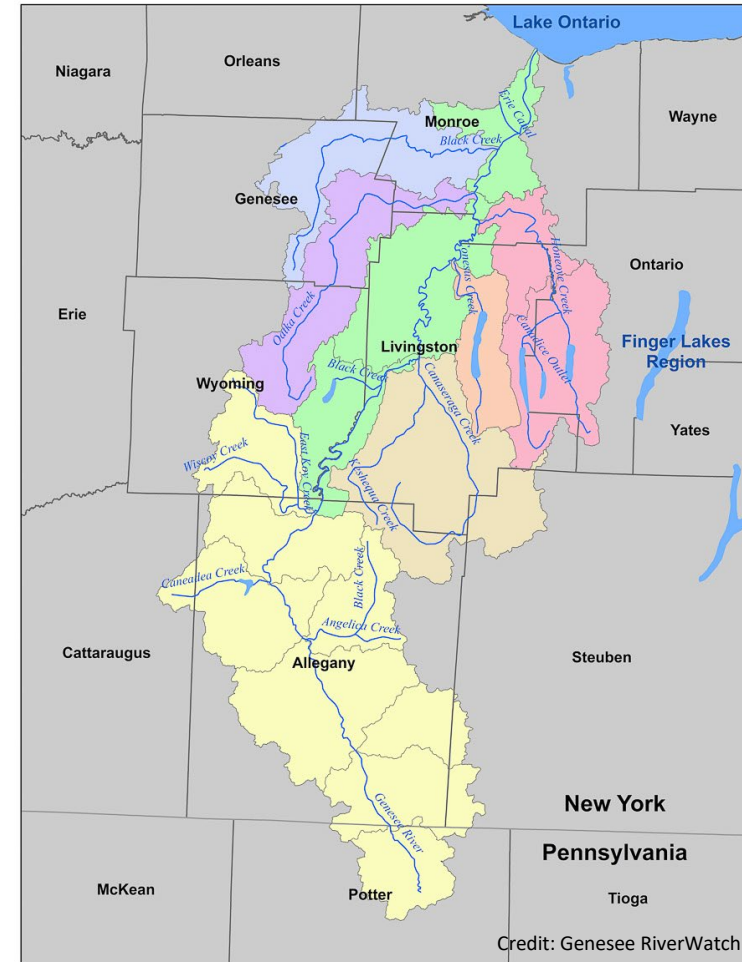


Department of  
Environmental  
Conservation



# Genesee River Watershed

- ~2,490 square miles
- Landcover: Dominated by forest and agriculture
- Main stem is ~157 miles
- 31 significant ponded waters
- High quality fish & wildlife habitat
- Recreational opportunities
- Water quality concerns: Nutrient and sediment



# Watershed Implementation Plan Overview



Department of  
Environmental  
Conservation

# Background

- **New York's Great Lakes Action Agenda 2023**
  - Guides management of the Great Lakes basin in New York State
  - Goal 2
    - Reduce sediment, nutrient, and pathogen loading
  - Partnerships are critical!
    - Sub-Basin Work Group Meetings



# Background

- Genesee River Basin Nine Key Element Watershed Plan for Phosphorus and Sediment
  - Published in 2015; the first nine element plan in NYS
  - Voluntary plan
- Opportunities to Update
  - Stakeholder Engagement
  - Implementation Strategy



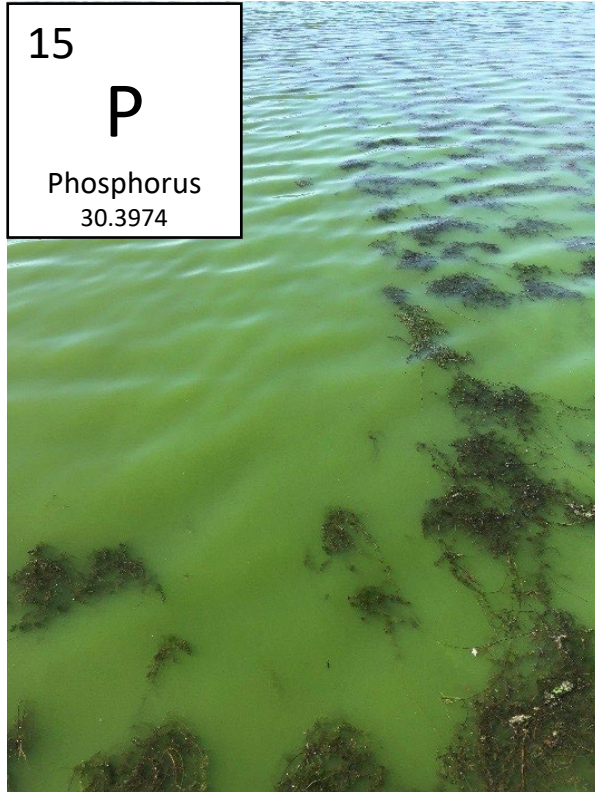
Department of  
Environmental  
Conservation

