

Delaware & Hudson Canal Reservoir Lakes Critical Environmental Area



Justification by
The Lake Communities Alliance of Rock Hill, NY
October 2024



Definition of a Critical Environmental Area

A **geographic area**...

Designated by the state or local **government** ...

With **exceptional or unique character** with respect to **one or more** of the following:

1. A benefit to **human health**
2. A **natural habitat** of wildlife, fish, forest and vegetation, open space, and areas of important aesthetic or scenic quality
3. **Cultural, historic, archaeological, recreational** significance
4. An inherent **sensitivity to change** that may be adversely affected by any change

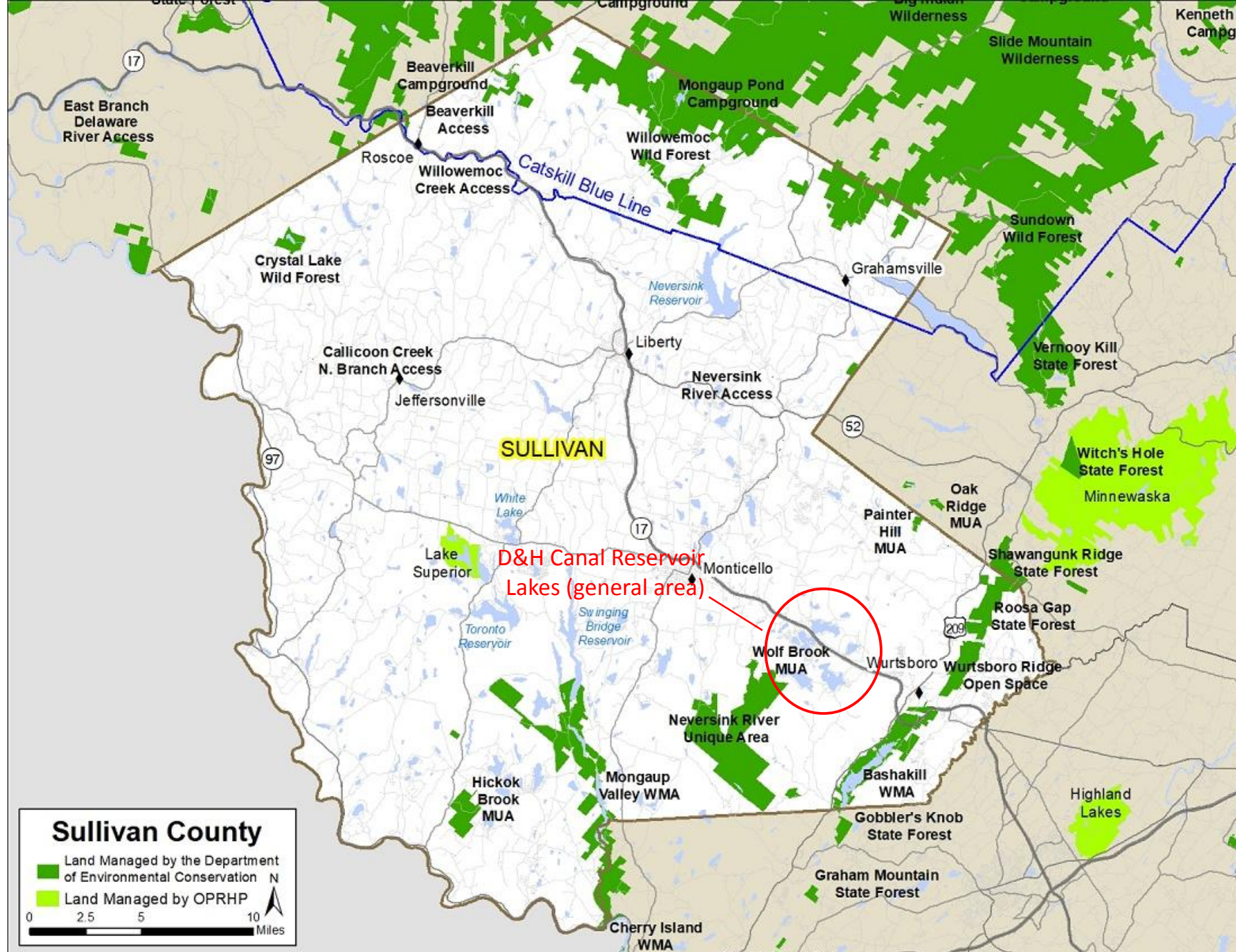
Benefits of a Critical Environmental Area

