



**NORTHEAST MID-ATLANTIC PARTNERSHIP FOR
FORESTS & WATER**

2024 PARTNERSHIP FORUM



NORTHEAST MID-ATLANTIC PARTNERSHIP FOR
FORESTS & WATER

November 20-21, 2024

Welcome to New Haven!



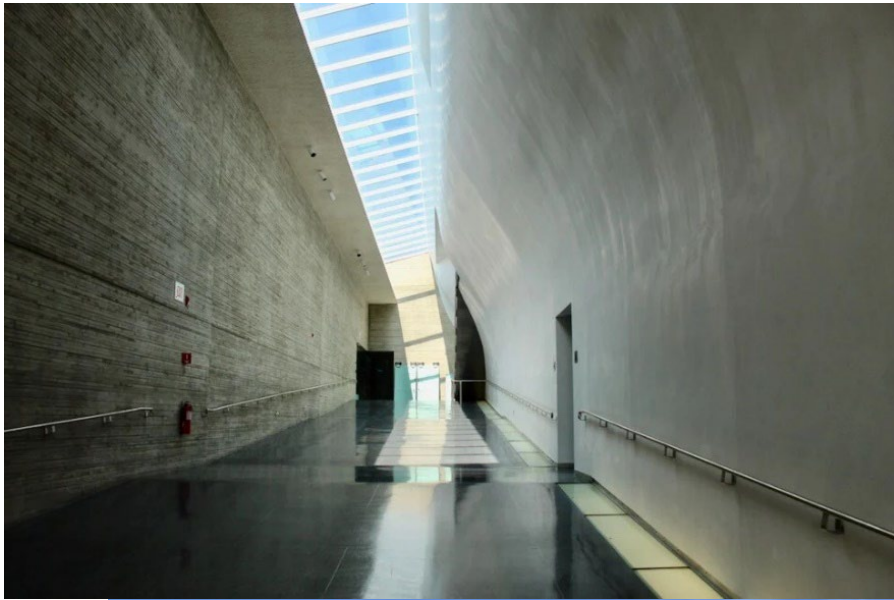
Welcome to the Northeast Mid-Atlantic Partnership for Forests & Water Forum!

Steve Vitko
Environmental Planning Manager

November 2024

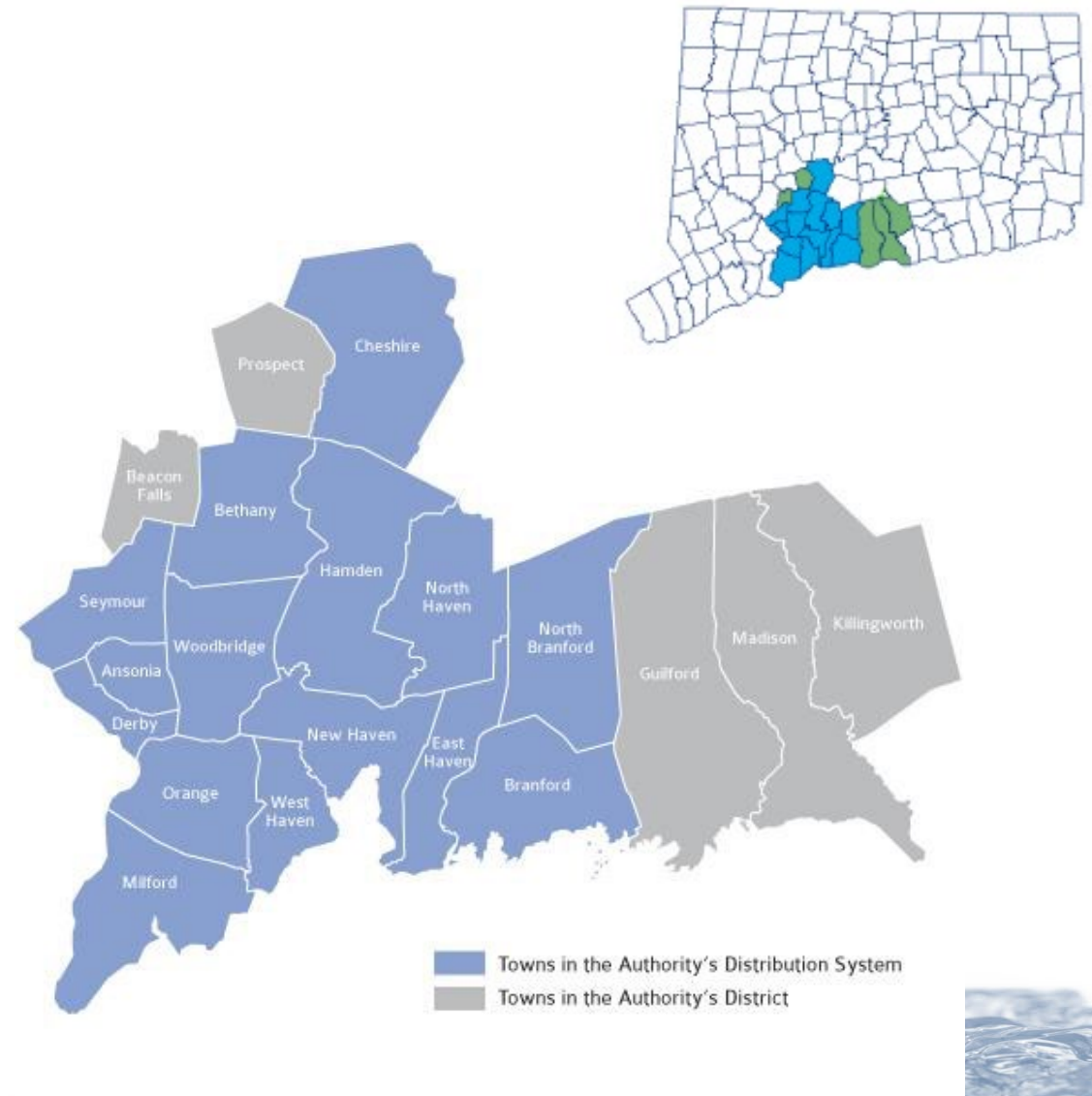


Whitney Water Treatment Plant

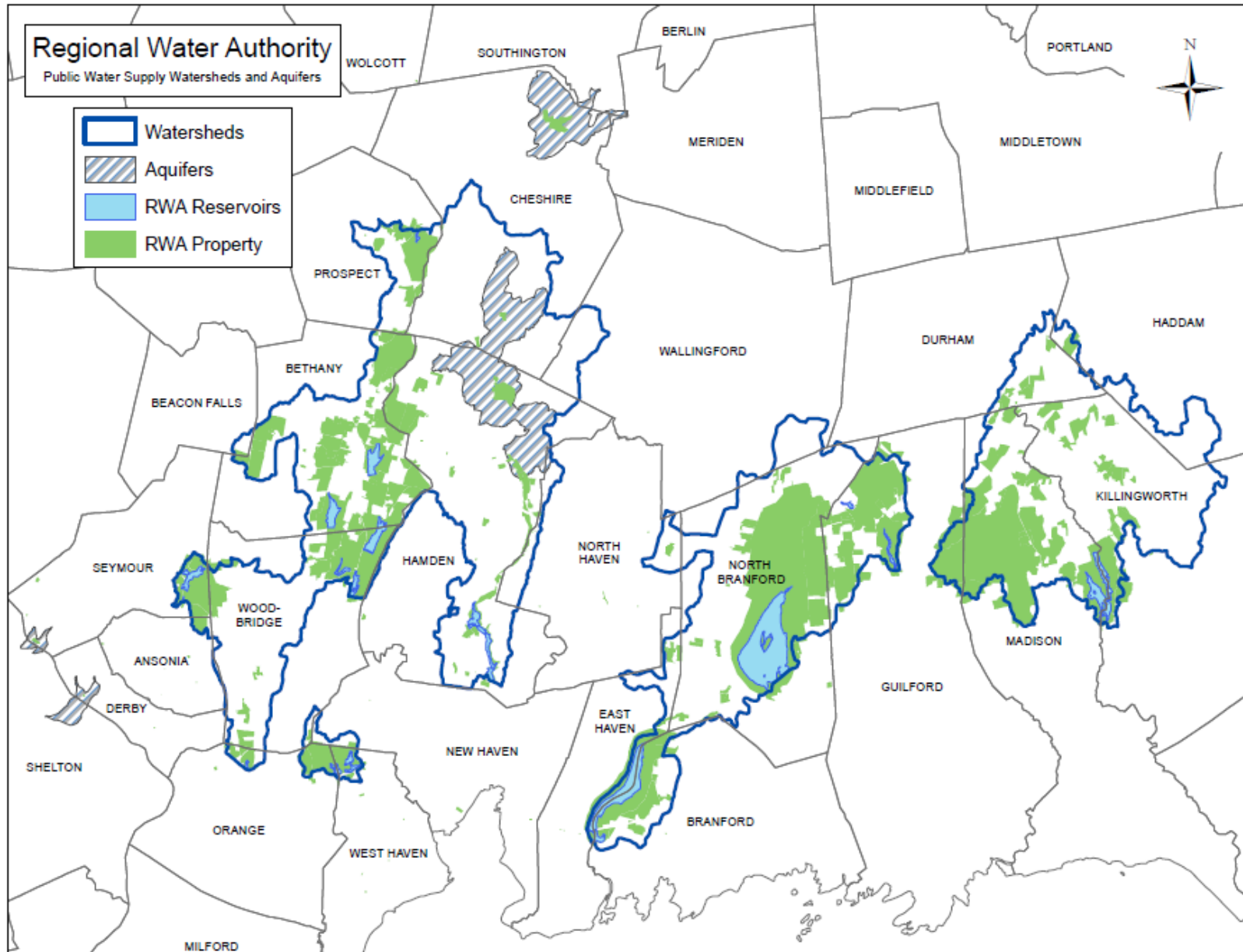


RWA By the Numbers

- Serve average of 45 million gallons of water per day
- ~430,000 customers; 15 municipalities
- Ten active reservoirs
- Four surface water treatment plants
- Seven wellfields
- Maintain 1,700 miles of pipe
- Own over 27,000 acres of watershed protection land
- 60+ miles of recreational trails
- HazWaste Central



RWA Source Water Protection Areas



An aerial photograph of a large reservoir, likely a drinking water source, surrounded by a dense forest. The water is a deep blue, and the surrounding land is covered in trees with vibrant autumn foliage in shades of green, yellow, and orange. The reservoir has several small islands and peninsulas. The text "Forests and Drinking Water Supply" is overlaid in white, sans-serif font in the upper-middle part of the image.

Forests and Drinking Water Supply

William Henley

Sr. Aquatic Scientist SCCRWA



...

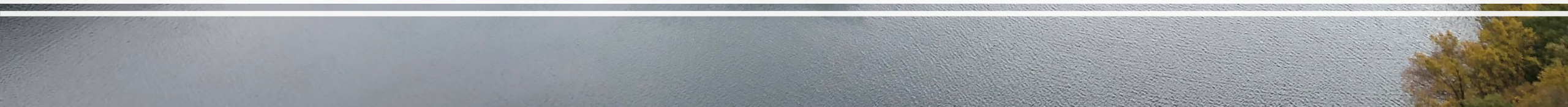
Most important organisms for
filtering drinking water...

BEFORE the water enters
a reservoir or lake...





Importance of Forests in Watersheds



Enhanced Surface Water Quality

- Reduced loading of phosphorous, nitrogen & suspended solids
- Stronger resistance to erosive forces
- Support diverse and resilient ecosystems



Water Flow Modulation

- Higher infiltration rates than other land uses
 - Organic material decomposition creates macropores in soil for infiltration
 - Canopy cover arrests lateral forces from precipitation events
 - Can have major flood mitigation impacts





Groundwater Recharge

- Forested areas can allow for 10-15% greater groundwater recharge than urban land types
- Soil percolation and moisture retention significantly higher in diverse healthy forested ecosystems





Forest Management

- Improve forest block habitat or health
- Salvage of diseased or weather damaged trees
- Maintenance of leaf screens or legacy plantations
- Generate revenue



SCCRWA Field Examples



Patch cut harvest with limited water supply impacts



Biocontrol initiative for hemlock forest retention

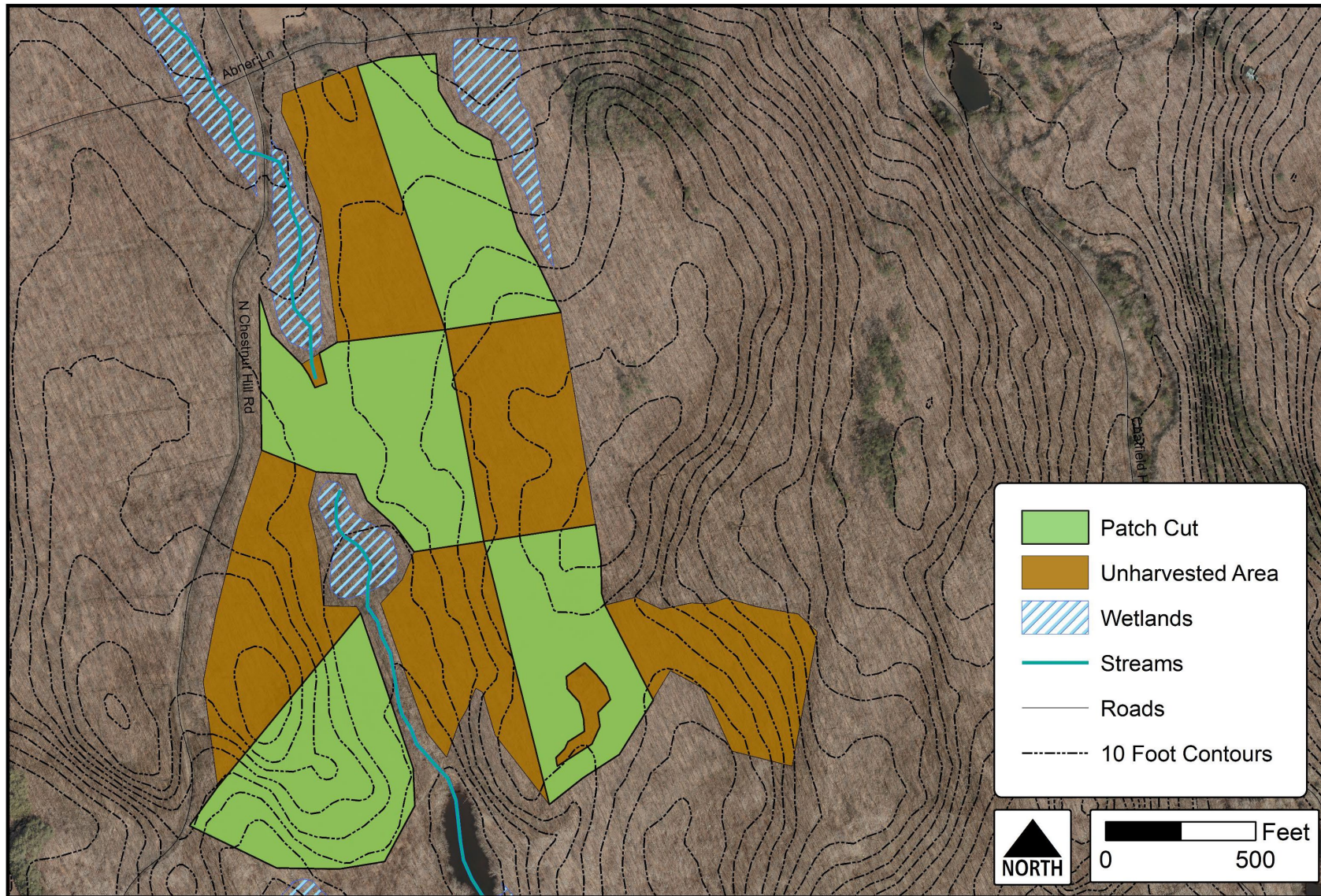


Hammonasset Patch Cut Harvest

- Forest management activity.
- Goal to create early successional habitat.
- 31.5-acre harvest located within $\frac{1}{4}$ mile of drinking water reservoir.

Management Considerations for Water Supply

- Patch cut approach creates uneven aged forest
 - Water demand by early succession species reduced
 - Ensure continuous leaf litter cover
 - Reduce solar penetration

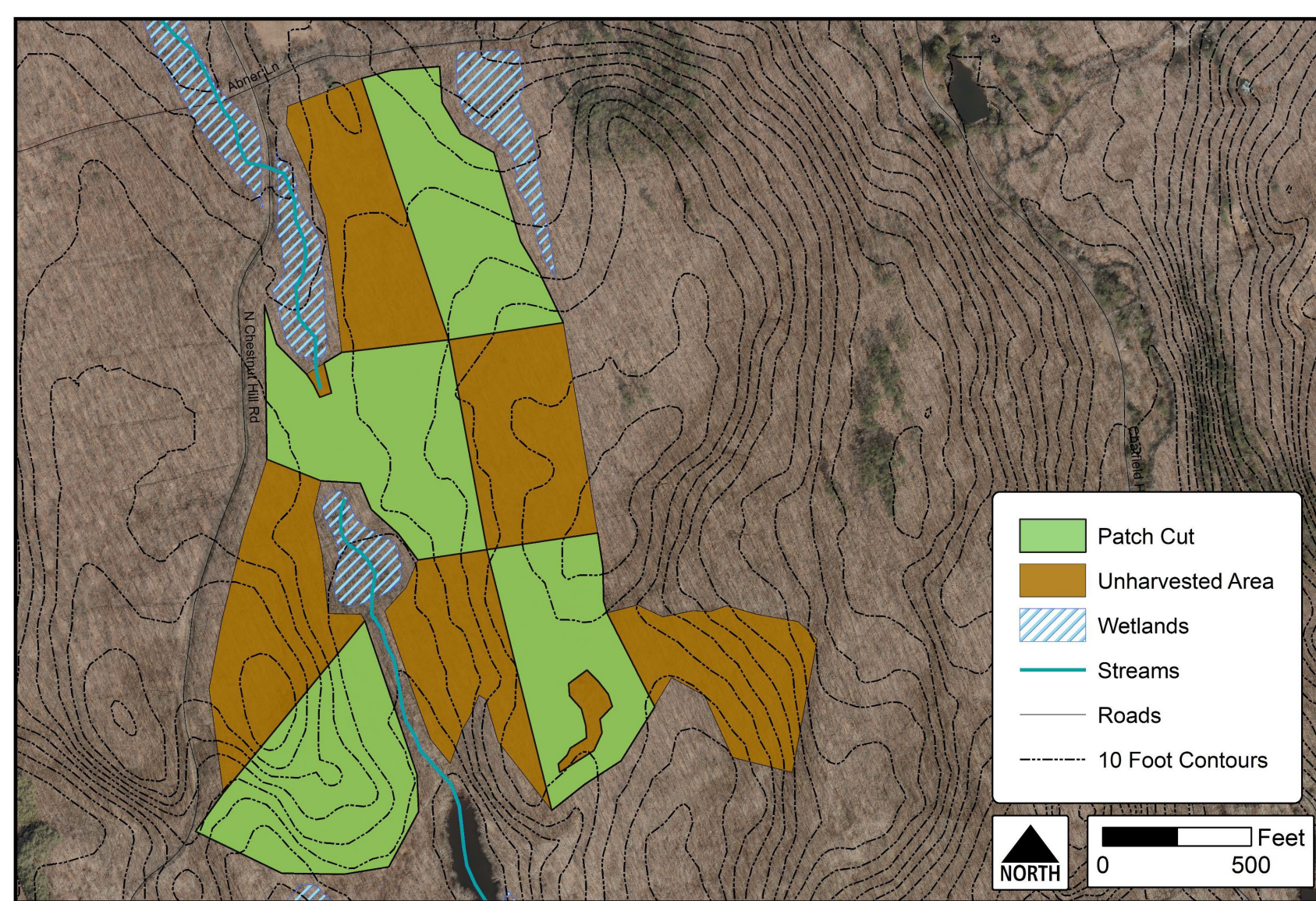


North Chestnut Hill Road Patch Cut Harvest

Killingworth, CT

Management Considerations for Water Supply

- Careful planning to minimize impacts
 - 100 ft buffer from watercourses and wetlands
 - Avoidance of topographically complex areas
 - Culvert crossing and landings reinforced with corduroy matting