## **GENESEE RIVER BASIN NINE KEY ELEMENT WATERSHED PLAN FOR PHOSPHORUS AND SEDIMENT**

September 2015

**DIVISION OF WATER**  
Bureau of Water Resource Management  
625 Broadway, Albany, NY 12233-3508

# Why Phosphorus?



- Limiting nutrient in freshwater systems
- Elevated P concentrations can cause problems
  - Nuisance algal growth and harmful algal blooms
  - Extensive growth of submerged aquatic vegetation
  - Depletion of dissolved oxygen

# Why Sediment?



Credit: U.S. Army Corps of Engineers

- Negatively impacts aquatic habitat and species
- Accumulation → Flooding
- Maintenance costs
  - Dredging
  - Drinking water treatment
- Transports nutrients and other attached pollutants
- Aesthetics

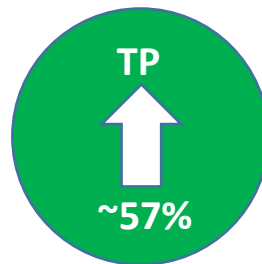


Department of  
Environmental  
Conservation

# Genesee River Water Quality Trends 2011 – 2020 (USGS)

## ➤ Total Phosphorus

➤ **Increasing**



## ➤ Orthophosphate

➤ **Stable**

## ➤ Suspended Sediment

➤ **Increasing**



# What will the plan contain?

- Executive summary
- Purpose and background
- Project team and stakeholder engagement
- Watershed characteristics
- Water quality trends
  - Genesee River
  - Ponded waters (with sufficient data)
- Previous implementation
- Implementation strategy
- Project list
- Funding opportunities
- Adaptive management





# Why participate in development of this plan?

1. Elevate local projects and priorities
2. Address local water quality issues
  1. Opportunities for projects with water quantity (flood/drought) and/or habitat benefits
3. Refocus implementation efforts in a strategic way
4. Leverage plan to acquire state and federal funding



# Project Organization

## ➤ Project Team



GENESEE/FINGER LAKES  
Regional Planning Council

GENESEE RIVER WATERSHED  
COALITION OF CONSERVATION DISTRICTS



Department of  
Environmental  
Conservation

MONROE COUNTY



SOIL & WATER  
CONSERVATION DISTRICT



SOUTHERN  
TIER CENTRAL  
REGIONAL PLANNING & DEVELOPMENT BOARD



Southern Tier West

Regional Planning & Development Board

# Project Organization

## ➤ Watershed Advisory Committee

### ➤ Who?

- Stakeholders with an interest in improving water quality in the Genesee River basin (e.g., municipal representatives, academics, SWCDs, watershed groups, nonprofits, etc.)

### ➤ What?

- A group to provide input during the development of the WIP

### ➤ When?

- To be established later in Spring 2024 but will take interest now

Genesee River WIP Watershed  
Advisory Committee Interest Form



Department of  
Environmental  
Conservation

# Questions and Discussion

- Are there areas in your county/municipality where the following issues are a concern?
  - Streambank erosion
  - Excessive algae growth/harmful algal blooms
  - Stormwater/runoff management issues
  - Wastewater management issues
  - Septic system maintenance issues



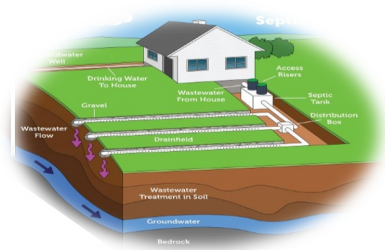
# Implementation Strategy



Department of  
Environmental  
Conservation

# Discussion Format

- Projects are grouped into five sectors
  - Urban
  - Forested
  - Wastewater
  - Septic
  - Agricultural



# Discussion Format

- For each sector we will cover
  - Types of management actions
  - Local examples of these types of actions
  - Potential funding opportunities
  - Your questions and comments



# Urban Sector – Best Management Practices

- Green infrastructure
- Stormwater retrofits
- Urban tree planting
- Street sweeping
- Local ordinances
  - Setbacks, steep slope laws, etc.





# Urban Sector – Local Example

## ➤ Municipal Code & Ordinance Review Project

### 1. Identifying Barriers in Code, Ordinance, Design/Construction Specs to implementation of Green Infrastructure

- Center for Watershed Protection (CWP) “Code and Ordinance Worksheet”
- Roundtable with Municipality & Project Team to review results

### 2. Provide new sample Code language where barriers were identified, the Code was silent; and to encourage the use of a practice

- Recommendations Report

### 3. Provided new design/construction specifications for green infrastructure practices e.g. bioretention practices, pervious pavement, and downspout disconnection