Protects sensitive areas by alerting developers and regulatory agencies. A proposal for a development in a CEA must receive special consideration during the **State Environmental Quality Review (SEQR)** process.

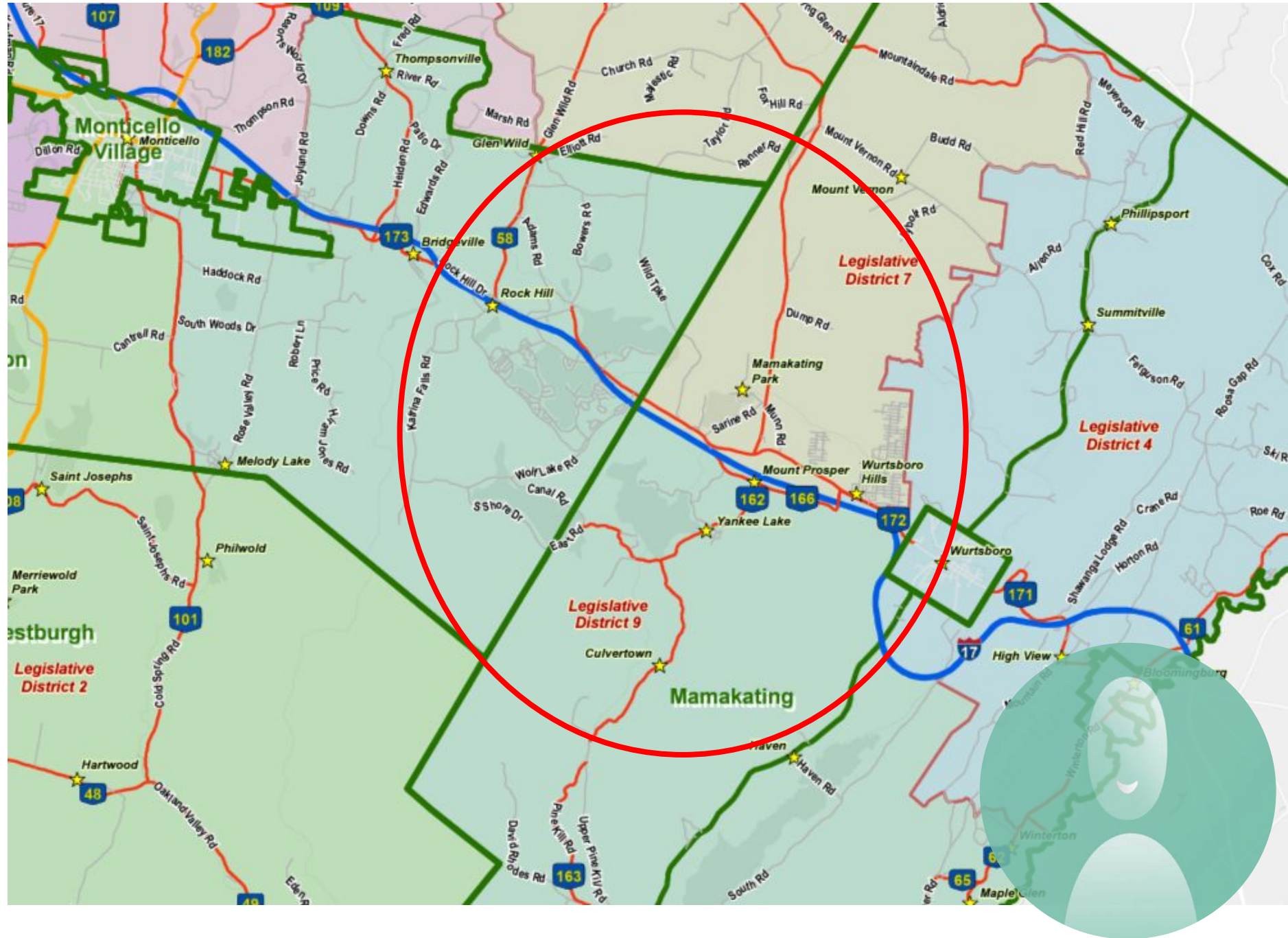
Not a zoning change! Does not restrict land use!