North Chestnut Hill Road Patch Cut Harvest

Killingworth, CT

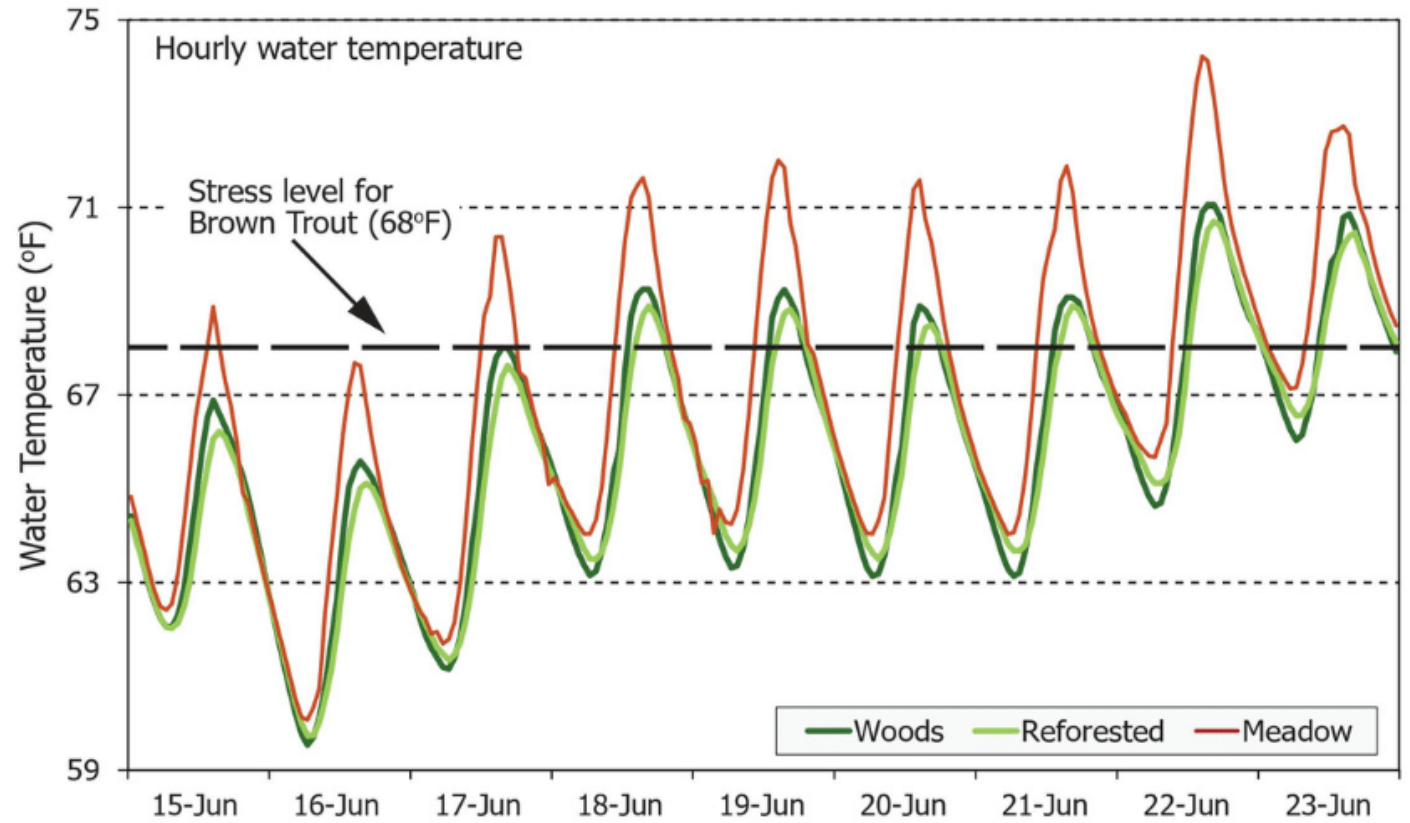


Retention of Hemlock Forests

West River Watershed
Woodridge & Bethany, CT



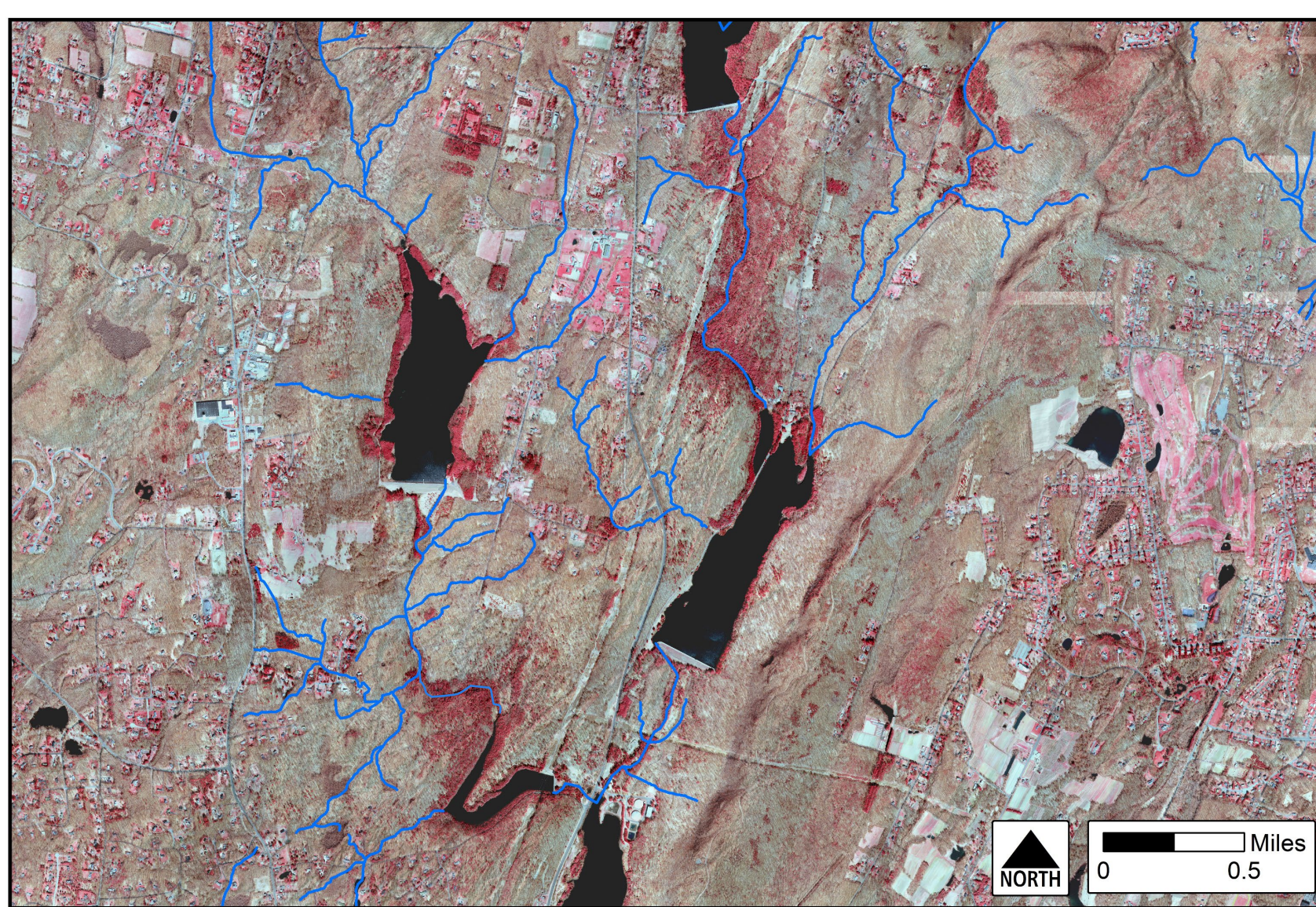
Temperature plays a critical role in water supply



Jennifer Merrill, Ph.D., Stroud Water Research Center

Biocontrol of Hemlock Woolly Adelgid

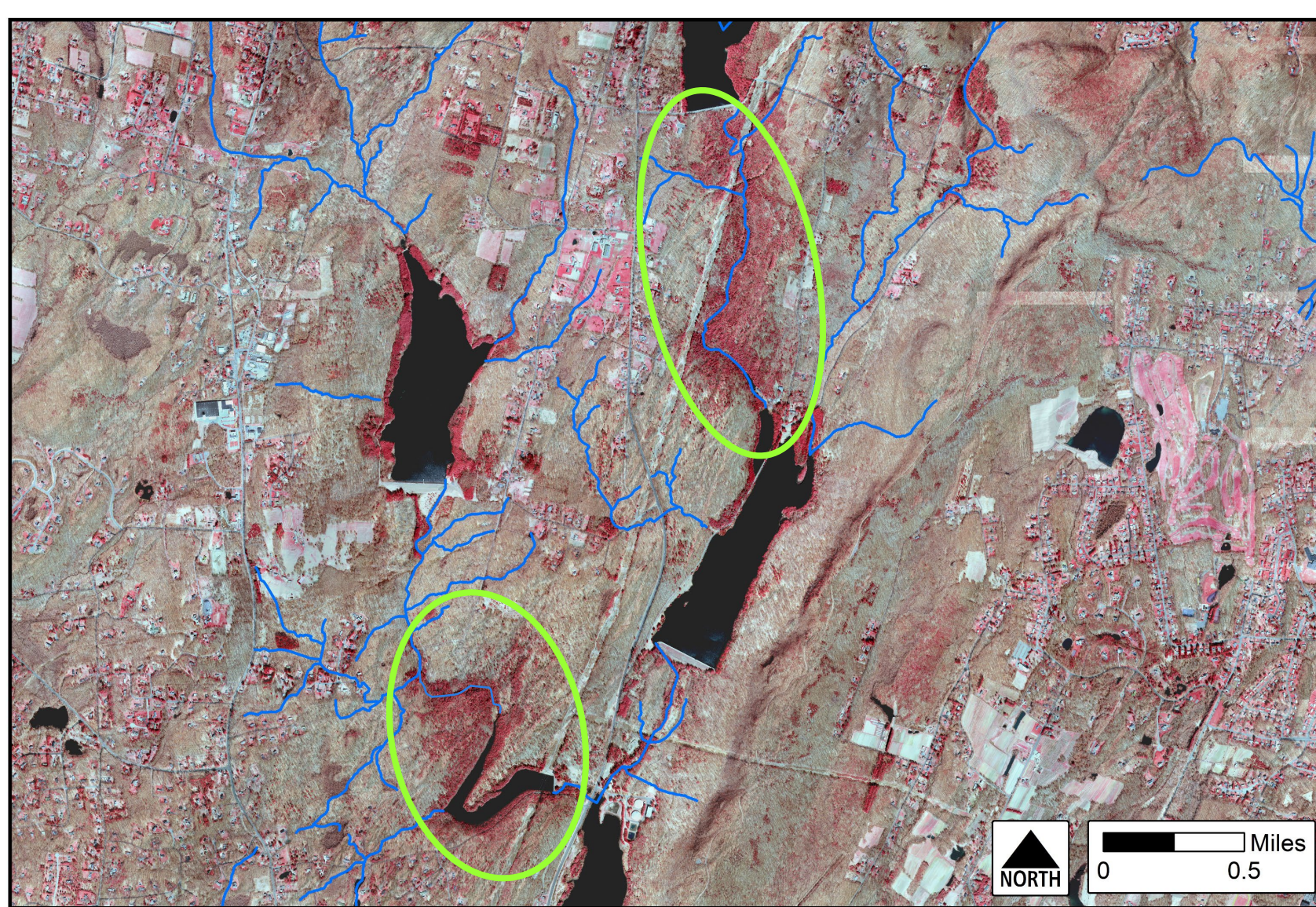
- Hemlock forest stands are critical habitat
- Situated in well drained ravine-like topography
- Provide year round shading of streams



West River Watershed
Woodridge & Bethany, CT

Biocontrol of Hemlock Woolly Adelgid

- Hemlock forest stands are critical habitat
- Situated in well drained ravine-like topography
- Provide year round shading of streams



West River Watershed
Woodridge & Bethany, CT



Liberation of Biocontrol Beetles

- Beetle (*Sasajiscymnus tsugae*) feeds on adelgid in its native range in Japan
- Lifecycle of beetle well matched to that of adelgid
- Both adults and larva of the beetle feed on all life stages of adelgid



Liberation of Biocontrol Beetles

- Periodic releases to sites in dense Hemlock growth
- Releases have shown success elsewhere in Connecticut
- Relatively low cost if stocking is conducted over long period
 - Hemlock decline due to adelgid presence relatively protracted
 - Low risk with high chance of some impact
 - Weather conditions can also slow adelgid growth

Again, Welcome!
Questions?



AGENDA FOR TODAY



Introductions & Welcome to RWA

Forests & Drinking Water Supply

Framing the Day, Partnership Overview & Partnership in Action

Field Trip Recap

Success Stories from the Region

Water Utility Panel

Forestry Panel

Demystifying Funding Panel

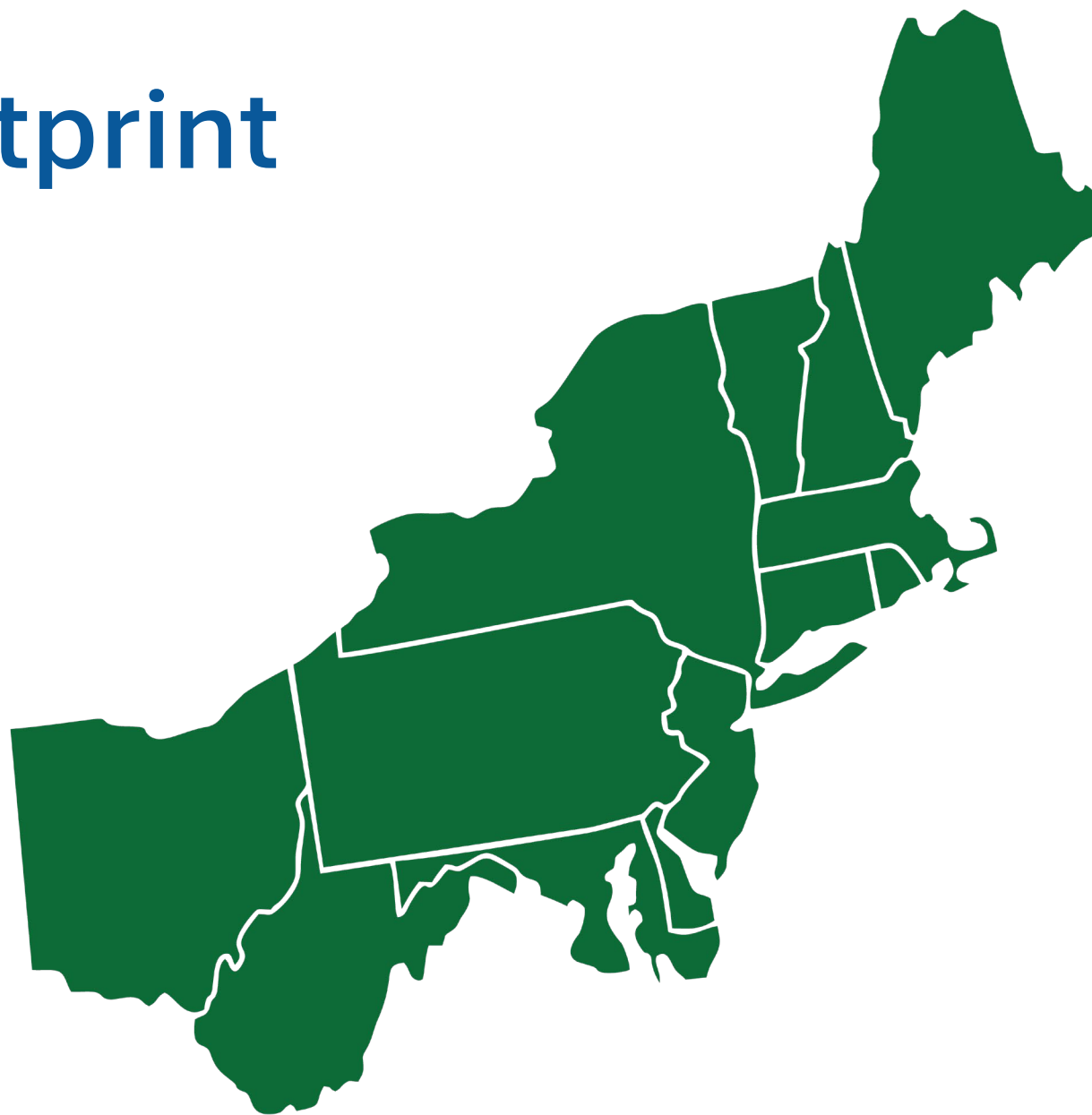
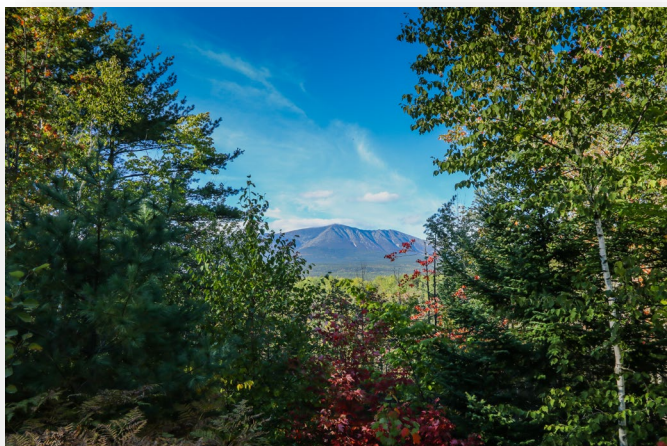
Small Group Breakouts

The Partnership

- The Northeast Mid-Atlantic Partnership for Forests and Water is an interagency, multi-partner collaborative to enhance concerted, science-based restoration of priority forest landscapes to improve water quality and quantity in 13 states in the Northeastern and Mid-Atlantic United States.
- The Partnership's footprint encompasses Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Pennsylvania, West Virginia, and Ohio.



Partnership Footprint



Partnership History

- Initial conversations between EPA and USFS started in 2019 to consider a way to model a Northeast partnership after the Southeastern Partnership for Forests and Water.
- In June 2022, a virtual forum was held with federal, state, and non-profit attendees from Maine to West Virginia. More than 80 attendees joined the meeting and expressed support for the concept of a Northeast Mid-Atlantic Partnership for Forests and Water.
- Following the meeting, NACD developed an LSR grant with support from Partners and all thirteen State Foresters. NACD was awarded an LSR grant in summer 2023 and an in-person forum was held in Edison, NJ in May 2023 officially launching the Partnership.



Partnership Mission & Vision

Mission

To create a collaborative network that leverages resources to manage, restore, and conserve forests and protect water resources.

Vision

Resilient and well-managed forests that improve water resources and create healthy watersheds.

Goals

These four goals are long-term goals for the Partnership. Annual objectives and strategies to meet these goals will be set based on grant requirements, partnership needs, and opportunities to best address these goals.

1. Foster Collaboration between the Forestry and Water Sectors

2. Build Capacity to Increase Work in the Region

3. Increase Implementation of BMPs

4. Align Communication and Outreach

What's New?

- In June 2024, the National Association of Conservation Districts (NACD) was awarded a second Landscape Scale Restoration grant for the Partnership. This new grant will enable the Partnership to increase collaborative efforts, expand, develop and disseminate additional resources, and implement new projects in West Virginia and Pennsylvania.
- The Partnership has launched a website to share various communications materials as well as updates via newsletters and announcements!



What's Next?

- **In Connecticut**, implementers will continue to support collaborative partnerships that equip landowners with the resources and knowledge necessary to make informed decisions about their forested lands.
- **In Ohio**, implementers will provide oversight and guidance to conservation efforts in approximately 30 counties within the Appalachian region that are classified as “most disadvantaged” or “disadvantaged” by the University of Michigan’s “Index of Deep Disadvantage” equity maps.
- **In Pennsylvania**, the partners will establish at least four riparian buffer demonstration sites. These efforts, including associated state outreach will reach at least 5,000 private forest landowners, partners, and stakeholders.
- **In West Virginia**, implementers will meet in May to identify priority forested areas and critical watersheds for potential implementation projects that serve local communities. Implementers will also support projects that target wildlife habitat improvements, state forest action plan priorities, and water quality protection.

What the Partnership Can Do For You

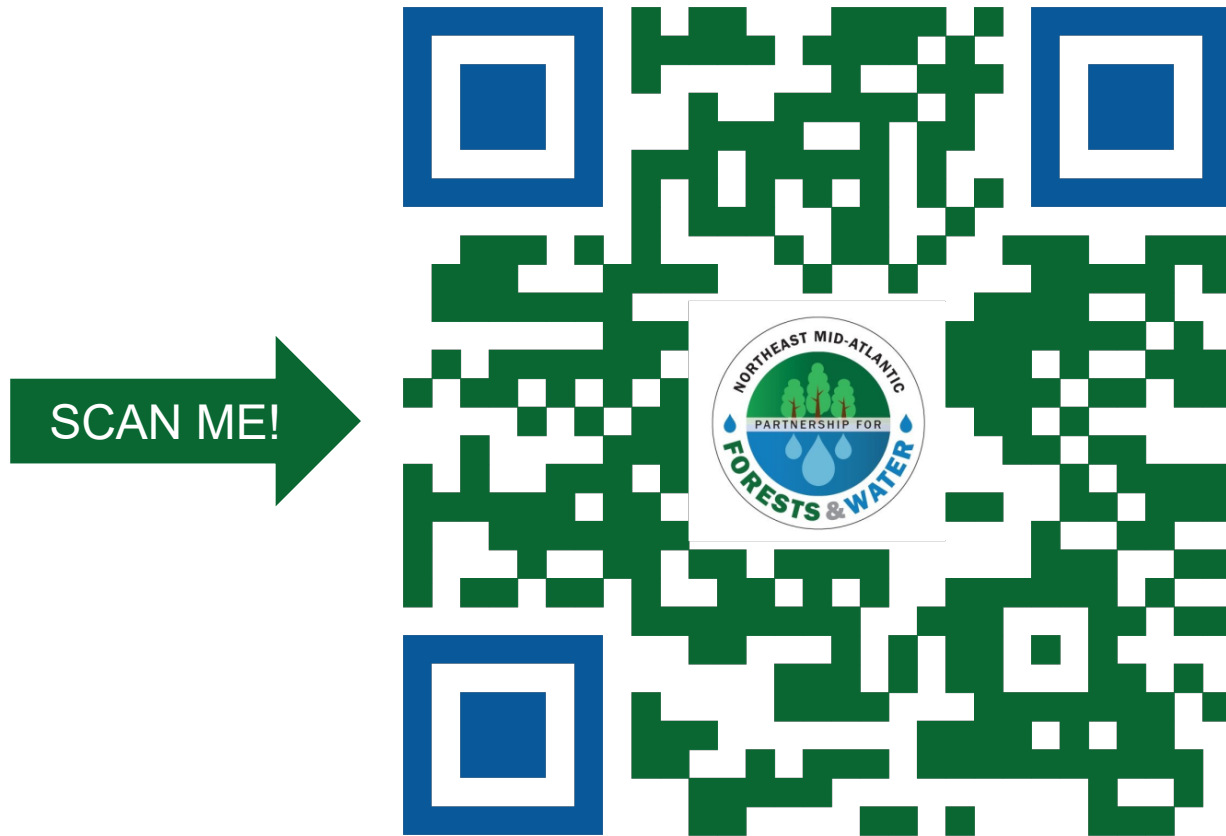
- A network of partners working together to further a shared vision to have resilient and well-managed forests that improve water resources and create healthy watersheds.
- Opportunities to meet and collaborate with partners across 13 states.
- Resources, events, and tools to help you do more.
- New ways to leverage knowledge, funding, and connections to increase local and large-scale implementation.
- Success stories and insights from follow practitioners on forest and water management.