- Recommendations Report

Development Feature	Your Local Criteria
<b>1. Street Width</b> What is the minimum pavement width allowed for streets in low density residential developments that have less than 500 daily trips (ADT)? <input type="text"/> feet <i>If your answer is between 18-22 feet, give yourself 4 points • •</i> At higher densities are parking lanes allowed to also serve as traffic lanes (i.e., queuing streets)? <input type="text"/> YES <input type="text"/> <i>If your answer is YES, give yourself 3 points • •</i> Notes on Street Width (include source documentation such as name of document, section and page #): <input type="text"/>	
<b>2. Street Length</b> Do street standards promote the most efficient street layouts that reduce overall street length? <input type="text"/> YES <input type="text"/> <i>If your answer is YES, give yourself 1 point • •</i> Notes on Street Length (include source documentation such as name of document, section and page #): <input type="text"/>	
<b>3. Right-of-Way Width</b> What is the minimum right of way (ROW) width for a residential street? <input type="text"/> feet <i>If your answer is less than 45 feet, give yourself 3 points • •</i> Does the code allow utilities to be placed under the paved section of the ROW? <input type="text"/> YES <input type="text"/> <i>If your answer is YES, give yourself 1 point • •</i> Notes on ROW Width (include source documentation such as name of document, section and page #): <input type="text"/>	
<b>4. Cul-de-Sacs</b> What is the minimum radius allowed for cul-de-sacs? <input type="text"/> feet <i>If your answer is less than 35 feet, give yourself 3 points • •</i> <i>If your answer is 36 feet to 45 feet, give yourself 1 point • •</i> Can a landscaped island be created within the cul-de-sac? <input type="text"/> YES <input type="text"/> <i>If your answer is YES, give yourself 1 point • •</i> Are alternative turnarounds such as “hammerheads” allowed on short streets in low density residential developments? <input type="text"/> YES <input type="text"/> <i>If your answer is YES, give yourself 1 point • •</i> Notes on Cul-de-Sacs (include source documentation such as name of document, section and page #): <input type="text"/>	
Code and Ordinance Worksheet	Subtotal Page 5 <input type="text"/> 0



# Urban Sector – Local Example

## 1. Worksheet

Minimum radius allowed? \_\_\_\_ft.

Less than 35 ft. – 3 points

From 36 to 45 ft. – 1 point

Landscaped island allowed? Yes/No

Yes – 1 point

Alternatives such as hammerheads  
allowed in low-density residential? Yes/No

Yes – 1 point

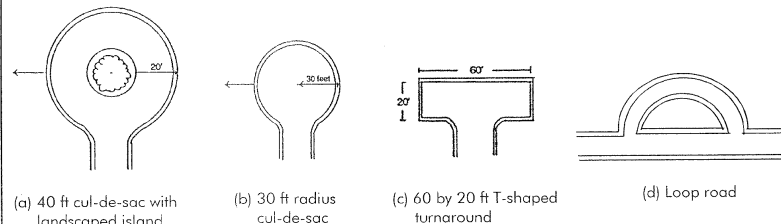
## 2. Recommendations:

1. Reduce required radius for cul-de-sacs from 50' to 48', CWP recommends 45' or less, but New York State Fire Code requires min. 48' radius for roads that are 150' or longer (most munis. in Monroe County at 50' or more).

2. Require developers to consider alternates to cul-de-sacs with less imperviousness first such as hammerheads and looped roads, on res. roads that are 150' or less.

## 3. Design Specs:

Figure 4.1: Four Turnaround Options for Residential Streets



*Figure Adapted from Better Site Design: A Handbook for Changing Development Rules in Your Community)*



Department of  
Environmental  
Conservation

# Urban Sector – Local Example

- Town of Greece, Monroe County, Cul-de-Sac Retrofit
  - Captures untreated stormwater runoff from the roadway and surrounding driveways, and conveys the untreated runoff into a bioretention facility constructed in the center of the cul-de-sac to filter pollutants within the stormwater runoff
  - Project disconnected 2.2 acres of pervious and impervious surfaces that drained into the storm sewer system, ultimately discharging about 2,067,765 gallons of the untreated stormwater runoff into Round Pond
  - Round Pond watershed is a 303(d) listed waterbody and the pollutant of concern for this waterbody is phosphorous coming from urban stormwater runoff
  - Cost-share dollars provided by the Stormwater Coalition of Monroe County through funds leveraged under Water Quality Improvement Program (WQIP) Round 10



Department of  
Environmental  
Conservation

# Local Example – Urban

Before



During – 1<sup>st</sup> layer of bioretention media



During – plant installation



After – newly finished



After



Department of  
Environmental  
Conservation

# Urban Sector – Funding Opportunities

- Water Quality Improvement Project Program (WQIP)
- Non-Agricultural Nonpoint Source and MS4 Mapping Grant (NPG)
- NY's Great Lakes Basin Small Grants Program
- Green Innovation Grant Program
- Great Lakes Restoration Initiative
  - Sustain our Great Lakes
  - Great Lakes Sediment and Nutrient Reduction Program