SEQR review only applies to large development proposals or subdivision of land, construction of nonresidential facilities greater than 4,000 square feet, and physical alteration of 10 acres or more.

The CEA justification could be used as the educational document that **drives future zoning changes** such as “conservation overlay zoning.”



The Delaware and Hudson Canal Reservoir Lakes Area spans two townships: Town of Thompson & Town of Mamakating, and three Legislative Districts: 4, 7 & 9



The D&H Canal Reservoir Lakes Area is located on a **high plateau** between the NYS DEC **Neversink River Unique Area** and the NYS DEC **Bashakill Wildlife Management Area**

The land is part of each **watershed**.

The area is rich with forests, wetlands, streams, lakes, and ponds.

Unique Areas: *A state project to acquire lands of special natural beauty, wilderness character, geological, ecological or historical significance for the state nature and historical preserve and similar lands within a forest preserve county outside the Adirondack and Catskill parks" Definition: A parcel of land owned by the state acquired due to its special natural beauty, wilderness character, or for its geological, ecological or historical significance for the state nature and historical preserve, and may include lands within a forest preserve county outside the Adirondack and Catskill Parks.*

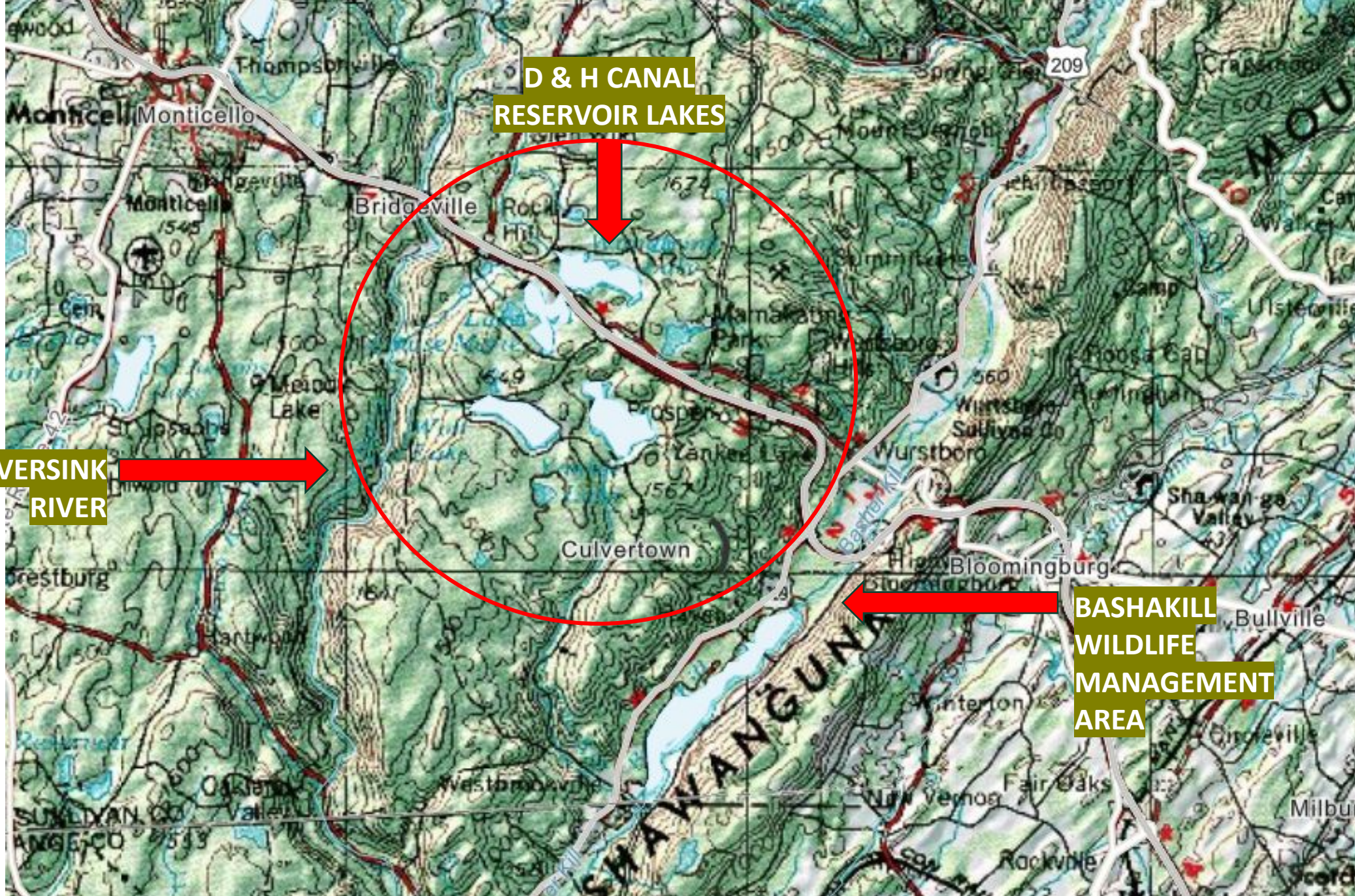
Wildlife Management Areas: *Lands owned by New York State under the control and management of the Department of Environmental Conservation's Division of Fish, Wildlife and Marine Resources. These lands have been acquired primarily for the production and use of wildlife.*