How Can You Get Involved?

- Where can I learn more?
 - Visit our website to read more about the Partnership, access additional resources, subscribe to our newsletter, and inquire about collaborative opportunities. Head to northeastmidatlanticpartnershipforforestsandwater.com and add it to your bookmarks!
- Who can I contact for more information or to get involved with the Partnership?
 - The Partnership Coordinator, Annica McGuirk, can be reached at Annica-McGuirk@nacd.net. You can also submit an inquiry form for events or to get involved with the Partnership on our [News & Events Page](#).



Website/Newsletter



Re-cap of field day for NEMAP 11/20/2024

Joshua Tracy

Forester II





Sediment
Detention
Basin



Seymour
Slashwall



Landscape
Scale
Restoration
Grant



Steam
Weeder



Web Brook Cove Sediment Detention Basin



Credit: E. Moore



Credit: E. Moore



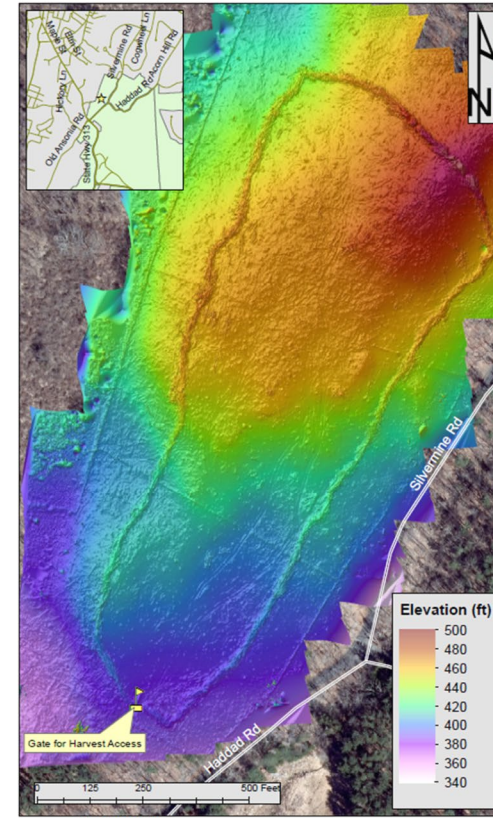
Seymour Slash Wall

Slash Wall Harvest- Seymour, CT (Ortho)



Map Created By:
Joshua Tracy
Invasive Species management Technician

Slash Wall Harvest- Seymour, CT (Color Topography)



Map Created By:
Joshua Tracy
Invasive Species management Technician

Seymour Slash Wall

Slash walls and stump sprouting Ward, Ward, Barsky Preliminary Year 2 Results

Browse exposure reduces observed sprouting success and sprout height growth

Jeffrey S. Ward (Chief Scientist Emeritus)¹, Elisabeth B. Ward (Assistant Scientist)², and Joseph P. Barsky (Lead Technician)
 Department of Environmental Science and Forestry
 The Connecticut Agricultural Experiment Station
 123 Huntington Street, New Haven, CT 06511
¹(203)-974-8495, jwcaes@gmail.com, ²(203) 974-8486, Elisabeth.ward@ct.gov

Collaborators provided and assisted with data collection:
 • SCC-RWA, CT
 • CT MDC - A, B
 • Massachusetts Fish & Wildlife
 • McLean Wildlife

This material is based upon work supported by the Connecticut Agricultural Experiment Station, accession number CONH-585.

ABSTRACT - We established a study with regional water metrics and deer behavior points we measured the species (n=1,509). The end of first and second

For all species, dominant growth was greater during growth was independent was much greater inside (2.3 ft) and sugar maple

Surprisingly, we observed differed between those: 77% and 55% for pignut not differ between inside (*Liriodendron tulipifera*) hickory sprouts before (summer). Differences in year increased for north management objective, the proportion of stump

Slash walls and stump sprouting Ward, Ward, Barsky Preliminary Year 2 Results

Sprout success is defined as stump that had a live sprout when observed at the end of the growing season. Because of low sample sizes, black and scarlet oaks with combined as were white and chestnut oaks.

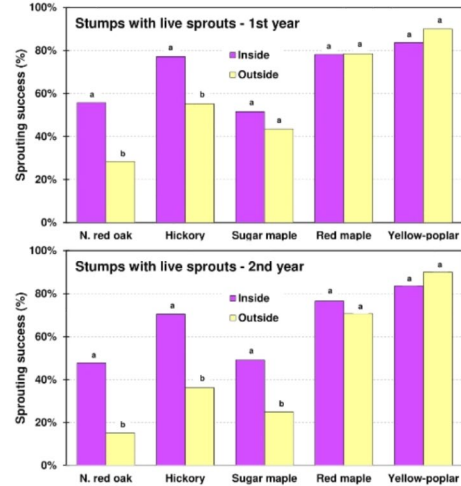
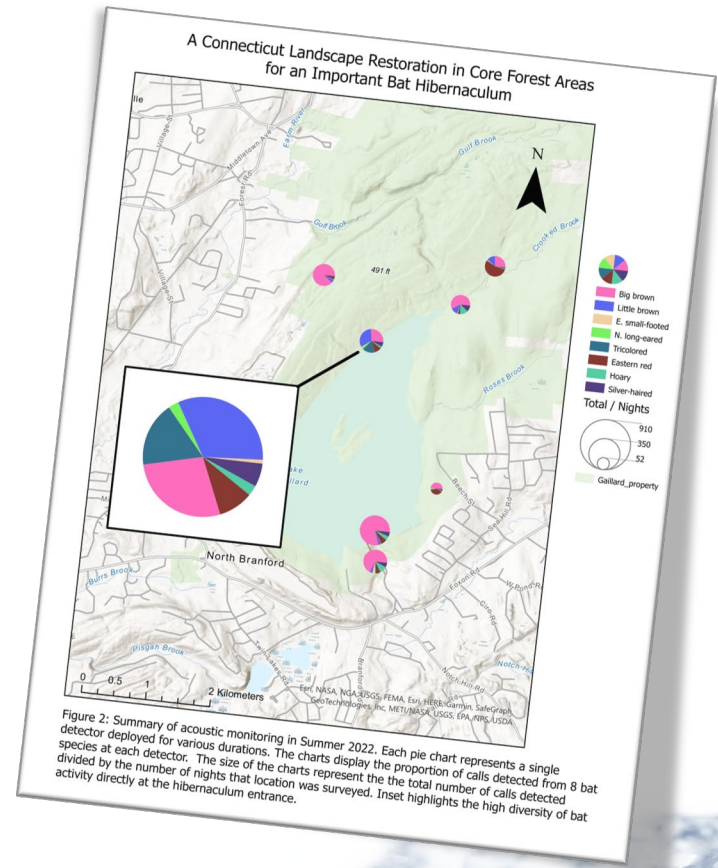
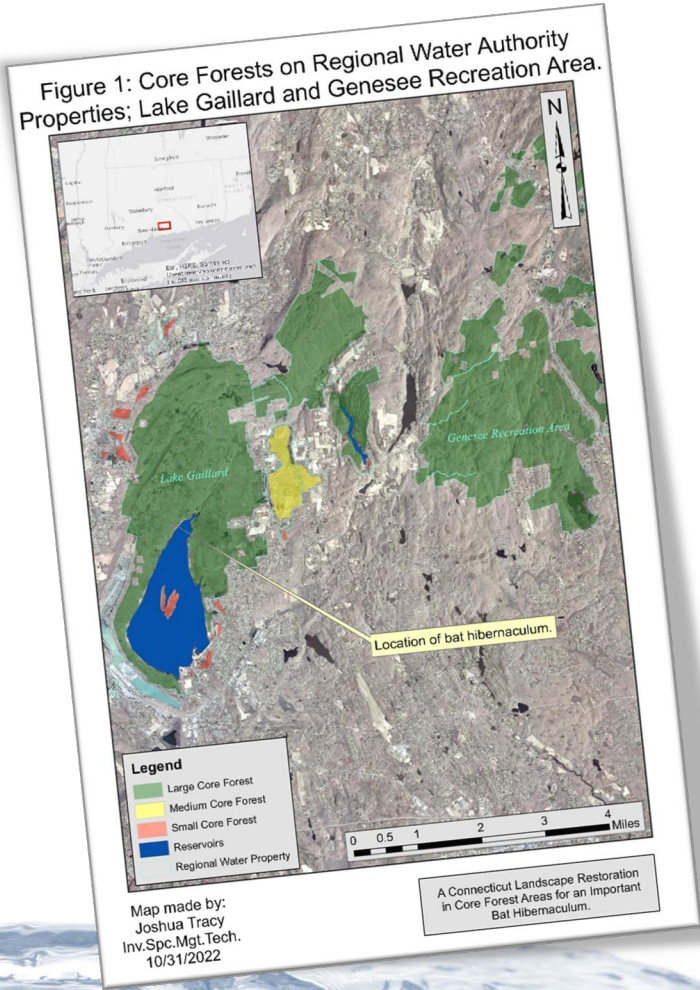


Figure 2. Proportion of stumps with live sprouts inside and outside slash walls at end of first and second growing season in a southern New England study.

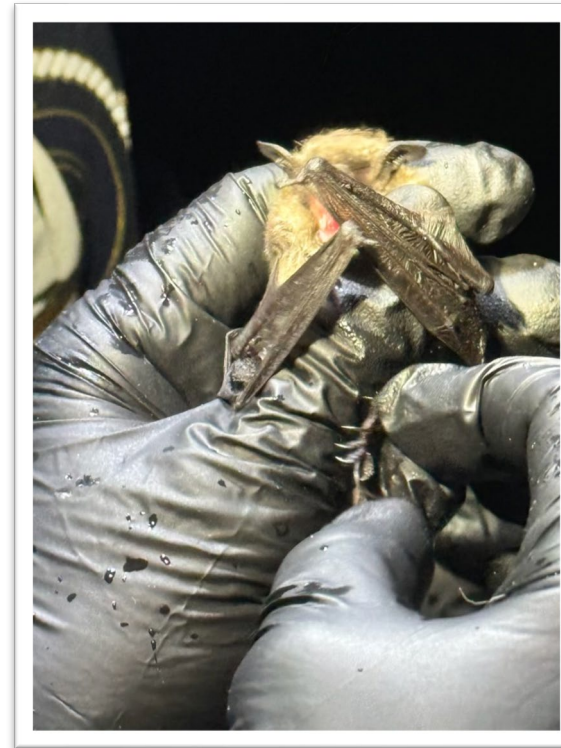
Page 6 of 10



A Connecticut Landscape Restoration in Core Forest Areas for an Important Bat Hibernaculum



A Connecticut Landscape Restoration in Core Forest Areas for an Important Bat Hibernaculum



Credit: J. Doyle



Weedtechnics Satusteam Steam Weeder



Model Specifications:	SW900
Water Usage:	600L / hr
Petrol Pump Motor:	1.9L / hr
Diesel Burner:	7.5L / hr
Weight:	160-230 kg

***Note: the consumption figures are guide-only.**

<https://www.weedtechnics.com/steam-weeding-products/>



Weedtechnics Satusteam Steam Weeder





Joshua Tracy

Forester II

South Central Connecticut Regional Water Authority

90 Sargent Drive | New Haven, CT 06511

Phone: 203-401-2722 | Fax:

Email: jtracy@rwater.com | Website: <http://www.rwater.com>



An aerial photograph of a vast, dense field of small, bright green plants, likely a type of ground cover or low-growing vegetation. The plants are packed closely together, creating a textured, mosaic-like appearance. The colors range from vibrant lime green to slightly darker, more muted greens, with some brownish patches visible, possibly due to soil or shadows. The overall scene is bright and natural. Overlaid on the center of the image is the text "Thank you." in a white, elegant, cursive script font. The text is clearly legible against the green background.

Thank you.



SUCCESS STORIES FROM THE REGION

DIVERSIFICATION: The Key to Locally Led Conservation

Michael Kent, Cape Atlantic Conservation District (NJ)

"Got Trees?" Thoughts on Forest Conservation, Water Quality and Climate Change

Tim Abbott, Housatonic Valley Association (CT)

Tools for Source Water Protection and Watershed Assessment in CT

David Dickson, UConn (CT)



Decision Support Tools for Watershed Assessment and Sourcewater Protection

Dave Dickson, UConn CLEAR
On behalf of Emily Wilson
and Qian "Rachel" Lei-
Parent
11/21/24

<https://s.uconn.edu/wshedtool>

https://s.uconn.edu/sourcewater_protection

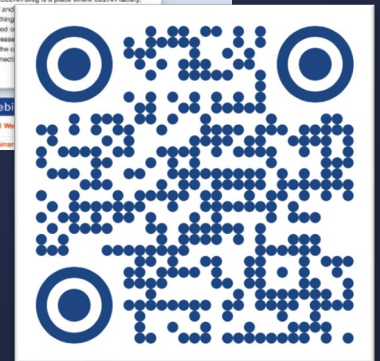


provides research, tools, training, information, and assistance to community decision makers and other audiences in support of:

- better land use decisions
- healthier natural resources
- more resilient communities



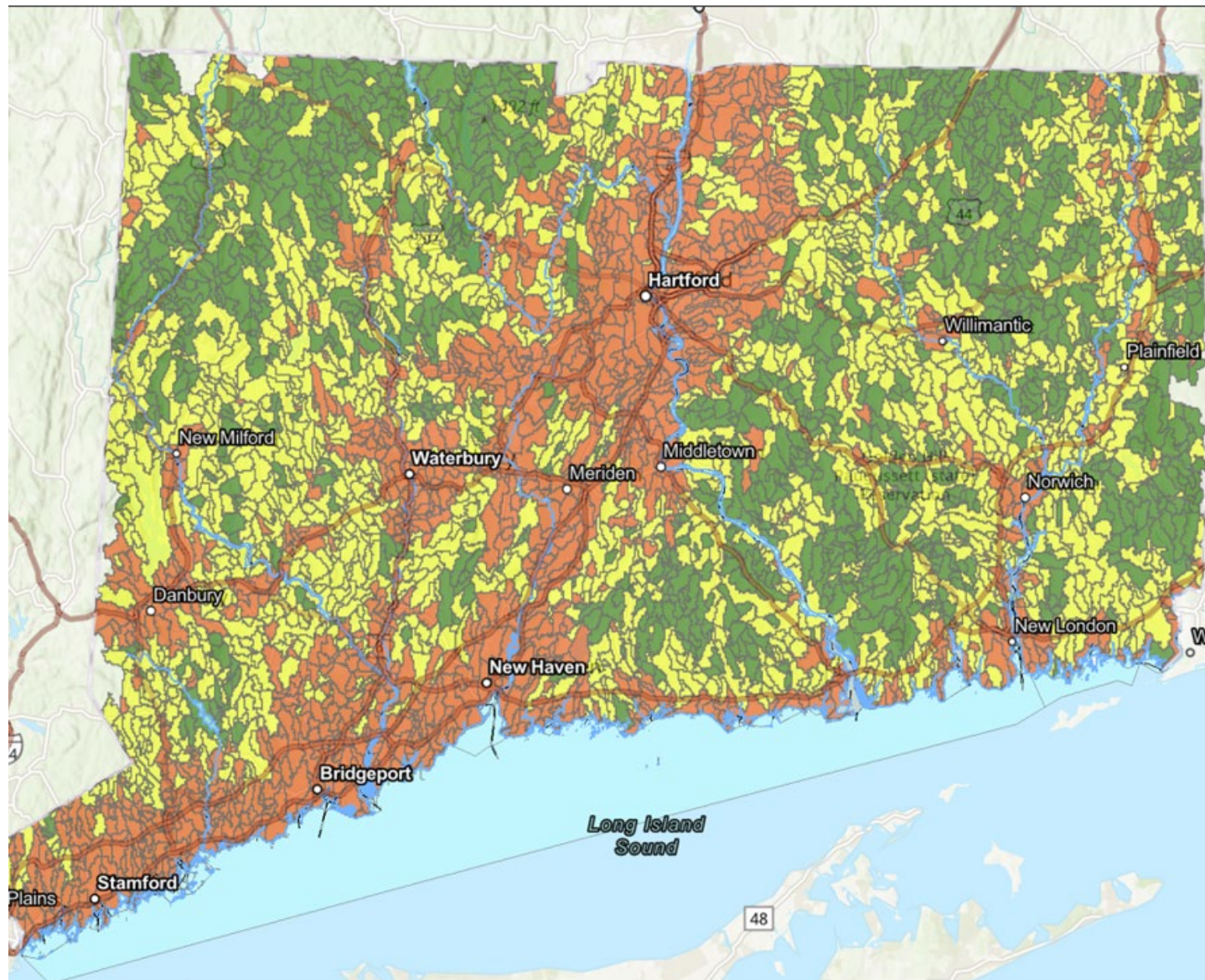
Center for Land Use Education and Research (CLEAR)



<https://clear.uconn.edu>

Local Watershed Assessment Tool

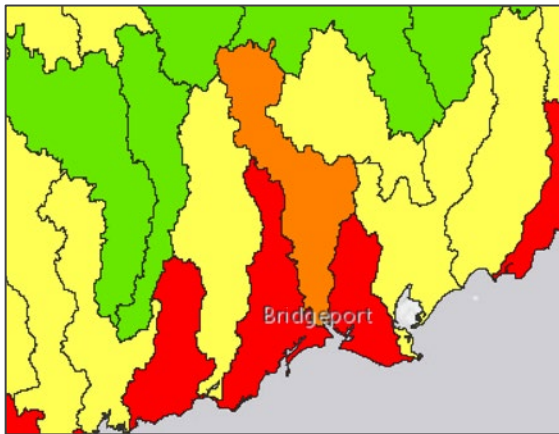
Effort to assess the health of small watersheds in CT based on high resolution (1M) land cover in upland & riparian areas



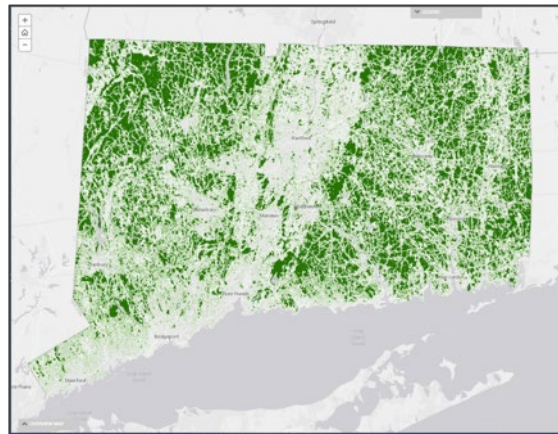
Land Cover as Water Quality Indicators

The scientific literature points to the critical role that various land cover factors have in watershed health