# WQIP Overview - 2024

- Improves water quality or aquatic habitat; protects source waters; promotes flood risk reduction, restoration, and enhanced flood and climate resiliency; and improves dam safety
- Eligible Activities: Wastewater Treatment Improvement, Non-agricultural Nonpoint Source Abatement and Control, Vacuum Trucks in Municipal Separate Storm Sewer System (MS4) Areas, Land Acquisition for Source Water Protection, Salt Storage and Road Salt Reduction, Dam Safety Repair/Rehabilitation, Aquatic Connectivity Restoration, and Fish and Wildlife Habitat Enhancement and Restoration
- Eligible applicants
  - Municipalities (*ECL §56-0101*)
  - Soil and water conservation districts
  - Not-for-profit corporations only eligible for
    - Land Acquisition for Source Water Protection
    - Aquatic Connectivity Restoration
    - Dam Safety Repair/Rehabilitation
    - Fish and Wildlife Habitat Enhancement and Restoration



# NPG Overview - 2024

- Program aims to prepare nonpoint source projects for construction and application for implementation funding and encourages and supports cooperation among regulated MS4 operators to complete mapping of their stormwater system
- Eligible Activities: Nonpoint Source Planning Reports; Municipal Separate Storm Sewer System (MS4) Mapping
- Eligible applicants
  - Nonpoint Source Planning Reports
    - Municipalities (*ECL §56-0101*)
    - Soil and water conservation districts (SWCDs)
  - MS4 Mapping
    - MS4 operators regulated by MS4 General Permit
    - SWCDs on behalf of regulated MS4 Operators





# Nonpoint Source Planning Reports

## Categories:

- Decentralized Wastewater Treatment Facilities for Failing On-Site Treatment Systems
- Green Infrastructure
- Stormwater Retrofits
- Streambank/Shoreline Stabilization
- Comprehensive Stream Corridor Assessment
- Stream Sediment and Debris Management Plans
- In-Waterbody Controls for Nutrients
- Bathing Beach Restoration
- Stream Culvert Repair & Replacement
- Berm Removal
- Floodplain Creation/Restoration/Reconnection
- Wetland Creation/Restoration
- Coastal Storm Erosion Risk Management
- Dam Safety Repair/Rehabilitation and Dam Removal



Department of  
Environmental  
Conservation



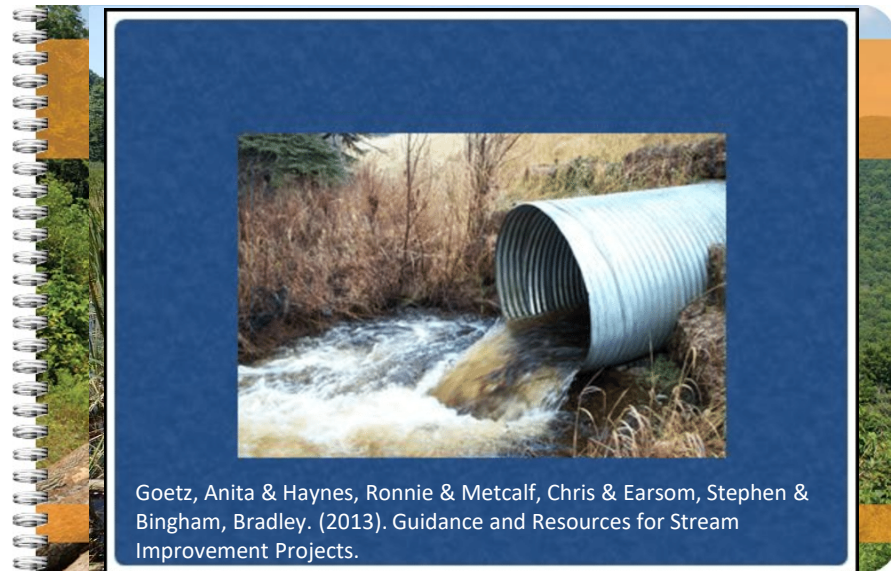
# Urban Sector – Discussion

- What has or has not worked in the past?
- Where are opportunities to implement these types of projects in your municipality/county?
- Are there barriers to implementing these projects in your municipality/county?
- Questions about best management practices, local example, or funding programs?



# Forested Sector – Best Management Practices

- Tree planting
- Streambank restoration
- Riparian buffers
- Timber harvest management
- Road and ditch management
- Wetland protection/restoration/construction
- Culvert right-sizing



# Forested Sector – Local Example

- Oatka Creek Streambank Stabilization and Riparian Improvement Project
  - 300 feet of longitudinal peaked stone toe protection to stabilize the eroding outside left bank
  - 3 rock stream bars to help redirect flow away from the toe of the left bank
  - 48 feet of rock-lined spillway to safely convey adjacent pond overflow over the project bank
  - creation of 20 feet of fish habitat by installing (30) 8 foot logs along the downstream toe to provide aquatic cover
  - planted 103 shrubs and 61 trees on 0.2 acres of riparian buffer
  - 200 live stakes and 250 bare root whips of streamco willow and red osier dogwood were installed within the stone toe protection





## Forested Sector – Local Example



Department of  
Environmental  
Conservation

# Forested Sector – Local Example



## 2024 Conservation Tree & Shrub Program

The Monroe County Soil & Water District is selling tree seedlings and transplants to landowners to establish windbreaks, reforest land, prevent soil erosion, create suitable wildlife habitats, and add value to your property.