The WMA program is part of a long term effort to establish permanent access to lands in New York State for the protection and promotion of its fish and wildlife resources. Beginning in the early 1900s with the acquisition of abandoned farm lands and fields, DEC and its predecessor (NYS Conservation Department) have worked with the federal government, state government and sportsmen and women to secure these land parcels for public use.

**D & H CANAL
RESERVOIR LAKES**

**NEVERSINK
RIVER**

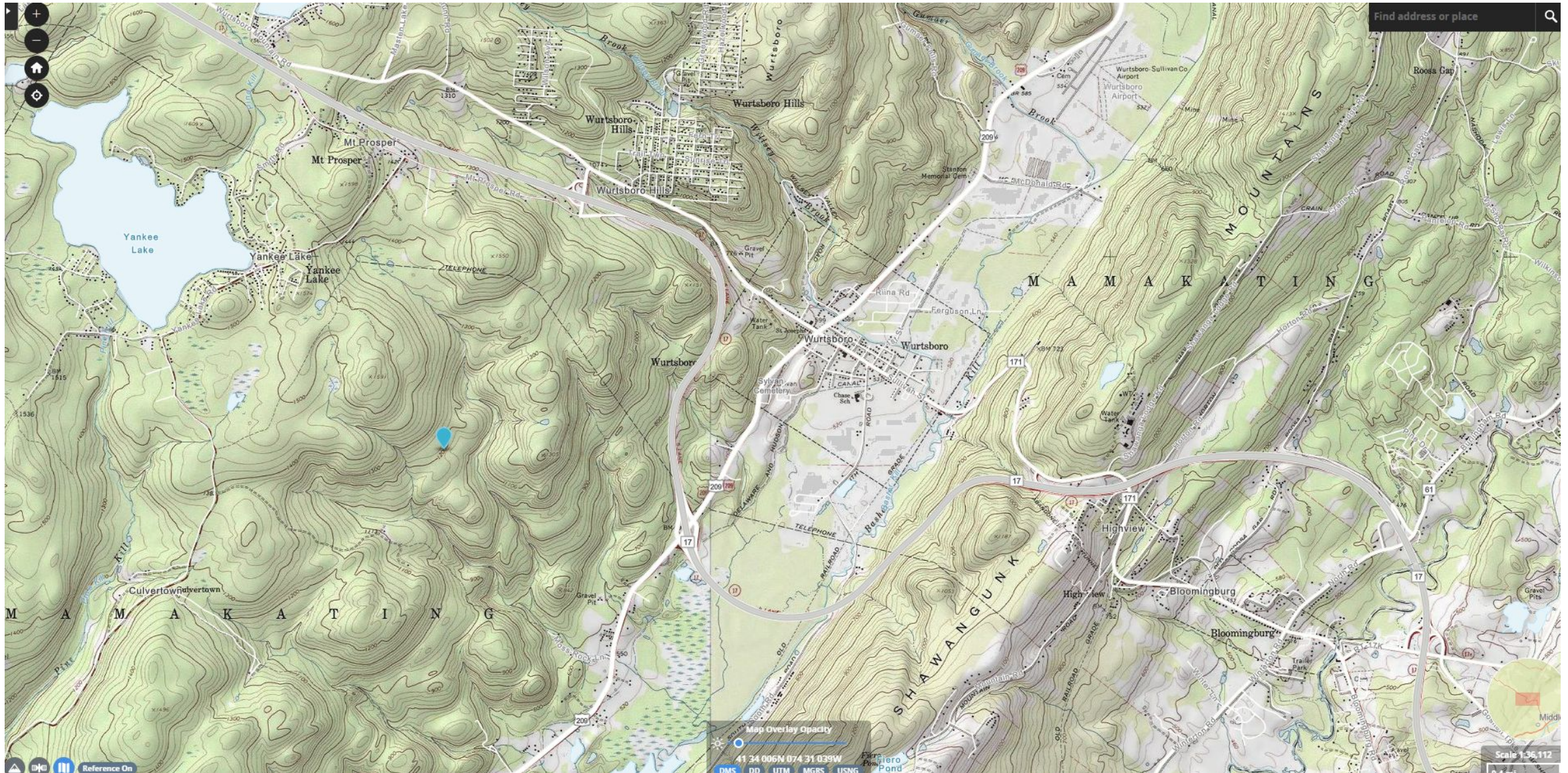
**BASHAKILL
WILDLIFE
MANAGEMENT
AREA**



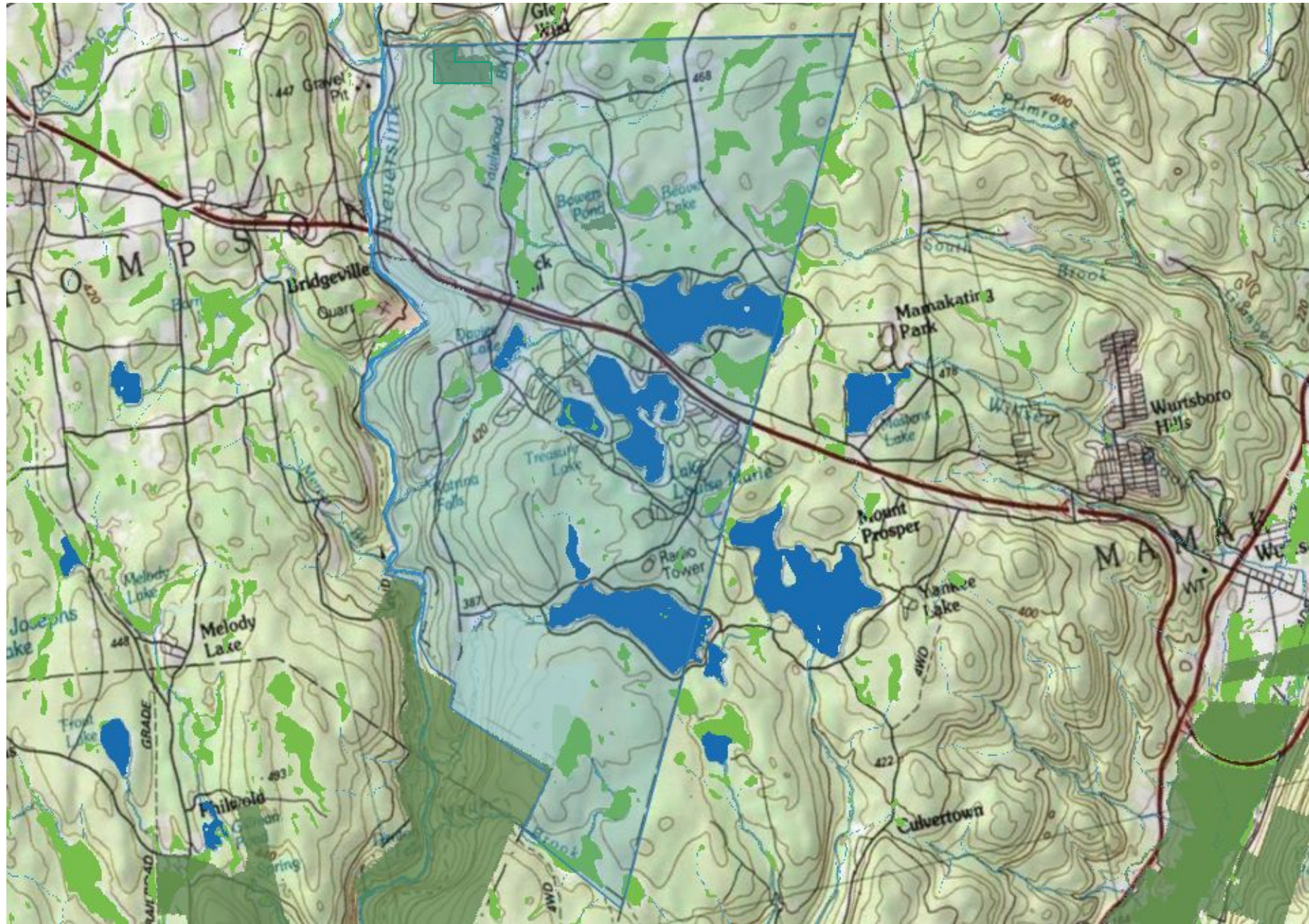
Delaware & Hudson Canal Reservoir Lakes, Rock Hill and the Neversink River