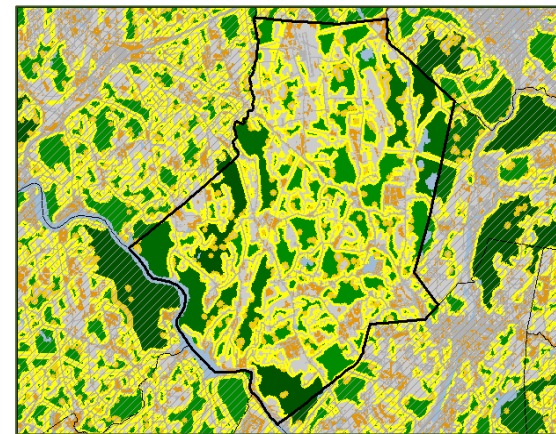
IMPERVIOUS COVER



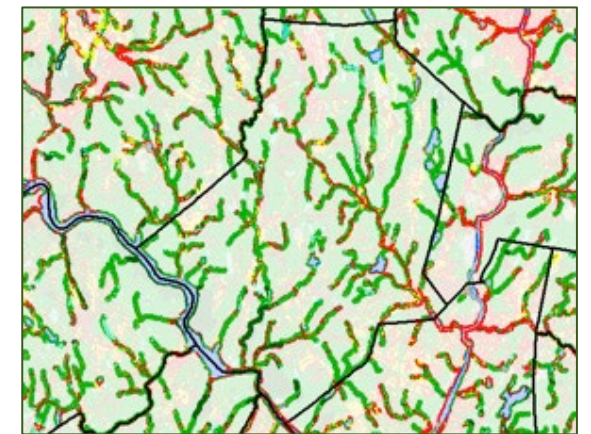
FOREST COVER



CORE FOREST



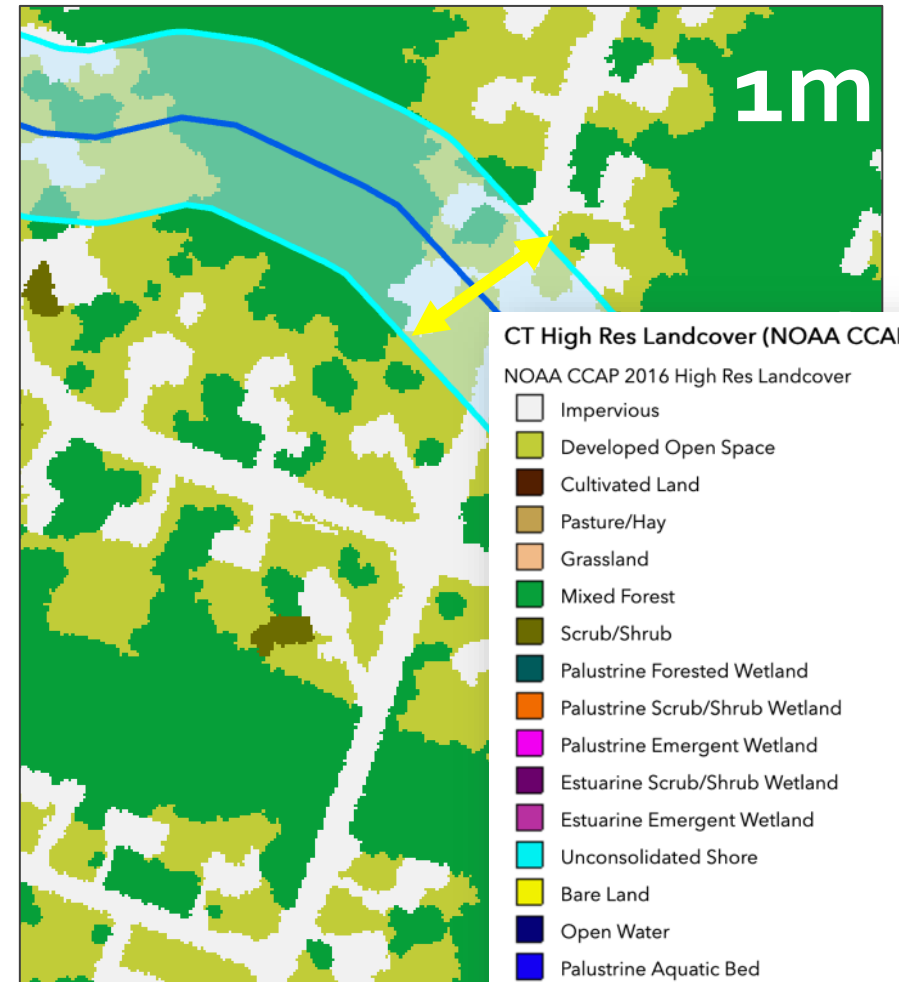
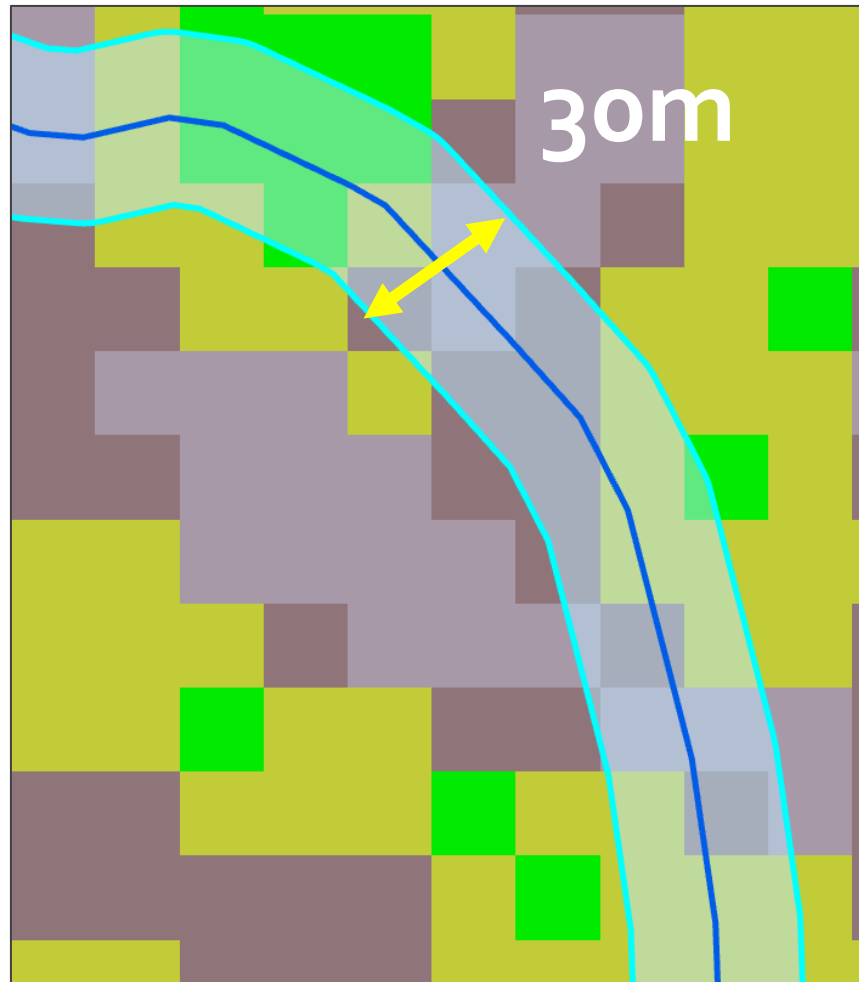
RIPARIAN CORRIDORS



Generally, these indicators are more accurate at smaller watershed sizes

2020: a leap in land cover resolution (catalyst #2)

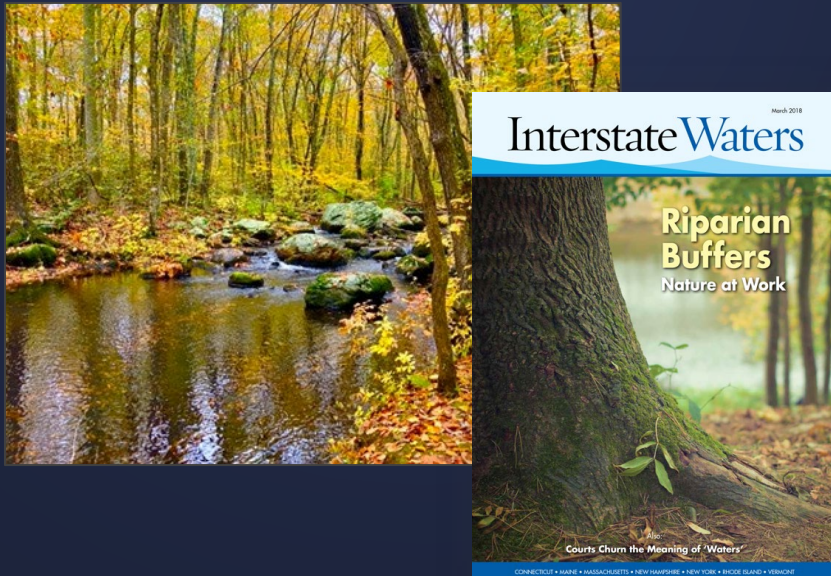
New **1m resolution** NOAA C-CAP land cover dataset (based on 2016 imagery)



- CT High Res Landcover (NOAA CCAP)
- NOAA CCAP 2016 High Res Landcover
- Impervious
 - Developed Open Space
 - Cultivated Land
 - Pasture/Hay
 - Grassland
 - Mixed Forest
 - Scrub/Shrub
 - Palustrine Forested Wetland
 - Palustrine Scrub/Shrub Wetland
 - Palustrine Emergent Wetland
 - Estuarine Scrub/Shrub Wetland
 - Estuarine Emergent Wetland
 - Unconsolidated Shore
 - Bare Land
 - Open Water
 - Palustrine Aquatic Bed
 - Estuarine Aquatic Bed

The Combined Condition Index

A Biological Condition Gradient approach



- CCI is a land cover-based metric that describes the probable health of a watershed
- CCI is calculated to have best fit with Macroinvertebrate Multi-metric Index (MMI)
- CCI ranges between **0** (poor) and **1** (excellent). Higher CCI score indicates better water quality.
- CCI is based on the land cover characteristics of riparian buffer and upland watershed.

How is CCI Calculated?

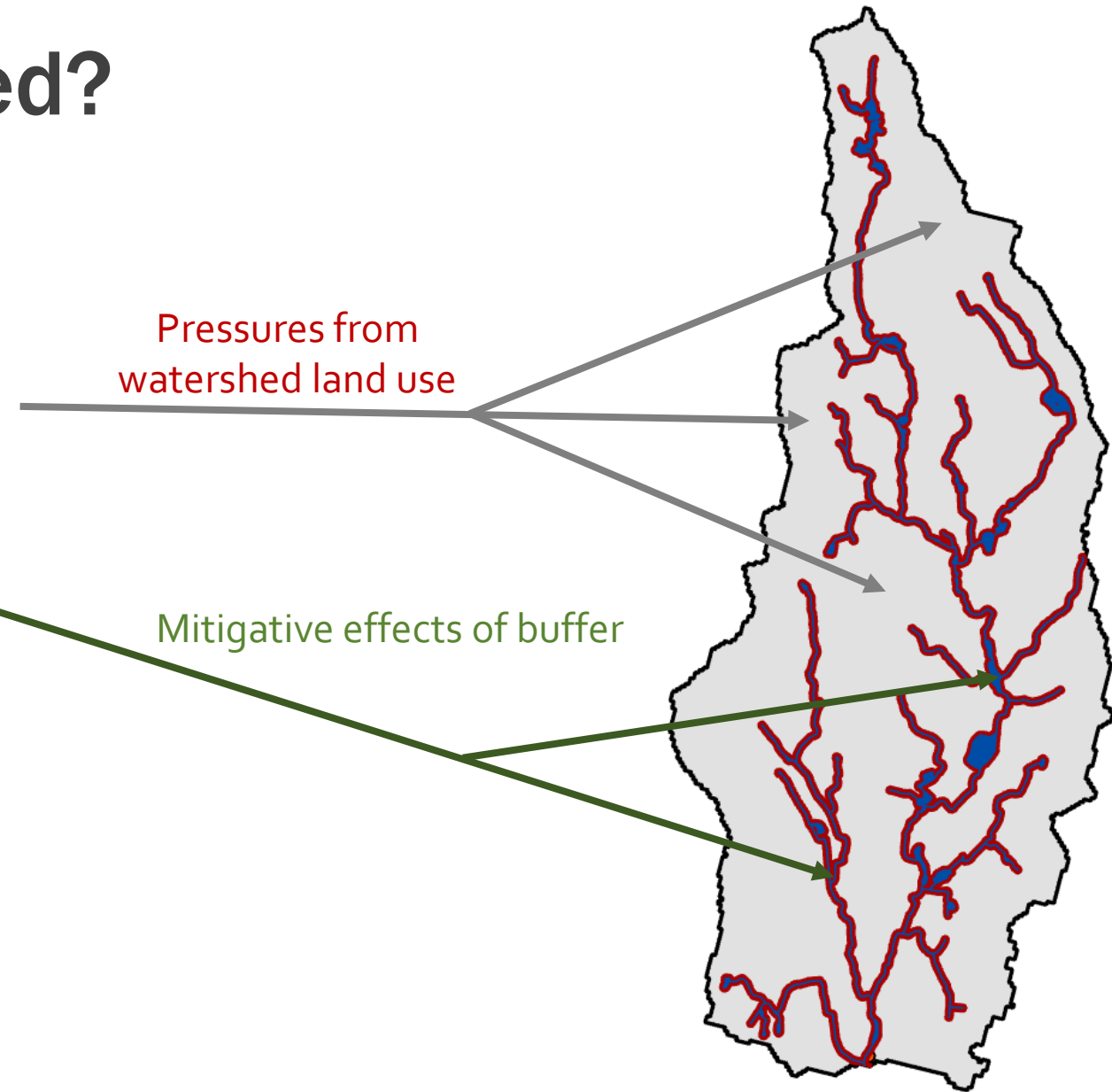
(black box version)

1. Divide a watershed into

- **upland watershed** (everything outside the buffer)
- **100' riparian buffer**

2. Compare land cover makeup of the two zones.

- Natural
- Impervious
- Agriculture-like

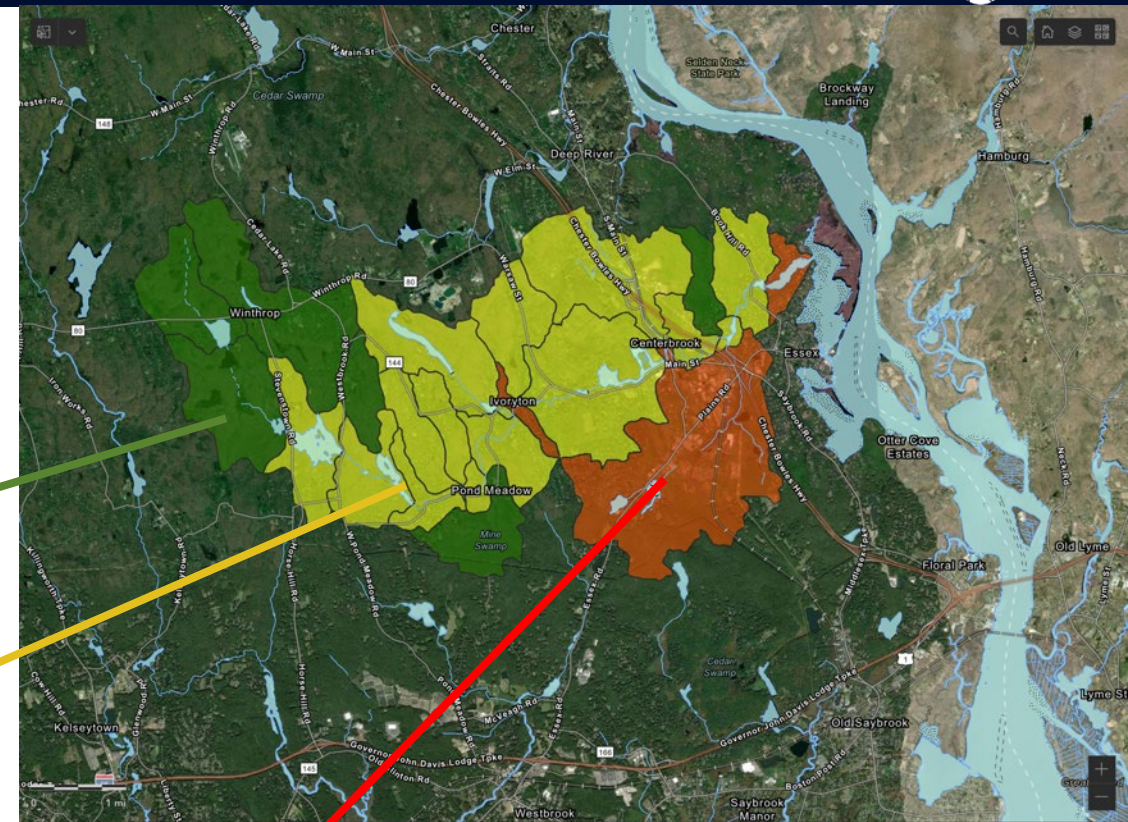


CCI Management Category indicates the state of, and suggested land use strategies for, a local basin

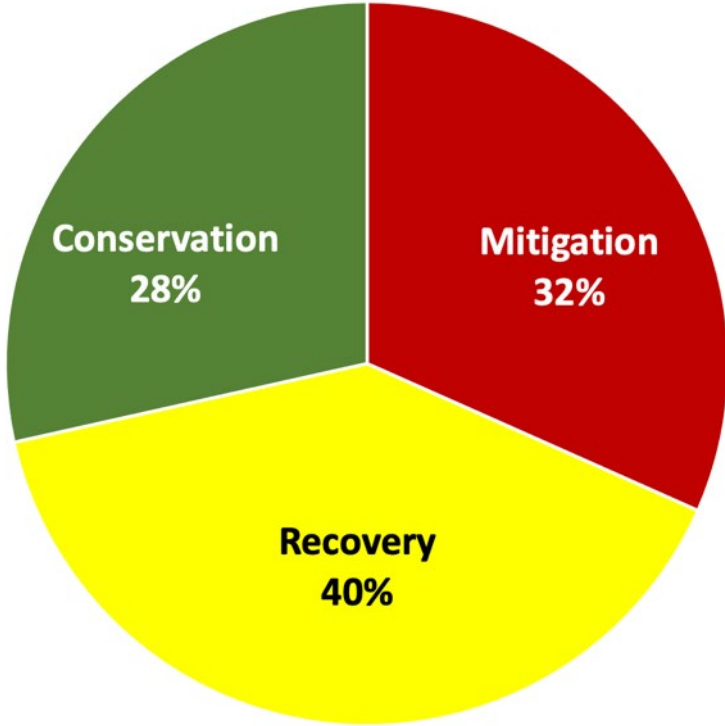
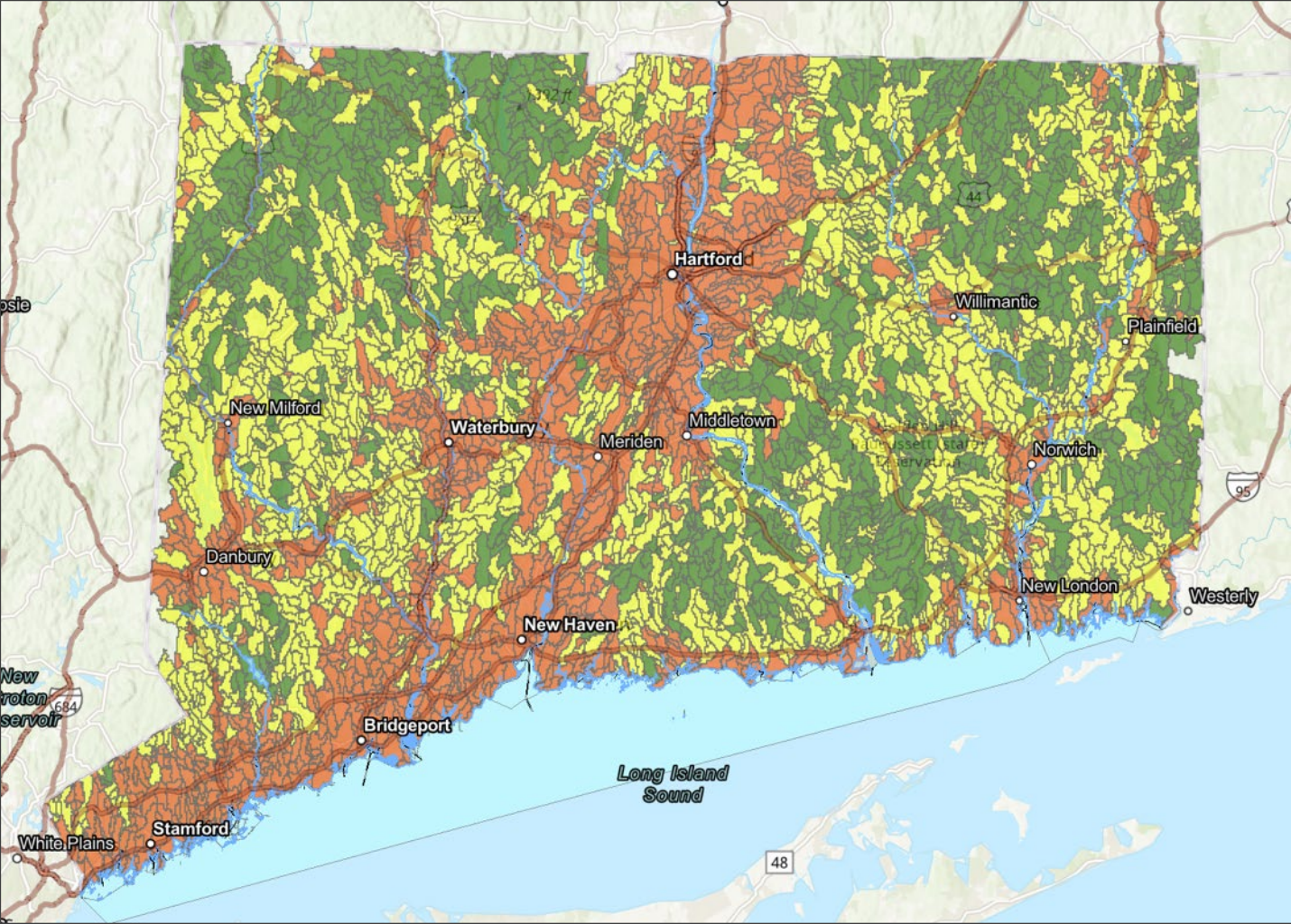
Conservation: CCI ≥ 0.75
protective strategies