**Items available:**

- 23 Bare Root Tree/Shrub Species
- 6 Wildlife & Conservation Multi-Packs
- 1 live stake deciduous shrub
- Seed Mixes
- Tree Tubes, Bird Houses, and More!

**Deadline to Order:**  
**March 1, 2024**

The Program's Catalog & Order Forms are available at our office or through the Conservation District's Website:

[www.monroecountyswd.org](http://www.monroecountyswd.org)

Distribution will be held on April 18 and 19, 2024 from 9:00 am until 5:00 pm at the Monroe County ccopark, 10 Avion Drive, Rochester, NY 14624

Note: We will also be holding an overstock sale for individuals that miss the ordering deadline on April 20, 2024 9:00 - 11:00 am at the Monroe County ccopark, 10 Avion Drive, Rochester, NY 14624



Browse our catalog and order right now with your phone by scanning the QR code below




Monroe County Soil & Water Conservation District (MCSWCD)  
145 Paul Road, Building 5, Rochester, NY 14624  
(585) 753-7380




Forest Service  
U.S. DEPARTMENT OF AGRICULTURE

Eastern Region State, Private, and Tribal Forestry

## Forest Service News Release

Franklin Pemberton  
Press Officer  
[Franklin.Pemberton@usda.gov](mailto:Franklin.Pemberton@usda.gov)

### Forest Service Grants \$812,000 for Restoration Projects in New York

*Since October 2022, the Forest Service's state, private, and Tribal forestry programs have allocated over \$7.8M for projects in New York.*

**New York:** (April 11, 2023) – The USDA Forest Service is investing \$812,000 to support 5 restoration projects in New York. The funding is provided through the Great Lakes Restoration Initiative (GLRI) under an agreement with the U.S. Environmental Protection Agency.

This year's grantees are working to support healthy forests in New York. Healthy forests and trees contribute to the health of the Great Lakes and provide immeasurable benefits to New Yorkers including cleaner air and drinking water, wildlife habitat, employment opportunities and a robust economy. Access to trees and natural areas also enhances physical and mental wellbeing and makes communities more resilient.

Collectively, the projects funded in New York through this year's GLRI grants are estimated to plant 12,000 trees and shrubs, intercept 90,500 gallons of stormwater annually and restore 54 acres.

The Forest Service is proud to support the following projects and partners in New York with Great Lakes Restoration Initiative Funding:

- Onondaga County Soil and Water District – \$80,000: Replanting Trees Lost to EAB in Onondaga County
- Hobart and William Smith Colleges – \$183,019: Hemlock Forest Conservation in Finger Lakes State Parks
- Monroe County Soil and Water Conservation District – \$200,000: Reforestation in Response to EAB Ash Tree Decimation
- The Research Foundation for the State University of New York – \$300,000: Syracuse Urban Food Forest Project: Community & Traditional Knowledge Practice to Reduce Runoff
- Hobart and William Smith Colleges – \$49,966: Surveying Finger Lakes National Forest Ponds for Invasive Species

"We are thrilled to provide this support for local organizations doing great work in the state. The work of the Forest Service extends beyond the boundaries of federal lands. We provide support to states, Tribes, local governments and private forest landowners to protect, conserve and manage their forests, because no matter who owns them, we all benefit from healthy forests and trees," said Bob Lueckel, USDA Forest Service Deputy Regional Forester.

###  
USDA is an equal opportunity provider, employer and lender.



Department of  
Environmental  
Conservation

# Forested Sector – Funding Opportunities

- WQIP
- NPG
- DEC Regenerate NY
- NY's Great Lakes Basin Small Grants Program
- Great Lakes Restoration Initiative
  - Sustain our Great Lakes
  - Great Lakes Sediment and Nutrient Reduction Program





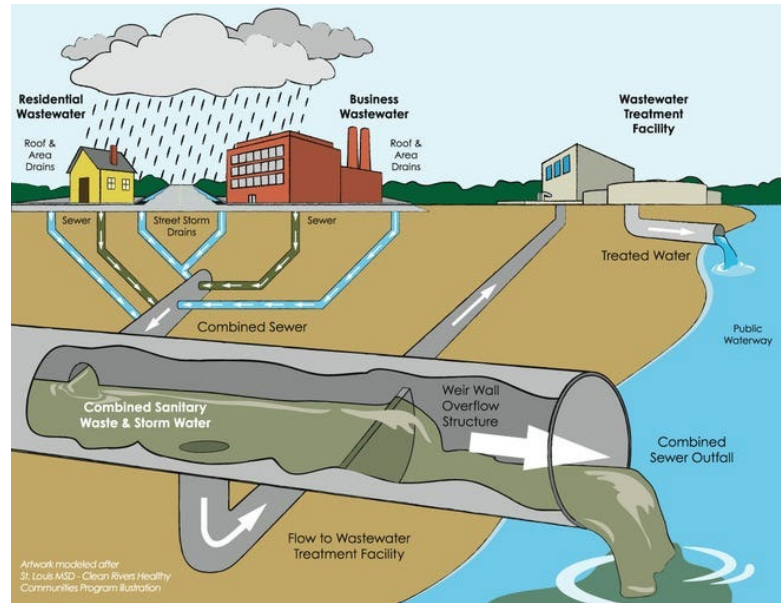
# Forested Sector – Discussion

- What has or has not worked in the past?
- Where are opportunities to implement these types of projects in your municipality/county?
- Are there barriers to implementing these projects in your municipality/county?
- Questions about best management practices, local example, or funding programs?



# Wastewater Sector – Best Management Practices

- Reduce sanitary and combined sewer overflows
- Stormwater management to reduce peak flows (e.g., green infrastructure)
- Identify and remove illicit storm sewer connections
- Limit P discharged from point sources
- Treat wastewater effluent to reduce total phosphorus concentration





# Wastewater Sector – Local Example

- LeRoy (V) Sewage Treatment Plant
  - Recommendation to limit P in effluent to 1 mg/L
  - Implemented Treatment
    - Precipitate (alum product)
  - Funding
    - Funded and designed in-house



# Wastewater Sector – Funding Opportunities

- Engineering Planning Grants
- Water Quality Improvement Project Program (WQIP)
- Clean Water State Revolving Fund (CWSRF)
- Water Infrastructure Improvement (WIIA)
- Intermunicipal Grants (IMG)
  
- Interested in learning about the CWSRF?
  - Environmental Facilities Corporation Funding Presentation
  - Session 2 from 11:30 – 12:30



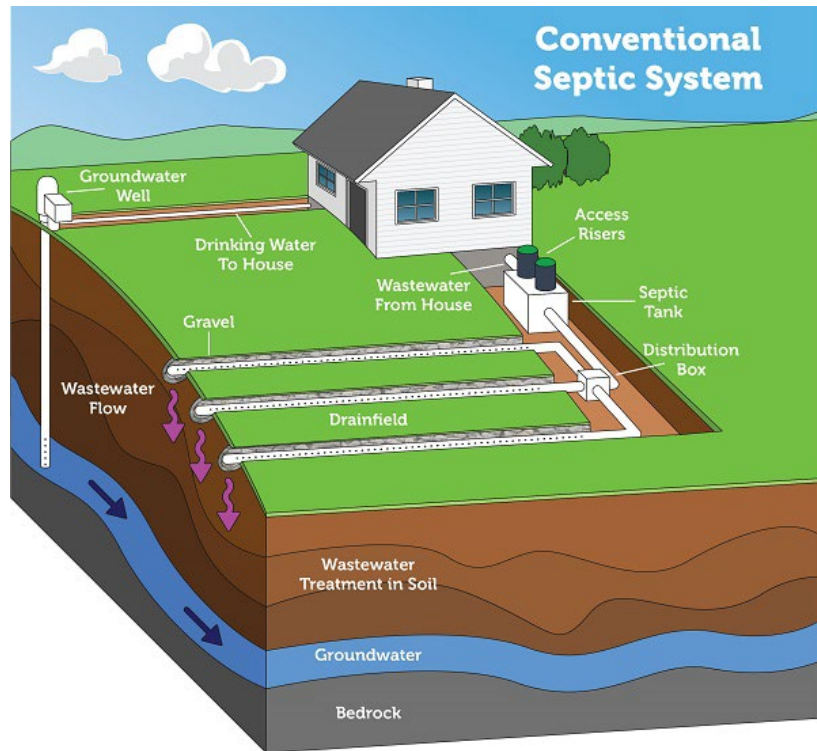
# Wastewater Sector – Discussion

- What has or has not worked in the past?
- Where are opportunities to implement these types of projects in your municipality/county?
- Are there barriers to implementing these projects in your municipality/county?
- Questions about best management practices, local example, or funding programs?