Recovery: $0.43 < CCI < 0.75$.
reforesting, riparian protection, mitigation (GSI)

Mitigation: CCI < 0.43
riparian restoration, urban tree canopy initiatives, GSI

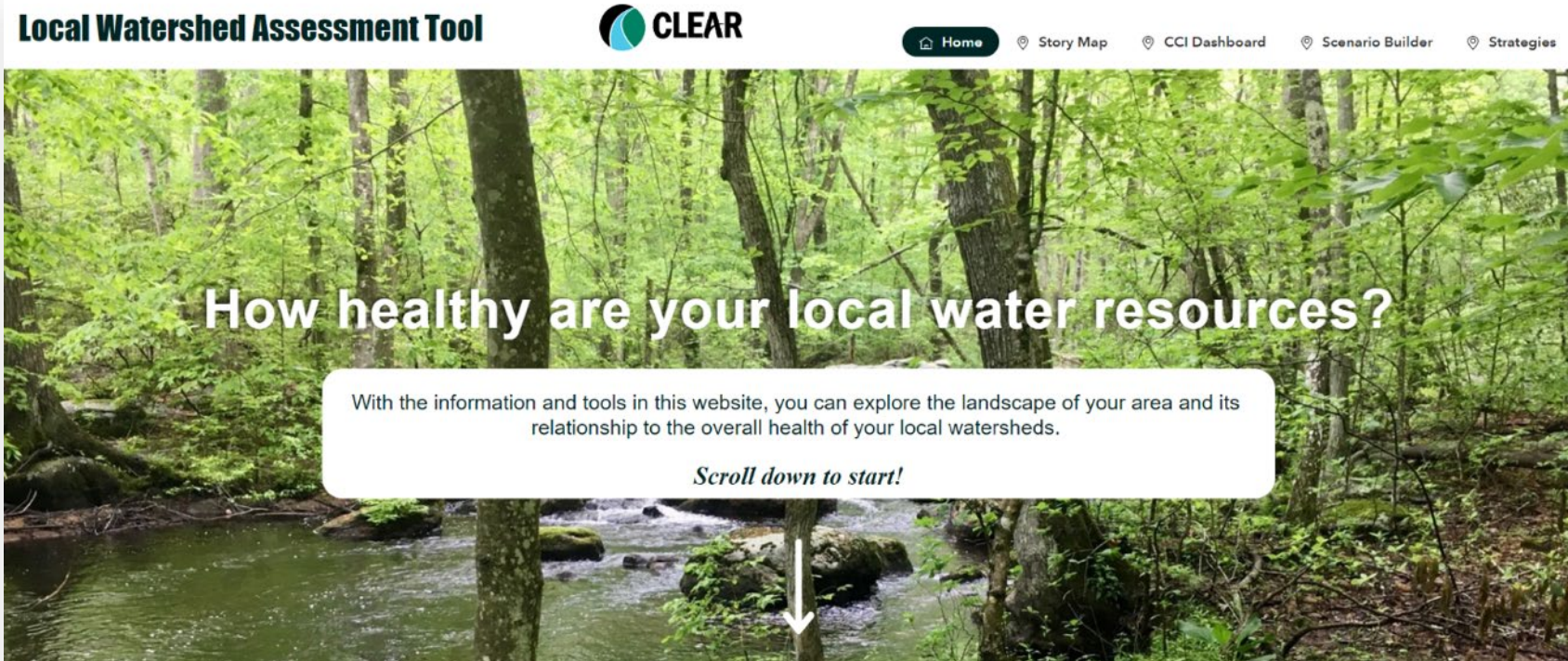


CCI map of CT



Local Watershed Assessment Tool

- <https://s.uconn.edu/wshedtool>
- integrates a Story Map, Dashboard, and Scenario Builder





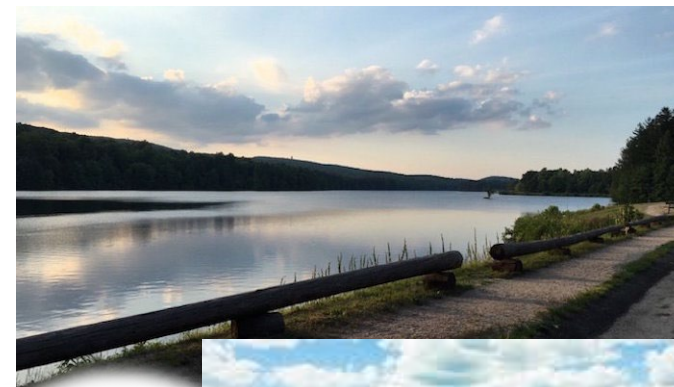
https://s.uconn.edu/sourcewater_protection

A Parcel-based Prioritization for Source Water Protection in CT



Project Overview

- Funded by the Connecticut Council on Soil and Water Conservation
- In partnership with the Dept. Of Public Health
- Goal: parcel prioritization for source water protection



Coordinate a GIS analysis covering

- ✓ drinking water watersheds (DWW)
- ✓ aquifer protection areas (APA)

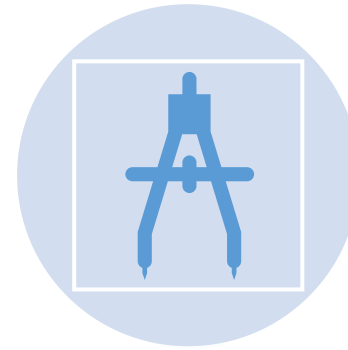
Methods



Collect Parcels



Define Metrics



Calculate Ranks

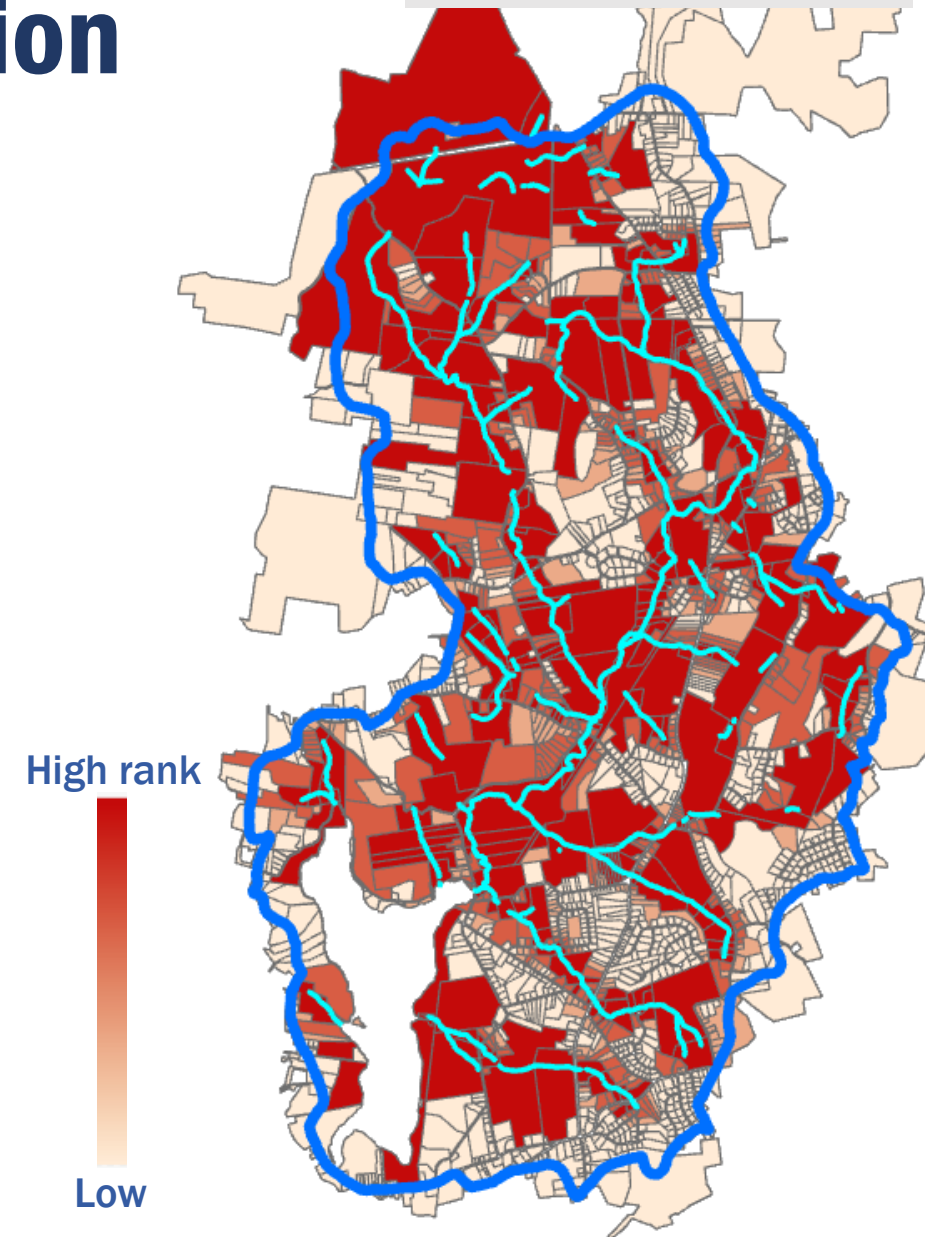


Develop Web Tool

Metrics for Surface Water Protection

Parcels have higher priority:

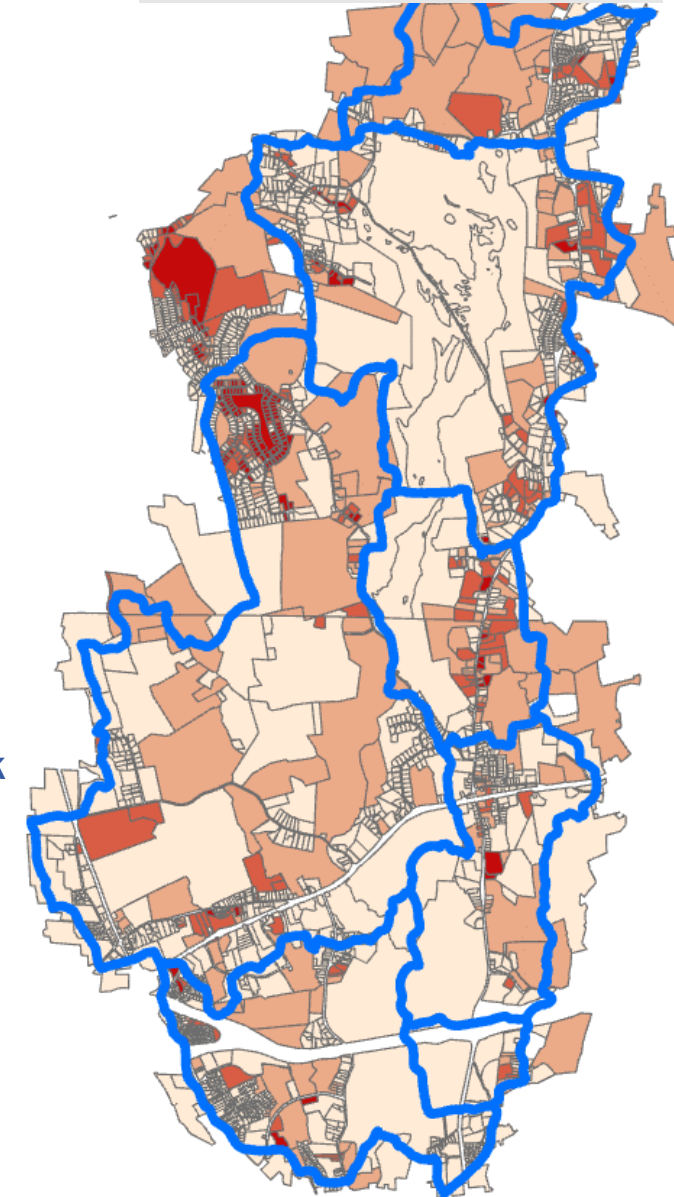
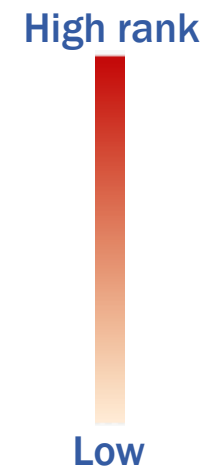
- Closer to and have greater lengths of **Stream**
- Closer to and have higher % area of **Waterbody**
- Closer to and have higher % area of **Wetland**
- Closer to **Treatment Plant Intake**
- Greater area and higher % area of **Riparian Zone**



Metrics for Surface Water Protection

Parcels have higher priority:

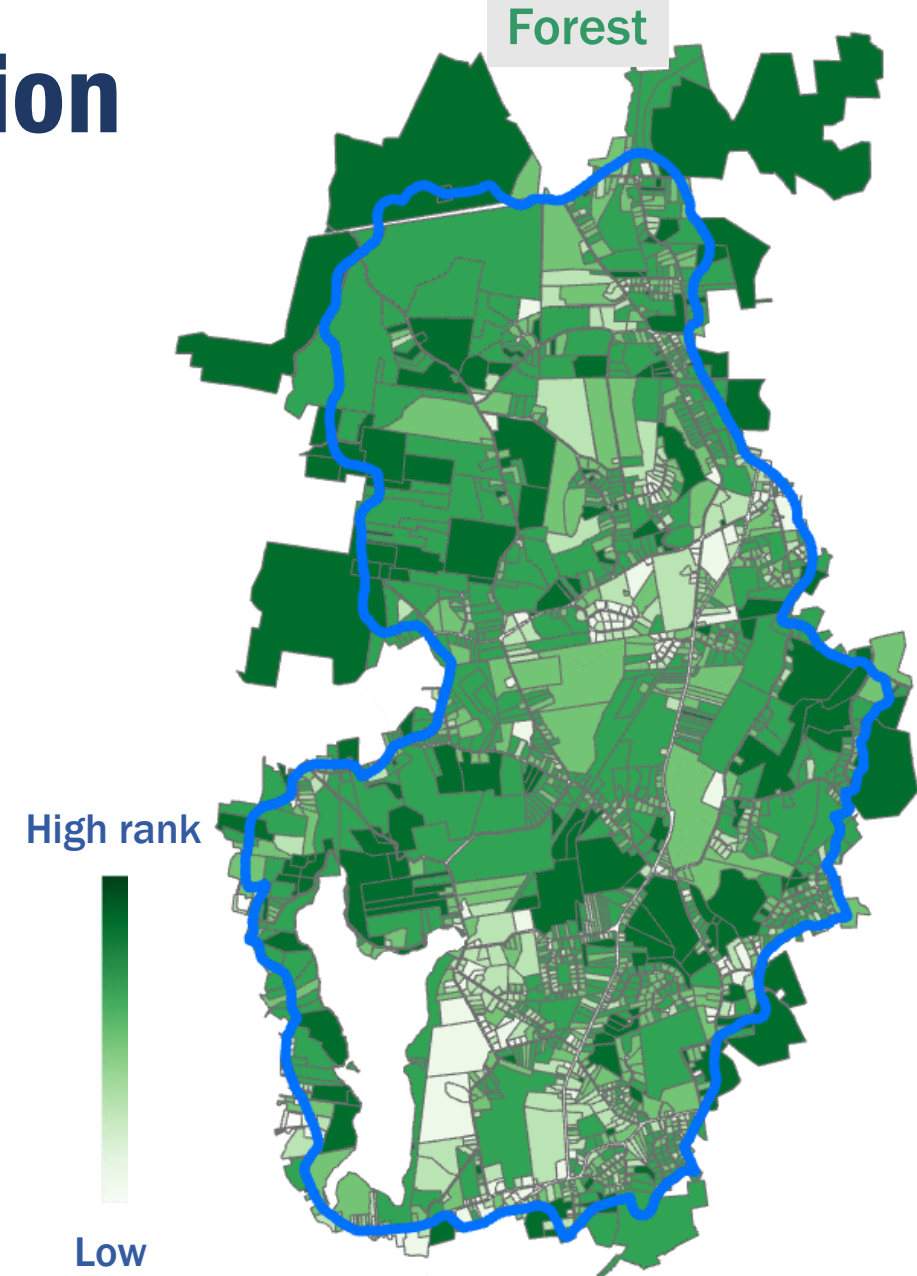
- Higher % area of soil types that are vulnerable to contamination
 - Shallow Depths to water Table
 - Shallow Depths to Restrictions
 - High Erodibility
 - High Conductivity
- Higher % area covered by Steep Slopes



Metrics for Surface Water Protection

Parcels have higher priority:

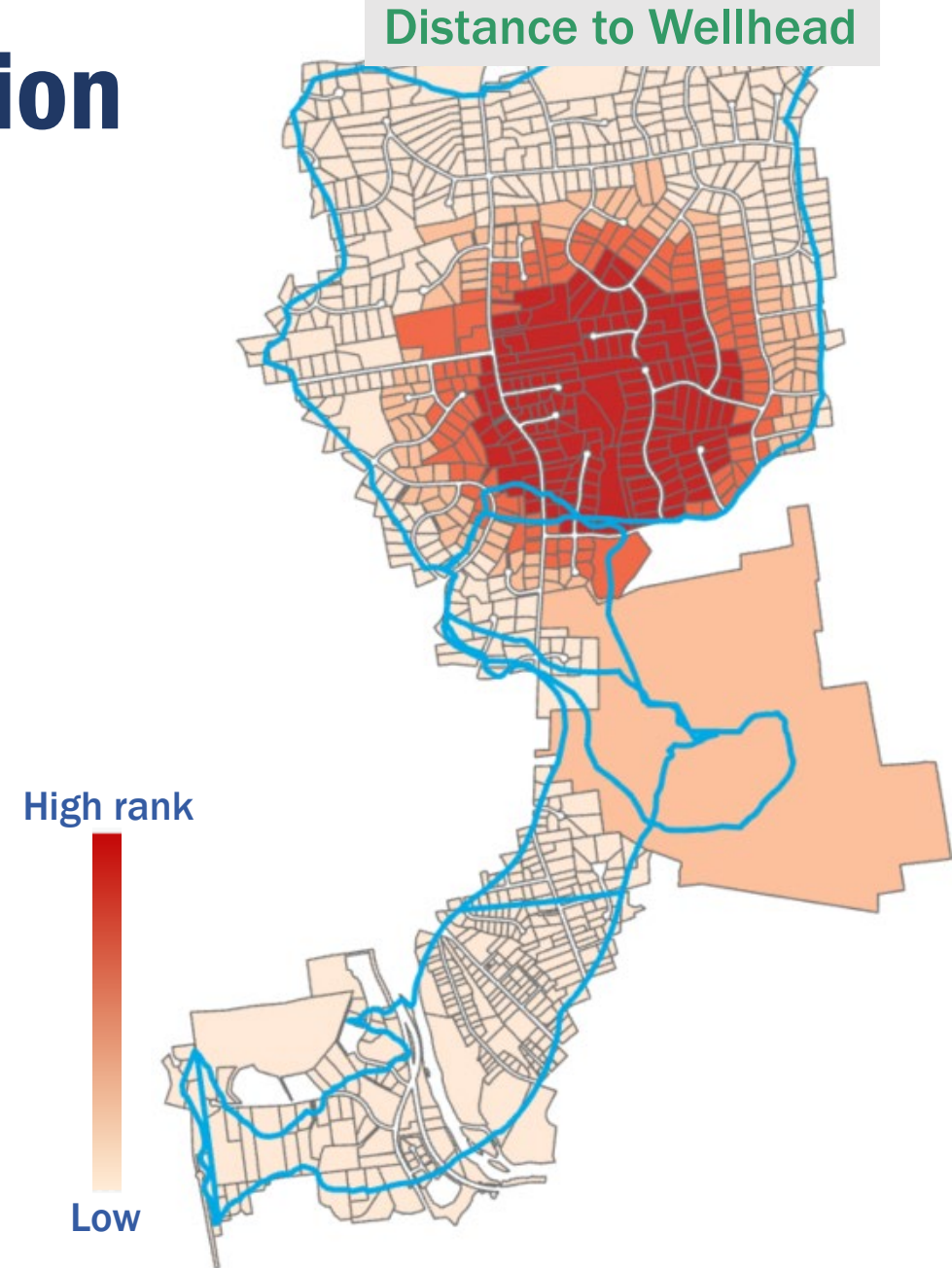
- Higher % area covered by
 - Forest
 - Core forest
- Lower % area covered by
 - Impervious surface
 - Developed open-space (turf)