# Septic Sector – Best Management Practices

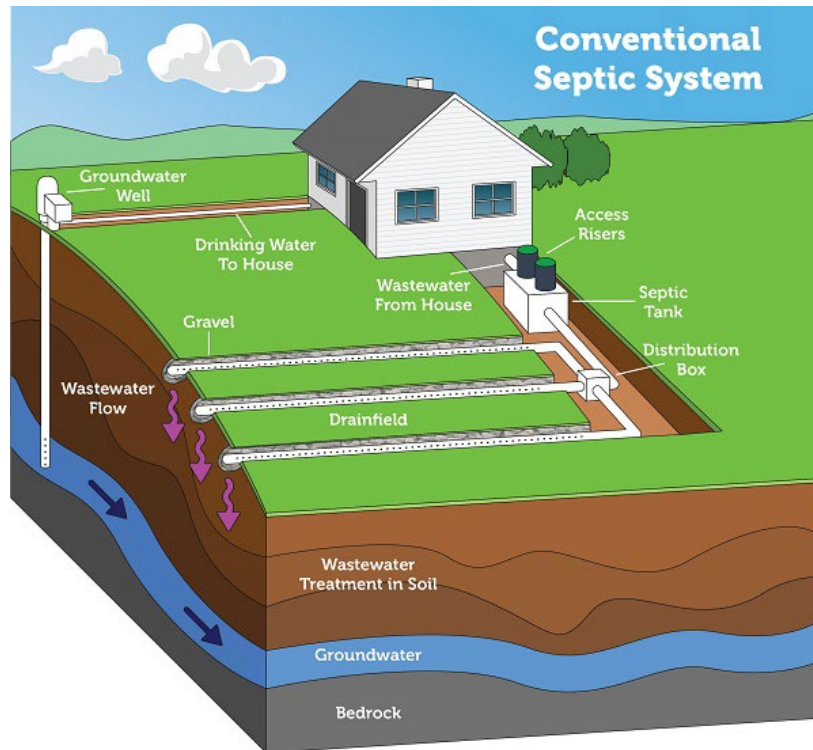
- Repair and proper maintenance
- Outreach to property owners about septic system maintenance
- Workshops
- Printed materials
- Inspections



Please note: Septic systems vary. Diagram is not to scale.

# Septic Sector – Local Example

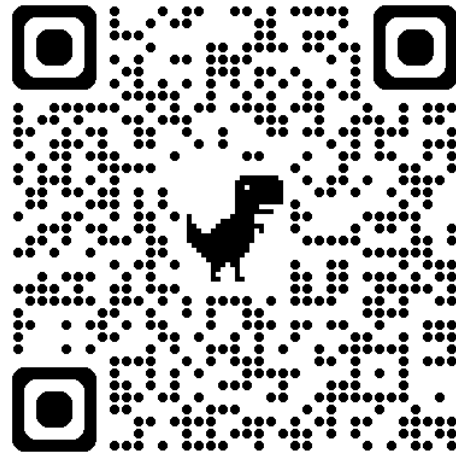
- Septic Smart for Lake Erie
  - Series of in-person workshops
  - Pump out voucher
- Funded through New York State Pollution Prevention Institute



Please note: Septic systems vary. Diagram is not to scale.

# Septic Sector – Funding Opportunities

- Septic System Replacement Fund
- NYS Pollution Prevention Institute Community Grants Program
- Local Health Departments
  - May be able to provide assistance with:
    - Inspections
    - Dye testing
    - Septic system design



Septic System  
Replacement Fund

[nysepticreplace@dec.ny.gov](mailto:nysepticreplace@dec.ny.gov)



Department of  
Environmental  
Conservation

# Septic Sector – Discussion

- What has or has not worked in the past?
- Where are opportunities to implement these types of projects in your municipality/county?
- Are there barriers to implementing these projects in your municipality/county?
- Questions about best management practices, local example, or funding programs?





# Agricultural Best Management Practices (BMPs)

Focused on erosion and nutrient reduction on agricultural lands

Cover Crops

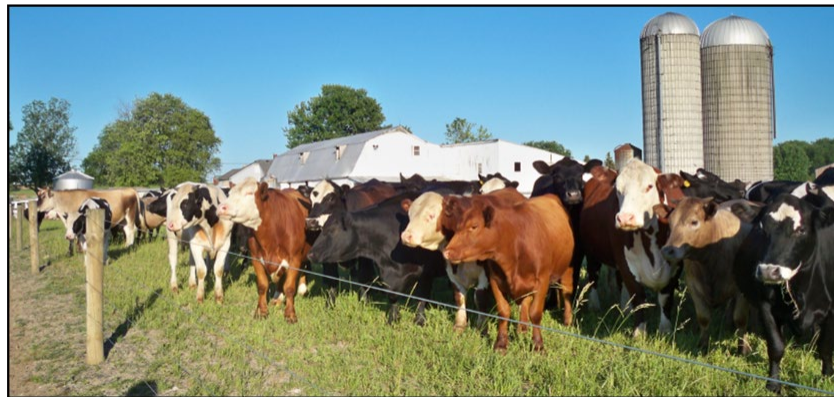
Riparian Buffers

Stream Exclusion Fencing  
(Access Control)

Water & Sediment Control Basins  
(WASCOBs)