Metrics for Ground Water Protection

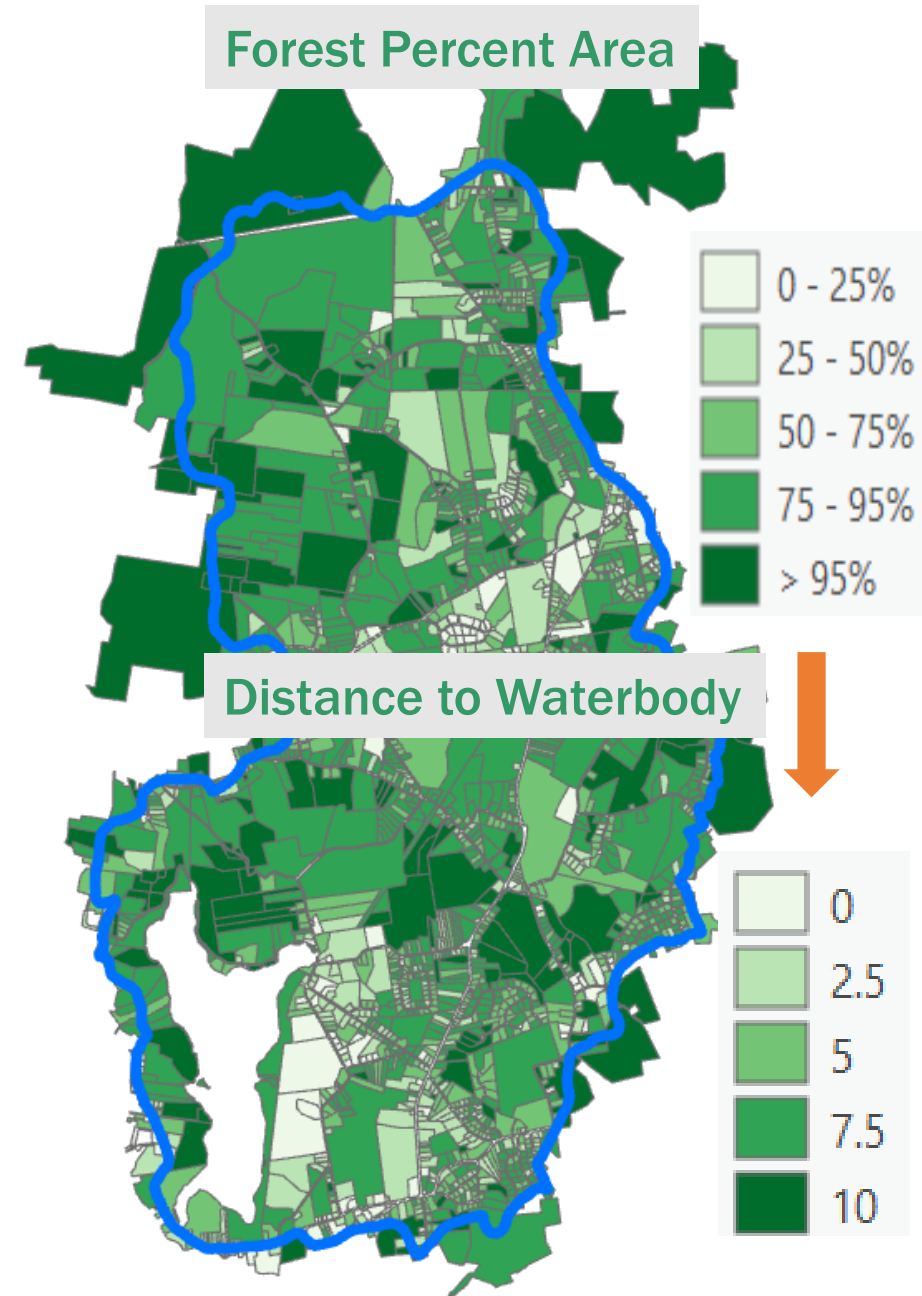
Parcels have higher priority:

- Closer to **Wellhead**
- Greater area and % area of **Undeveloped Land**
- Contains high **Surficial Aquifer Potential**
- Does NOT contain impaired **Ground Water Quality**



Assign Scores to Metric Values

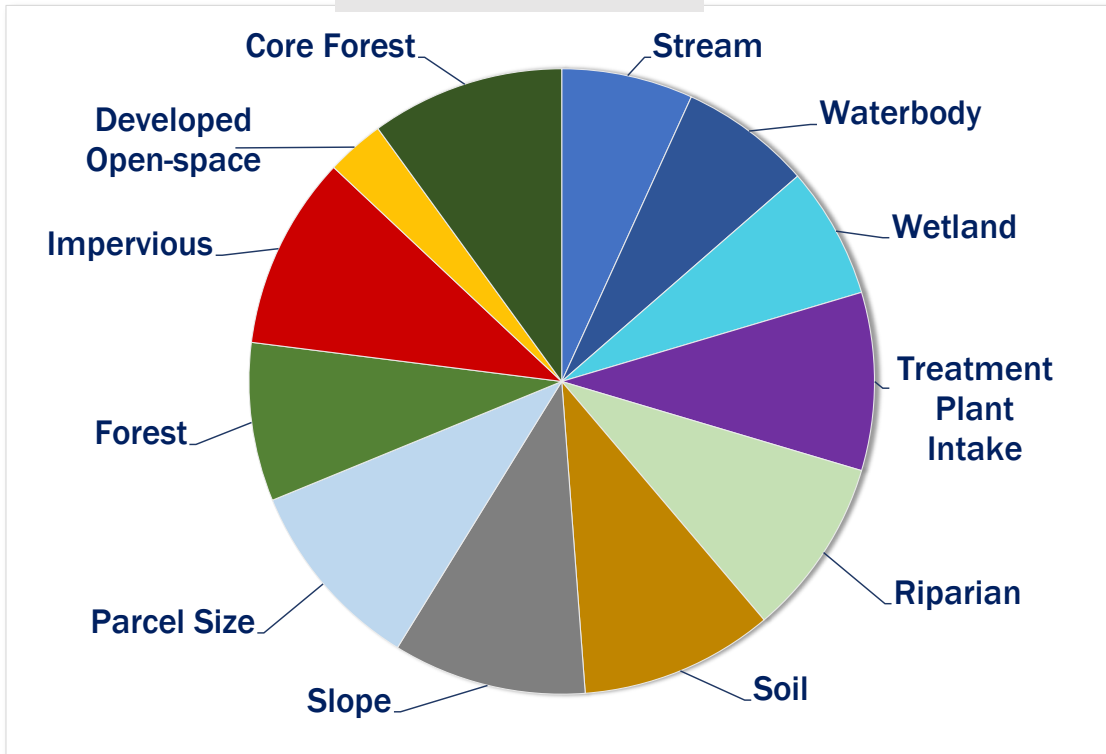
- Value range of each metric varies.
- Metrics need to have the same score range to be comparable.
 - Reclassify each metric map
 - Assign a score from 0 – 10 to each class



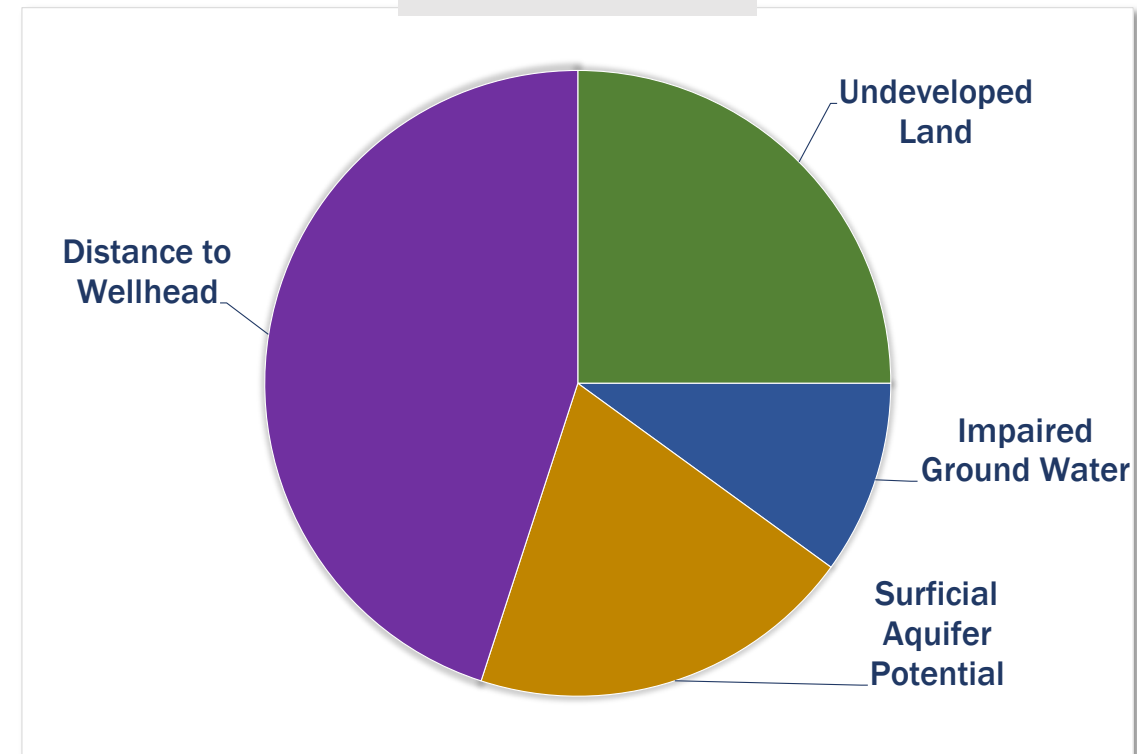
Metric Weights

- Sum of weights = 1
- More important metrics get higher weights.
- Determined by expert opinion

Surface Water



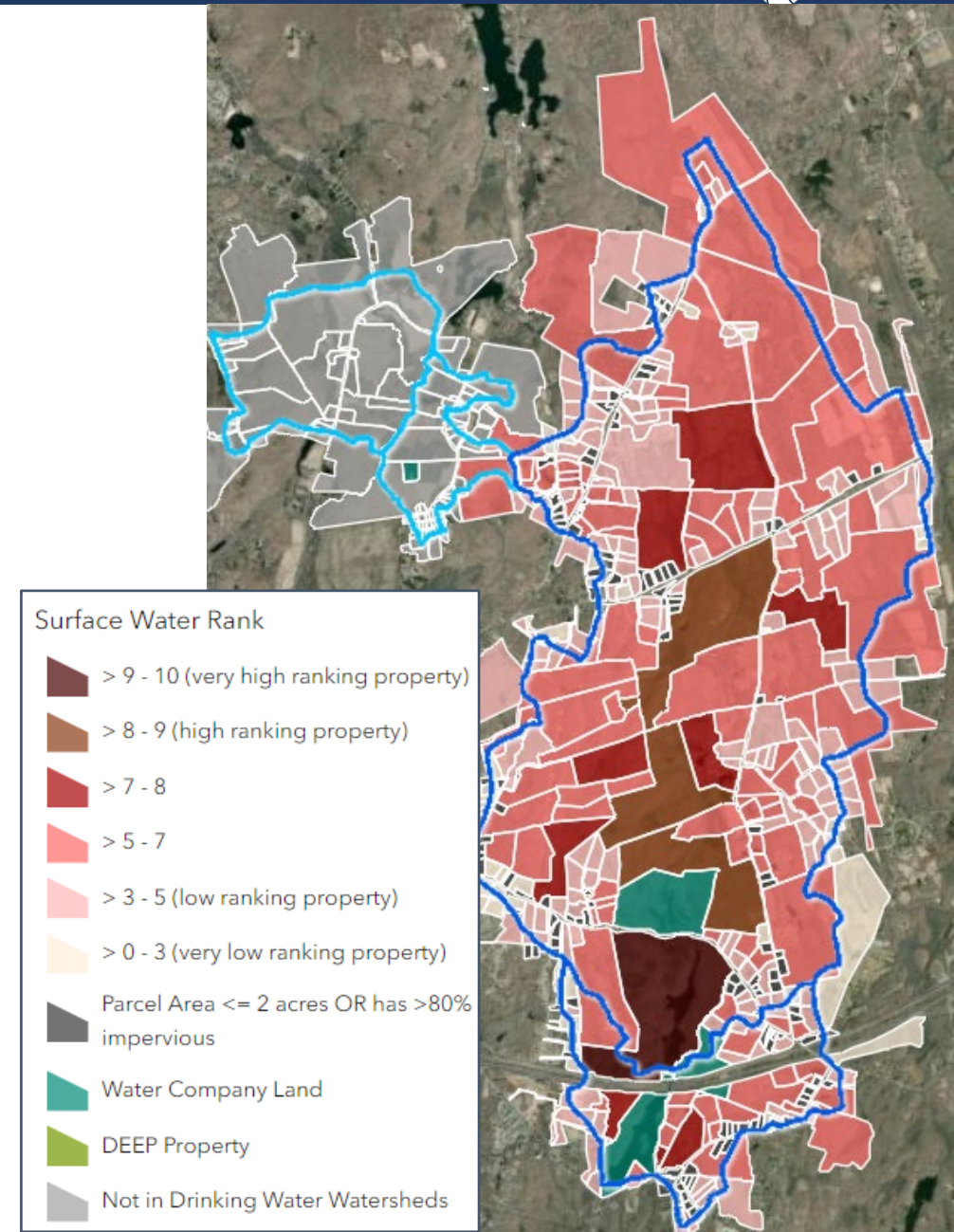
Ground Water



Summarize Parcel Ranking

$$\text{Rank} = \sum \text{Weight} \times \text{Metric Score}$$

- Score range 0 – 10
- Calculate surface and ground water ranks separately
 - Parcels in both DWW and APA get bonus points
- Highlight parcel priorities by excluding parcels
 - Owned by water company
 - Owned by state
 - Too small or too developed



Web Tool

- Home page with project background, methods, and help
- A map viewer to
 - display data layers and parcel info
 - query parcels by location or attributes
 - download parcel info
- A Dashboard that summarizes parcel priorities by towns

The screenshot displays the 'Parcel Prioritization Viewer' web tool. At the top, it shows the UConn logo and navigation menus for 'Water', 'Land & Climate', 'Mapping', 'STEM', 'Food', and 'Training'. The main content area features a map of Connecticut with parcel boundaries overlaid. A 'Parcel Information' panel on the left shows details for parcel ID 160_1, including its acreage (384.63) and a scaled surface water rank of 8.8 out of 10. Below the map is a 'Parcel Priority Dashboard' with two bar charts: 'Average Surface Water Rank by Town' and 'Average Ground Water Rank by Town'. A search bar and a 'Parcel Information' panel on the right provide details for specific parcels, such as ID 2_293 in Ansonia with a scaled surface water rank of 9.37.

https://s.uconn.edu/sourcewater_protection



Phew!
Thank you!

<https://s.uconn.edu/wshedtool>

https://s.uconn.edu/sourcewater_protection

Dave Dickson, UConn CLEAR

David.Dickson@uconn.edu

WATER UTILITY PANEL

John O'Neil, Manchester Water Works (NH)

Alex Ashby, Albany Water Department (NY)

Nick Kevey, West Virginia American Water (WV)

***Moderated by* Beth Garcia, EPA Region 3**



Watershed Management



Lake Massabesic (2,500 ac)

- Since 1874, drinking water supply for Manchester, NH region
- Water supply for over 159,000 people
- Large portion of watershed open to public for recreation

- Surface Area: **240 Acres**

- Volume: **646 Million Gallons**

- Max Depth: **15 Feet**

- Average Depth: **8.25 Feet**

- Shoreline: **3.7 Miles**

Basic Creek Reservoir

- Surface Area: **1,392 Acres**

- Volume: **13.2 Billion Gallons**

- Max Depth: **78.5 Feet**

- Average Depth: **29 Feet**

- Shoreline: **17 Miles**

Alcove Reservoir



- Watershed Area: **20,624 Acres**

- Reservoir Surface Elevation **617 Feet**

- Highest Point in Watershed: **1704 Feet**

- Number of Classified Tributaries: **9**

- Total Miles of Classified Tributaries: **65.7**

- AWD Forestland in Watershed: **4,316**

- Alcove lands purchased & reservoir built **1928-1932**

- Watershed Area: **10,451 Acres**

- Reservoir Elevation **937.4 Feet**

- Highest Point in Watershed: **1826 Feet**

- Number of Classified Tributaries: **3**

- Total Miles of Classified Tributaries: **55.5**

- AWD Forestland in Watershed: **857**

Water Supply to Albany (NY Capital) and surrounding towns.

Supply is gravity-fed for 22 miles of pipe into the City

DEPARTMENT OF

WATER

THE CITY OF ALBANY, NEW YORK

Presented By: Alex Ashby - Forrester City of Albany Department of Water & Water Supply

FORESTRY PANEL

Chris Martin, State Forester of CT (CT)

Charlie Laing, NYC DEP Forest Program Manager (NY)

Beth Sassaman, Pennsylvania NRCS State Biologist (PA)

Moderated by Karl Honkonen, USFS





Healthy Forests, Clean Water

Forested Landscapes:

Forests help maintain clean water in streams, lakes, and rivers. This is water that we rely on for drinking, recreation, and for supporting fish and wildlife.

Protection and restoration keeps forests on the landscape over the long term.

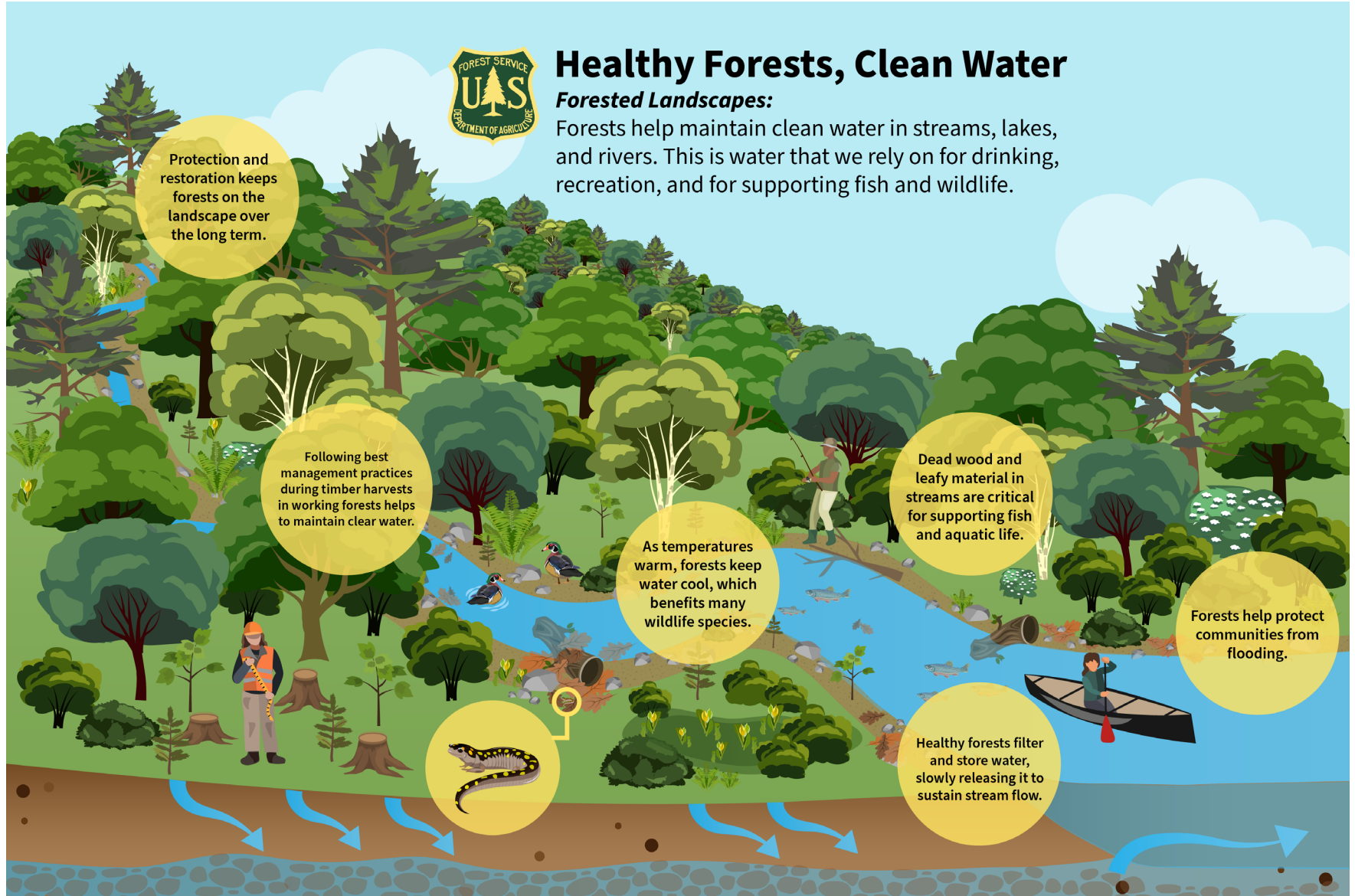
Following best management practices during timber harvests in working forests helps to maintain clear water.

As temperatures warm, forests keep water cool, which benefits many wildlife species.

Dead wood and leafy material in streams are critical for supporting fish and aquatic life.

Forests help protect communities from flooding.

Healthy forests filter and store water, slowly releasing it to sustain stream flow.



NYC Department of Environmental Protection Watershed Forest Management

Charles Laing, Forestry Program Manager

November 21, 2024





NYC Watershed System Overview

- 2,000 square mile watershed
- 1.1 billion gallons of water/day
- 9.8 million New Yorkers
- Largest unfiltered water supply in US
- CAT/DEL system 95%
- Croton system 5%
- 3 main aqueducts
- Chlorination, UV treatment

Healthy Forests = Clean Water

Forestry Program Goal: Maintain or enhance New York City-owned water supply forests to produce high quality water and provide other ecosystem services.