Waterways

Stripcropping

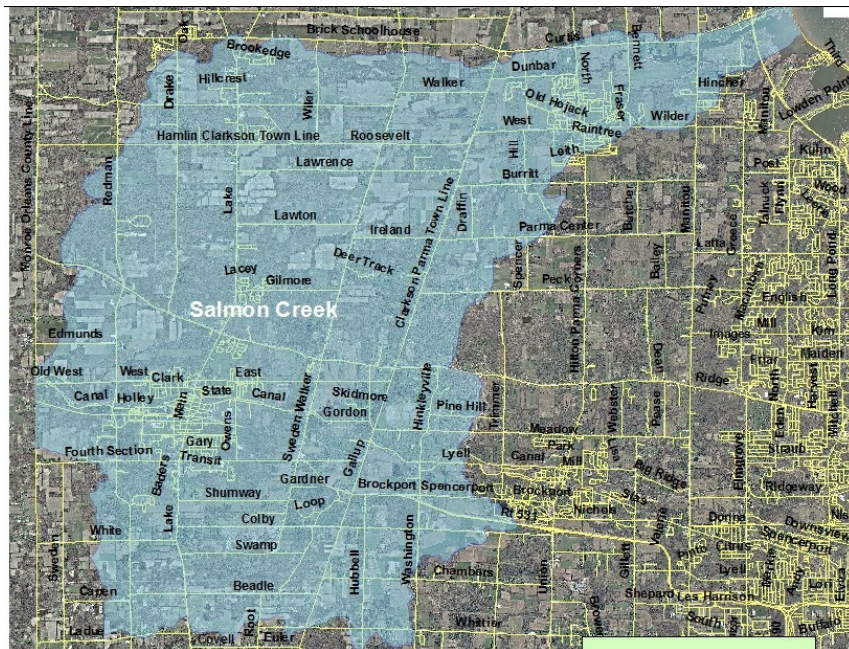


Department of  
Environmental  
Conservation



## Local Example – Cover Crops

- Salmon Creek Watershed
  - 7 farms – 3 years
  - 2 farms – 1 year
- 3,366.35 acres implemented
- 6,732.7 tons of soil saved over the 3 years
- State cost-share: \$125,600
  - AgNPS Rnd 20



# Local Example – Cover Crops

Wheat



Wheat-failed



Rye, Wheat, Radish



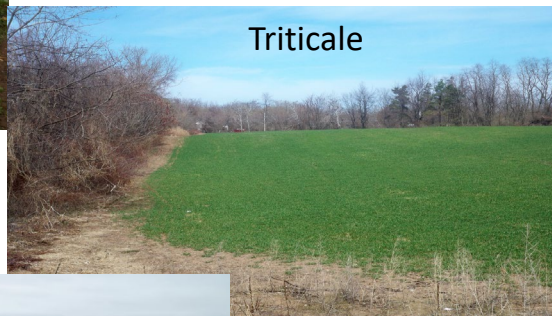
Radish



Barley



Triticale



Rye



# Funding Opportunities – Agriculture

- NYS Agricultural Non-Point Source (AgNPS) Abatement & Control Program
- NYS Climate Resilient Farming (CRF) Program
- NYS Agricultural Environmental Management (AEM) Tier 4 Cost-Share Program
- USDA Environmental Quality Incentive Program (EQIP)





# Agricultural Sector – Questions/Comments

- What has or has not worked in the past?
- Where are opportunities to implement these types of projects in your municipality/county?
- Are there barriers to implementing these projects in your municipality/county?
- Questions about best management practices, local example, or funding programs?



# Next Steps

**Spring 2024**

1

Sign up for the Watershed Advisory Committee.

**Spring 2024**

- Interested stakeholders
- Municipal and county staff
- Academics
- Non-profits
- Other interested and engaged stakeholders

**Summer/Fall 2024**

2

Conduct outreach to local stakeholders to compile a project list for the WIP.

- Project Team
- GRWCCD
- G/FLRPC
- STW RPDB
- STC RPDB
- NYSDEC

**Fall 2024/Winter 2025**

3

Compile draft WIP in consultation with WAC.

- Project Team
- Watershed Advisory Committee

**Spring 2025**

4

Revise WIP based on feedback and prepare final WIP.

- Project Team
- Watershed Advisory Committee



Department of  
Environmental  
Conservation

# Thank You!

- Ryan Elliott
- Southwest Lake Ontario Watershed Coordinator
- 700 Delaware Ave, Buffalo, NY
- [ryan.elliott@dec.ny.gov](mailto:ryan.elliott@dec.ny.gov)
  
- Kelly Emerick
- Executive Director, Monroe County SWCD
- 145 Paul Road, Building 5, Rochester, NY
- [kellyemerick@monroecounty.gov](mailto:kellyemerick@monroecounty.gov)

Genesee River WIP Watershed  
Advisory Committee Interest Form



Department of  
Environmental  
Conservation