NYS Forest Action Plan

- **Goal #1:** Keep New York's Forests as Forests
 - NYC watershed forests
 - Private forest land in NYC watershed (WAC)
- **Goal #2:** Keep New York's Forests Healthy
 - Climate Change, invasives, deer browse
 - Biodiversity
- **Goal #3:** Increase Forest Benefits for Humans and All Living Creatures
 - Forest protection for drinking water quality & supply
 - Economic impacts and forest products
- **Goal #4:** Appreciate, Support, and Protect New York's Forests
 - Sustainable forestry & BMPs
- Multi-State Priority Areas: Highlands Region



Department of
Environmental
Conservation

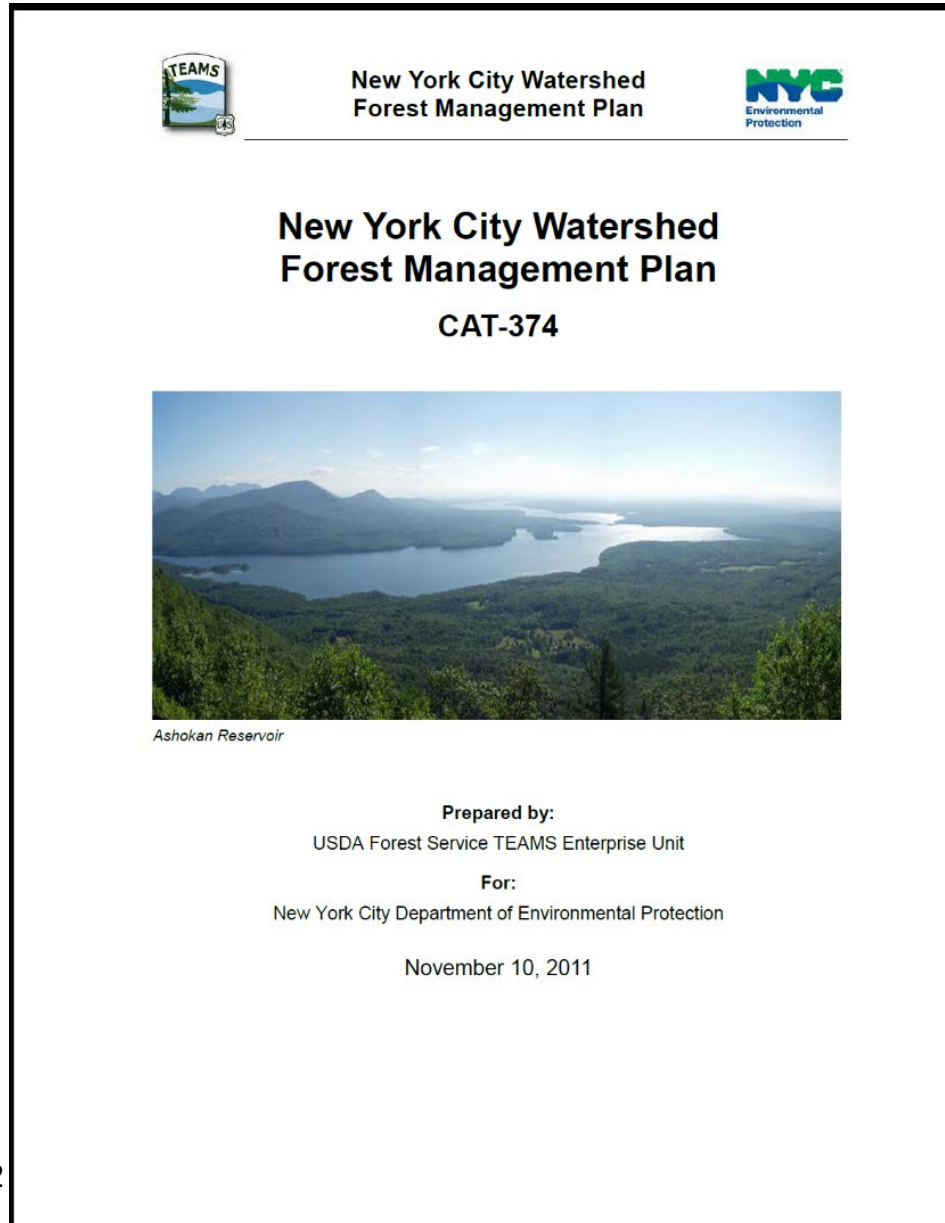
New York State Forest Action Plan

DECEMBER 2020

Andrew M. Cuomo, Governor | Basil Seggos, Commissioner



Watershed Forest Management Plan



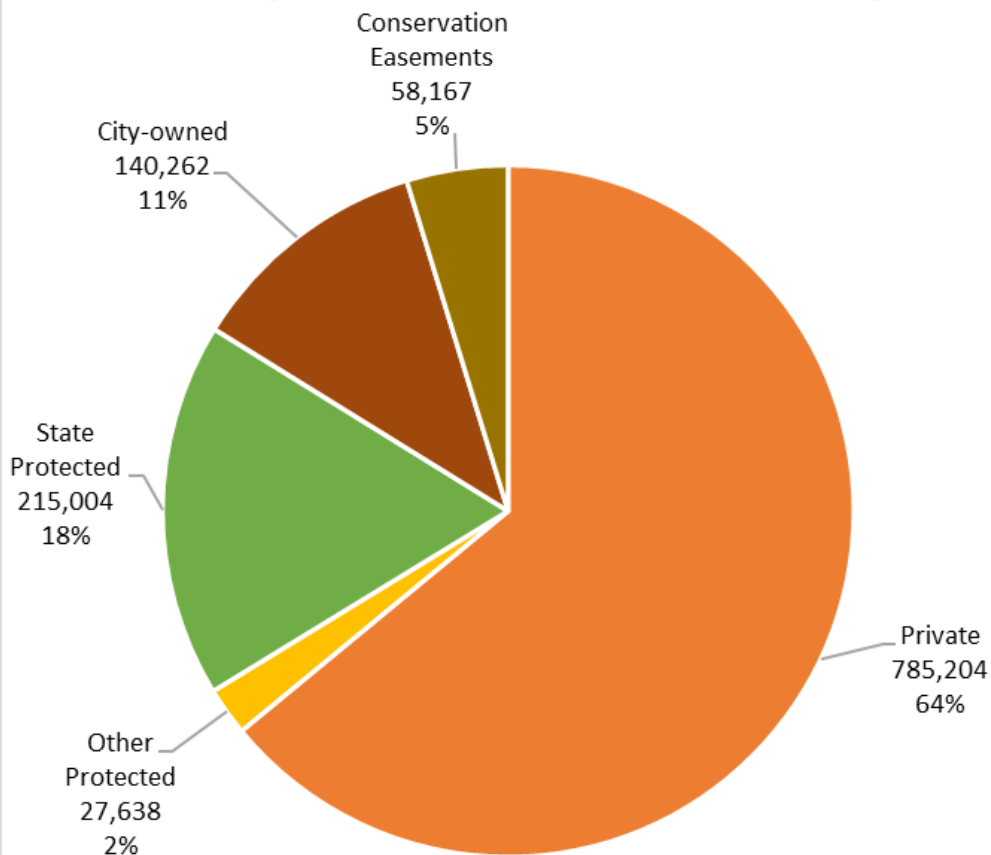
- Assessed the forest condition on City-owned water supply lands
- Wall-to-wall forest inventory
- Provides specific forest management direction for the Agency
- Defines Conservation Practices (CPs) to protect water quality and rare/threatened species during timber harvesting
- Projects that comply with CPs fall under Negative Declaration for Management Plan
- Established Forestry Interdisciplinary Technical Team (FITT)
- GP #1: Forest cover promotes high water quality
- GP #2: Watershed forests provide multiple benefits
- GP #3: Knowledge and information sharing

City Owned Watershed Lands

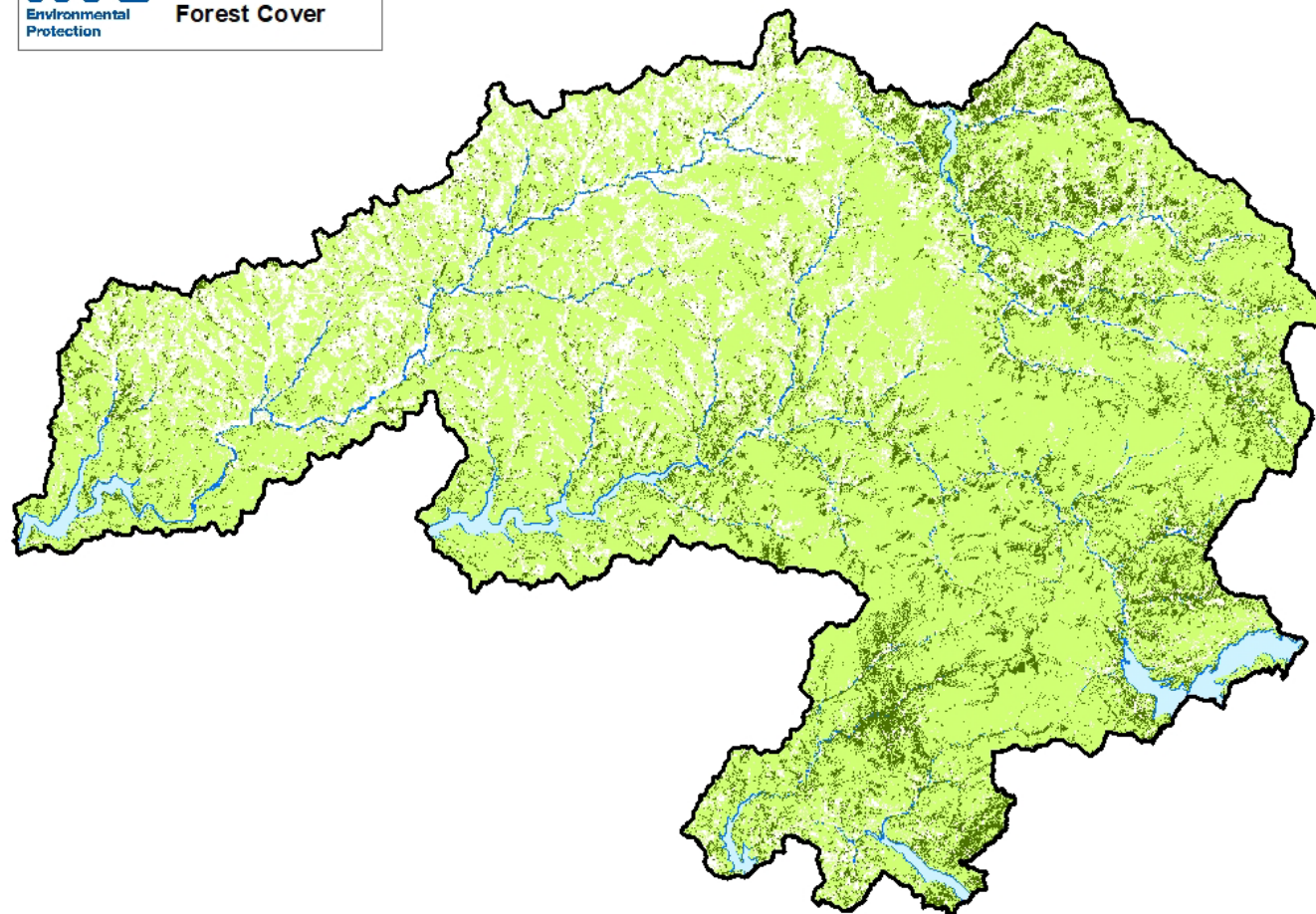
- 2,000 square mile watershed (1.3M acres)
- Primarily forested (79% WOH, 68% EOH)

- NYC owns 140,262 acres of land in fee
- Of those, 122,750 acres are forested which represents 12% of the watershed forest

NYC Watershed Land Protection
(acres, excludes reservoirs)



NYC Environmental Protection
WOH Watershed Forest Cover



NYC Forest Management

- Maintain/enhance forest cover
- Increase species & structural diversity
- Management through commercial timber harvests
 - 500 – 1,000 acres/yr (4 – 6 projects)
- Harvests put out to bid, cut by local logger, project designed & overseen by DEP forester

FMP Example: **Southslope**

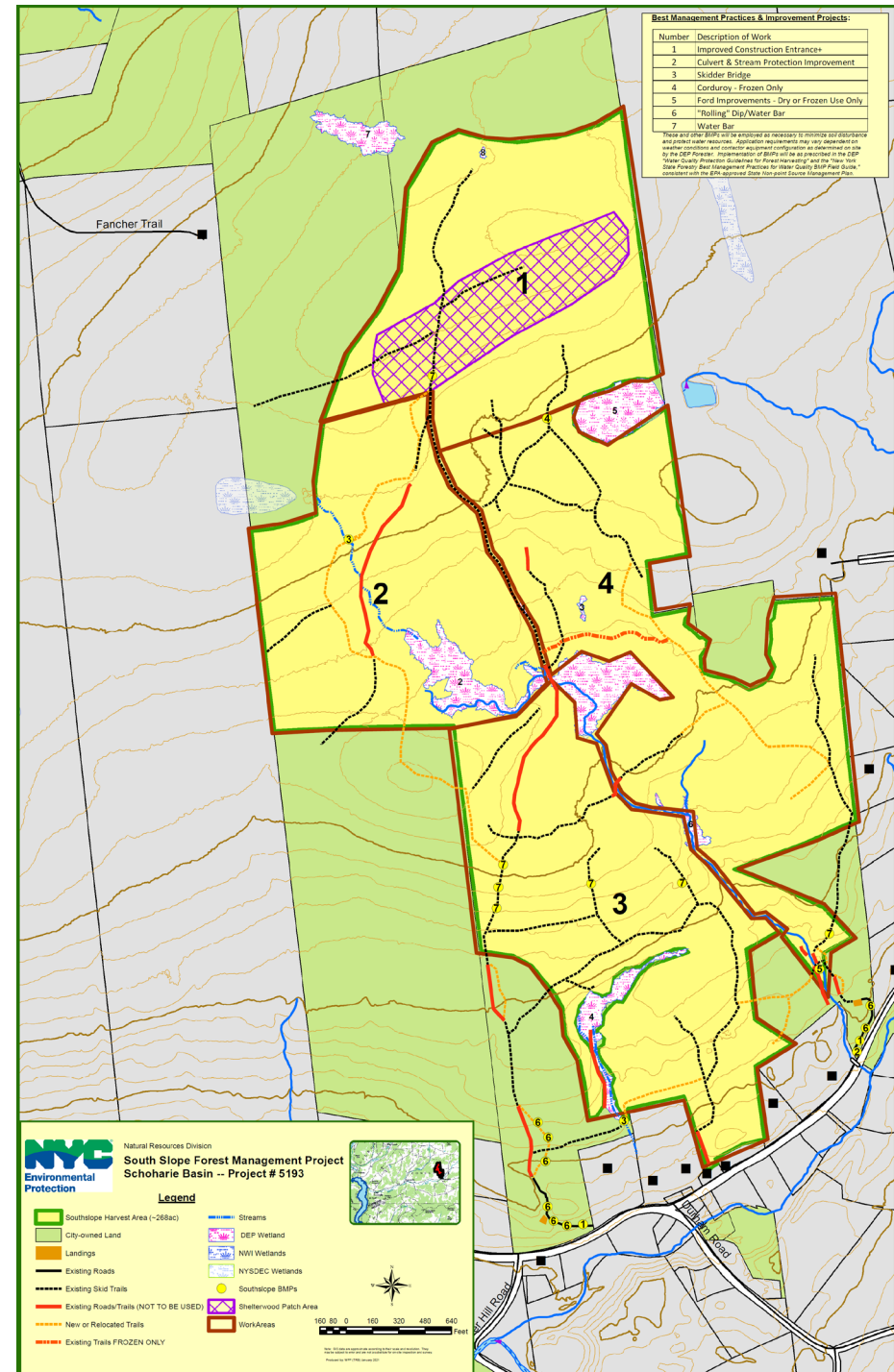
Basin: Schoharie Reservoir

Town: Conesville

Phase: Implementation

Goal: Ash/Hemlock salvage, & regeneration shelterwood

- 270 Acres
- 450 mbf (Mostly maple, hemlock)
- 750 cords firewood & pulpwood



Southslope FMP
Schoharie Basin
9/20/24

- Skidder bridge
- Corduroy
- Patch/Shelterwood

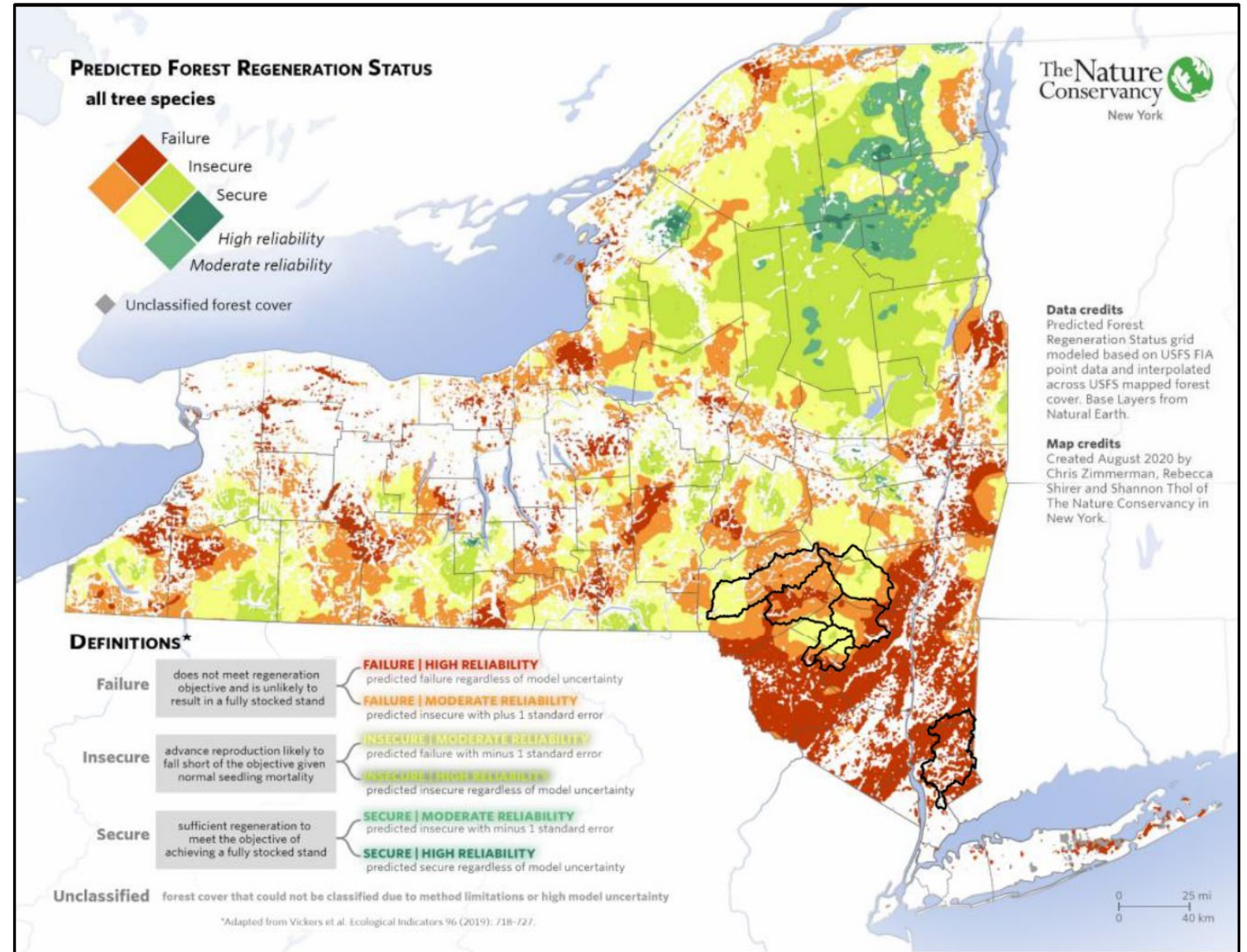


Challenges

- Parts of NYC Watershed under significant threat of regeneration failure

Climate Change and NYS forests:

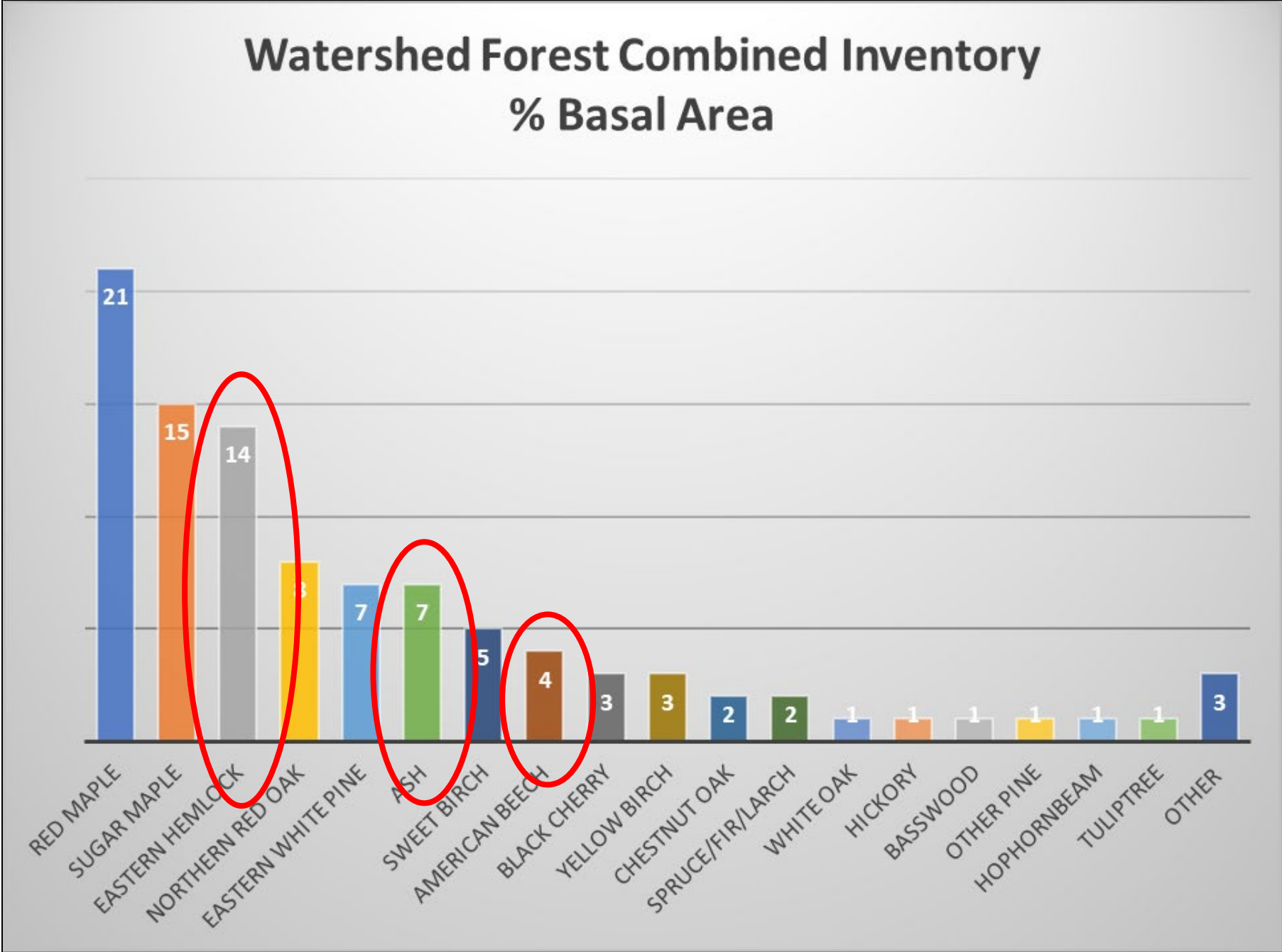
- Temperature increase > changes in species composition, loss of consistent snowpack, operational adjustments
- CO2 increase impacting uptake and growth rates, but favoring some species
- Storm frequency & intensity > more disturbance
- Invasive Species/Pests, expansion of HWA



Forest Composition

Invasive pests & disease:

- Hemlock woolly adelgid (HWA)
- Emerald ash borer (EAB)
- Beech leaf disease (BLD)



In summary:

- DEP manages its watershed forest for long term water quality protection
- Forest management guided by Watershed Forest Management Plan
- Primary mechanism is through commercial timber harvests
- Working to increase non-commercial/stewardship capacity for invasives management and reforestation through grants & partnerships
- Forest management projects are designed & overseen by DEP foresters with review and input from in-house specialists
- Goals of increased structural and species diversity made even more important with climate change and related threats



Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE



NRCS Forestry and Water Quality Programs in Pennsylvania

FARM PRODUCTION AND CONSERVATION
FSA | NRCS | RMA | Business Center

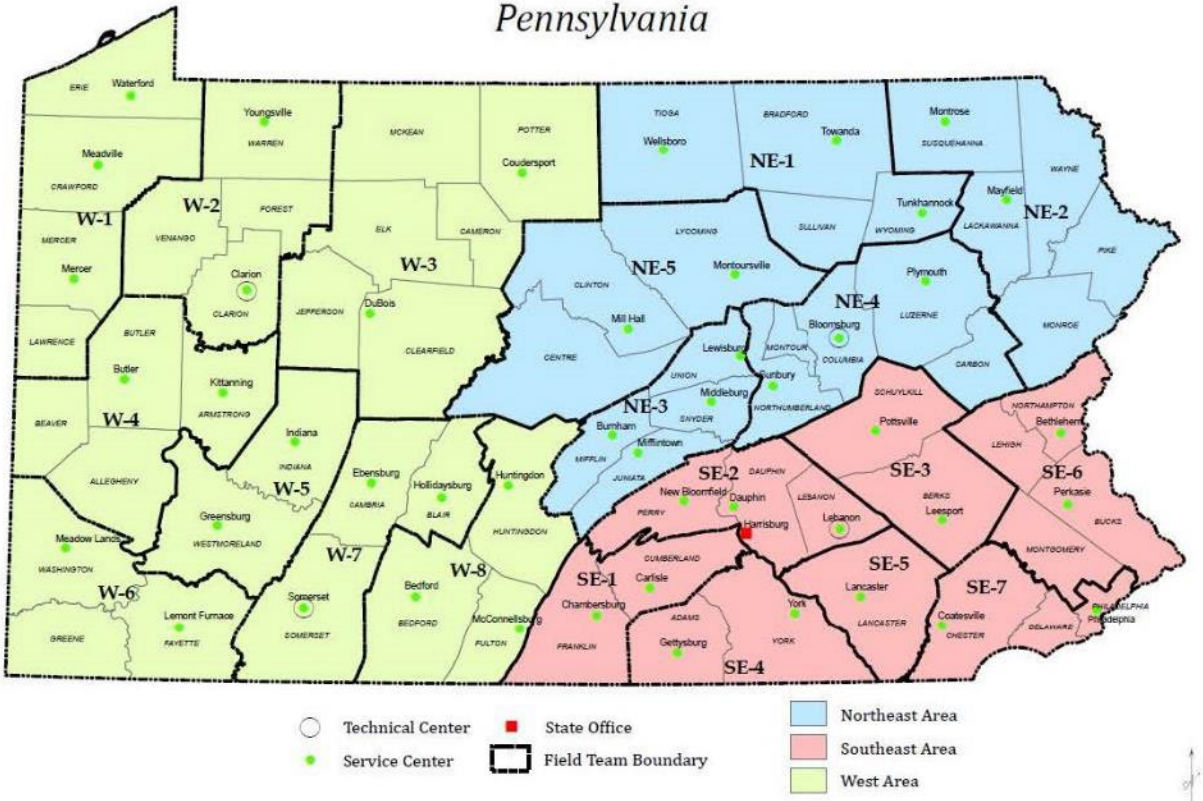
Natural Resources Conservation Service (NRCS)

Mission: We deliver conservation solutions so agricultural producers can protect natural resources and feed a growing world.

- NRCS helps American farmers, ranchers, and private forest landowners voluntarily implement conservation that works for them.



NRCS Service Centers Pennsylvania

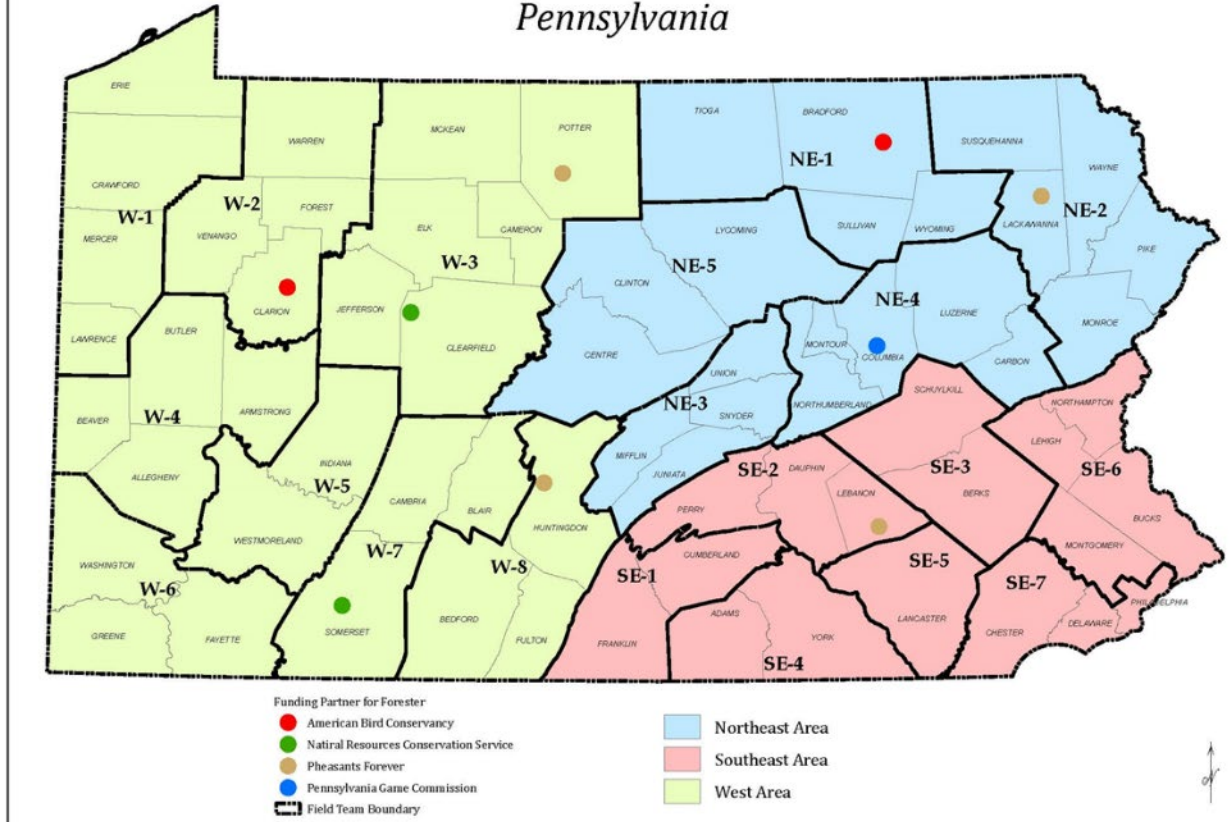


- Technical Center
- State Office
- Northeast Area
- Service Center
- Field Team Boundary
- Southeast Area
- West Area

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

May 2024

Potential Forester Locations Pennsylvania



- American Bird Conservancy
- Natural Resources Conservation Service
- Pheasants Forever
- Pennsylvania Game Commission
- Field Team Boundary
- Northeast Area
- Southeast Area
- West Area

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

August 2024

Pennsylvania Forest Action Plan Objectives

1. Land Use Change
2. Forest Health
3. Sustainable Forest Management
4. Climate Change
5. Communicating Natural Resource Values
6. Energy Management & Development
7. Wildland Fire and Public Safety
8. Plant and Animal Habitat
9. Forest-related Economy and Jobs
10. Forest Recreation
11. Water and Soil

NRCS Resource Concerns

1. Soil
2. Water
3. Air
4. Plants
5. Animals
6. Energy
7. Humans





Beth Sassaman
State Wildlife Biologist
Natural Resources Conservation Service
United States Department of Agriculture
359 East Park Drive, Suite 2
Harrisburg, PA 17110
(717) 237-2125
beth.sassaman@usda.gov
www.nrcs.usda.gov/pennsylvania

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

DEMYSTIFYING FUNDING PANEL

Karl Honkonen, USFS

Karen Sughrue, EPA Headquarters Office of Water

Matthew Vandersande, NRCS

***Moderated by* Katie Lynch, EPA Region 2**





Funding opportunities

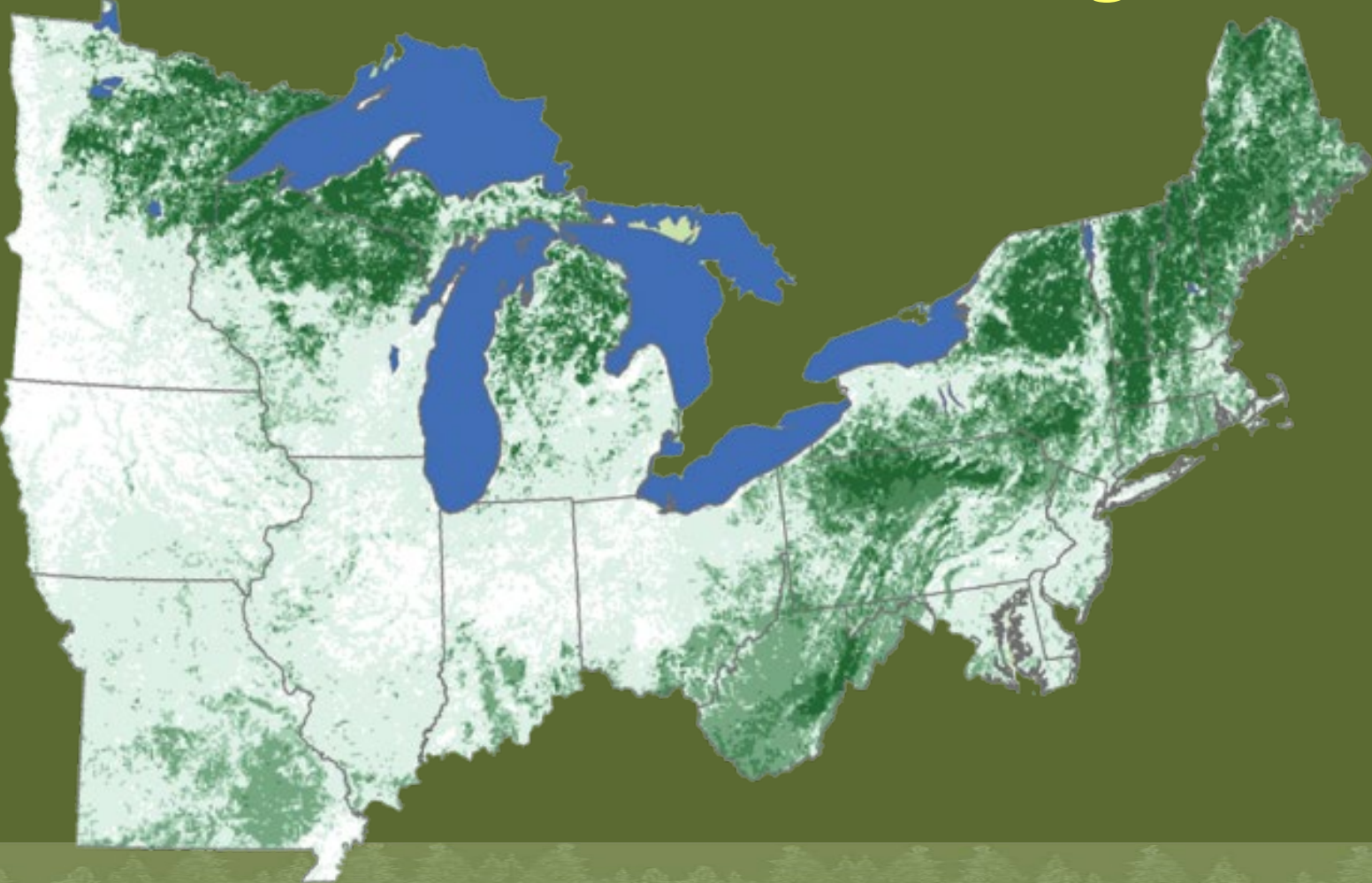
Northeast-Mid-Atlantic Forest and Water Partnership

Karl Honkonen
Watershed Forester
US Forest Service

Eastern Region/State Private and Tribal Forestry



US Forest Service Eastern Region





Landscape Scale Restoration (LSR)

- » **Eligibility:** State agencies, nonprofit organizations (501c3), universities, and units of local government.
- » **Application deadline** November 15, 2024.
- » **Region 9 - Grants & Agreements**



Landscape Scale Restoration Grant Program for Tribes

- **Eligibility:** Native American tribal governments (Federally recognized)
- **Application deadline:** December 16, 2024



Great Lakes Restoration Initiative

- **Eligibility:** State agencies, Tribal communities, nonprofit organizations, educational institutions, and local governments that work within the Great Lakes Basin of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin.
- **Application deadline** September 18, 2024



Wildfire Risk Reduction

- » **Eligibility:** varies by grant category, but includes state forestry agencies, Sovereign Tribal nations, non-profit organizations, forest fire compacts, and academic institutions.
- » **Application Deadline:** November 15, 2024 - January 15, 2025



Bipartisan Infrastructure Law Invasive Species Non-Federal Lands

- » **Eligibility:** All Eastern Region state forestry departments or equivalent state agencies that have a responsibility for forest health are eligible. Other organizations are eligible (e.g., institutes of higher education, nonprofit organizations, and local governments), but the application must also include an email of support from the state forest health agency lead.
- » **Application Deadline:** 15 November 2024



Karl Honkonen

karl.w.honkonen@usda.gov

USDA Forest Service

Eastern Region/State Private and Tribal Forestry

339-788-1150

www.fs.usda.gov/r9

EPA Resources for Forest and Water Protection



■ Clean Water and Drinking Water State Revolving Funds ([CWSRF](#) & [DWSRF](#))

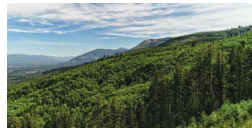
- [Maine Forestry Direct Link Loan Program](#)

New and Used Equipment Purchases	Amount of Existing Equipment	Miscellaneous Purchases
Tree Planter and Associated Equipment	Tractor Tires	Motor Drives
Mulching Machines	Skid Steers	Iron-on Bridges
Limbs/Length Harvesters	GPS Equipment/Tracking Systems	Softness Aches
Skidders	Harvester and Processor Heads	Software and related computer products
Skidders equipped for in-mesh harvesting		Portable Public Works
Tracked skid loaders equipped with GPS		
Tractors		
Logging machines		
Skidders		

- Sebago Lake, Portland Water District, Maine (watershed partnership)



- Skagit Public Utility District, Washington (250 acres of forest)



- Jefferson County Department of Public Health, Washington (land acquisition loan fund pilot)

■ CWA Section 319 Grants

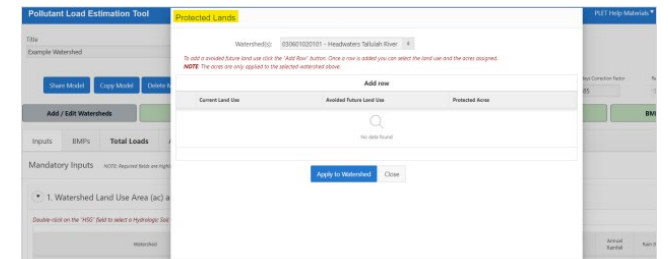
- Advancing Watershed Protection Through Land Conservation ([guide](#) and [fact sheet](#))

■ Pollutant Load Estimation Tool ([PLET](#))

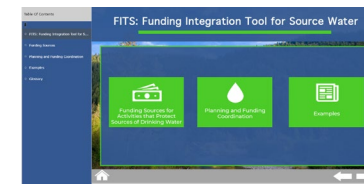
- New Protected Lands Feature

6. Reference Runoff Curve Number

SHG	A	B	C	D
Urban	83.00	89.00	92.00	93.00
Cropland	67.00	78.00	85.00	89.00
Pastureland	49.00	69.00	79.00	84.00
Forest	39.00	60.00	73.00	79.00
User Defined	50.00	70.00	80.00	85.00



■ Funding Integration Tool for Source Water ([FITS](#))



Select NRCS Programs and Initiatives

- Farm Bill Programs
 - Environmental Quality Incentives Program (EQIP)
 - Conservation Stewardship Program (CSP)
 - Agricultural Conservation Easement Program (ACEP)
- Landscape Conservation Initiatives
 - Working Lands For Wildlife (WLFW)
 - National Water Quality Initiative (NWQI)
 - Longleaf Pine Initiative (LLPI)
- Project-Based Programs
 - Regional Conservation Planning Partnership (RCPP)
 - Joint Chiefs' Landscape Restoration Partnership (JCLRP)

GROUP BREAKOUTS



NORTHEAST MID-ATLANTIC PARTNERSHIP FOR
FORESTS & WATER



DISCUSSION QUESTIONS

State-based small group discussions:

1. What is our greatest success related to forests/water?
2. What is my greatest challenge in advancing work?
3. What resources already exist in my state?
4. How can collaboration and/or state-based partnerships help us achieve progress and address challenges?



Thank you to our excellent lineup of speakers, panelists, and moderators; EPA for providing funding for the forum; and to our amazing planning team that put all of this together!

- **Steve Vitko and Joshua Tracy, RWA (and our exceptional hosts!) + all the RWA staff who pitched in**
- **Sherri Comerford, EPA HQ**
- **Kira Jacobs, EPA Region 1**
- **Katie Lynch, EPA Region 2**
- **Chris Anderson, Beth Garcia, and Virginia Vassalotti, EPA Region 3**
- **Denise Savageau, NACD northeast chair**
- **Karl Honkonen, USFS**
- **Annica McGuirk, NACD**