Yankee Lake, Wurtsboro and the Bashakill



PROPOSED CRITICAL ENVIRONMENTAL AREA TOWN OF THOMPSON



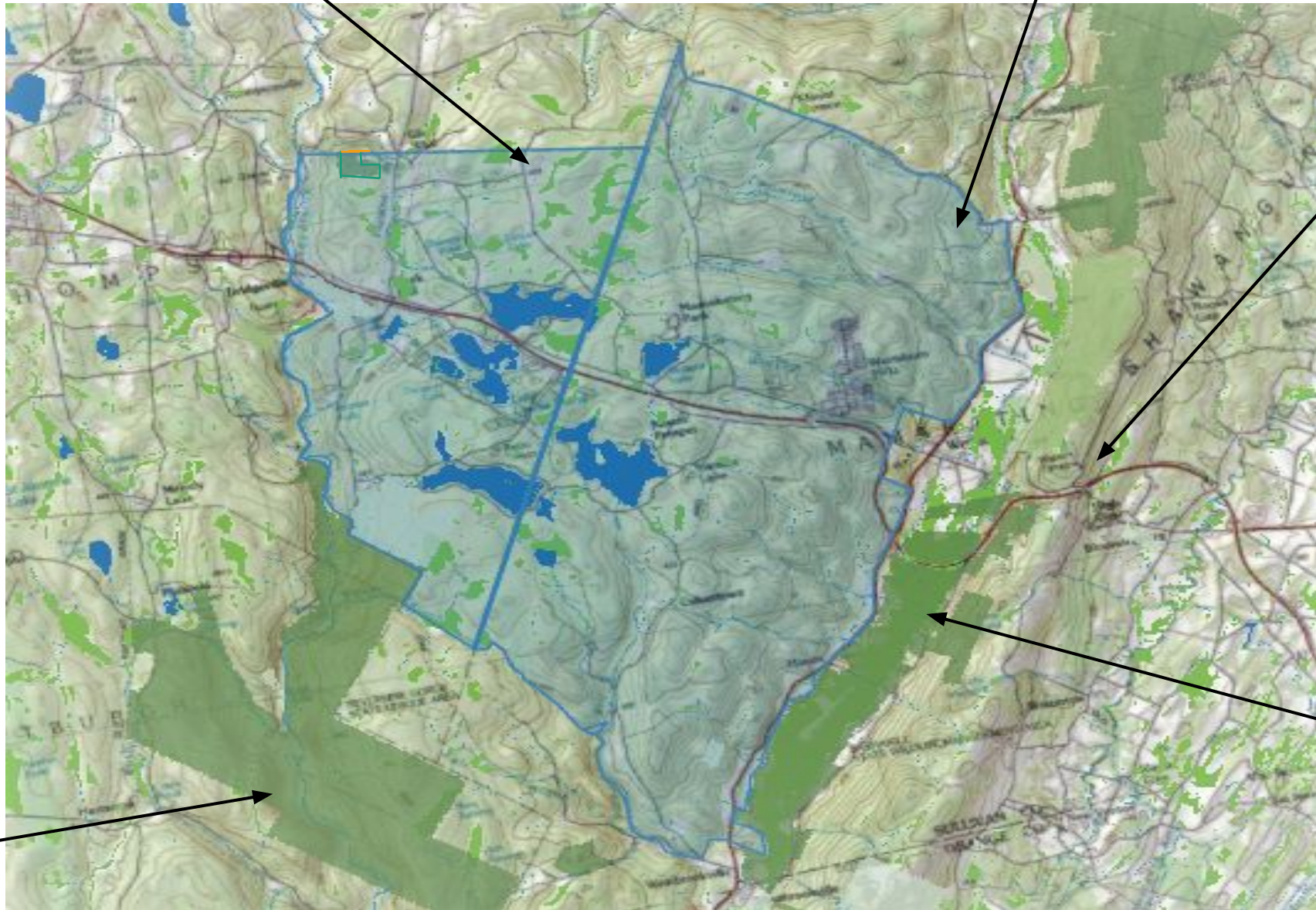
PROPOSED
CRITICAL ENVIRONMENTAL AREA
TOWN OF THOMPSON

PROPOSED
CRITICAL ENVIRONMENTAL AREA
MAMAKATING

Shawangunk
Mountain
Ridge

Bashakill
Wildlife
Management
Area

Neversink
Unique Area



Why is the Delaware and Hudson Canal Lakes Area justified as a CEA?

1. **HISTORY:** The man-made lakes and original stone dams are part of New York State's history of canal construction
2. **WATER:** Fresh water aquifers and ground-source water used for drinking are vulnerable to over-development and pollution
3. **FORESTS:** Important, intact forests allow for wildlife movement between the Bashakill and the Neversink...and beyond
4. **WETLANDS:** Large extent of NYS protected wetlands
5. **BIODIVERSITY:** Unique, biodiverse habitats specific to the area
6. **COMMUNITY & BEAUTY:** Great natural beauty and an irreplaceable source of peace and recreation for residents and visitors



1. HISTORY

Four of the five reservoir lakes are man-made, created to supply water to the Delaware and Hudson Canal which opened in 1828. They are: Wanaksink, Yankee, Wolf, and Louise Marie. The fifth lake (Masten) is a natural lake that was also dammed by the D&H Canal Company.

Around 1848, dry-laid stone dams (still intact) were built by the D&H Canal Company to contain wetlands and small water bodies. Land was flooded, raising the water level as much as 20 feet and creating four reservoir lakes. Streams connected the lakes to the Neversink River or the Pine Kill, and then to the D&H Canal, now defunct, (photo opposite).

Wanaksink Lake Original Dam and Spillway



and the Gravity Railroads connecting with the Mines

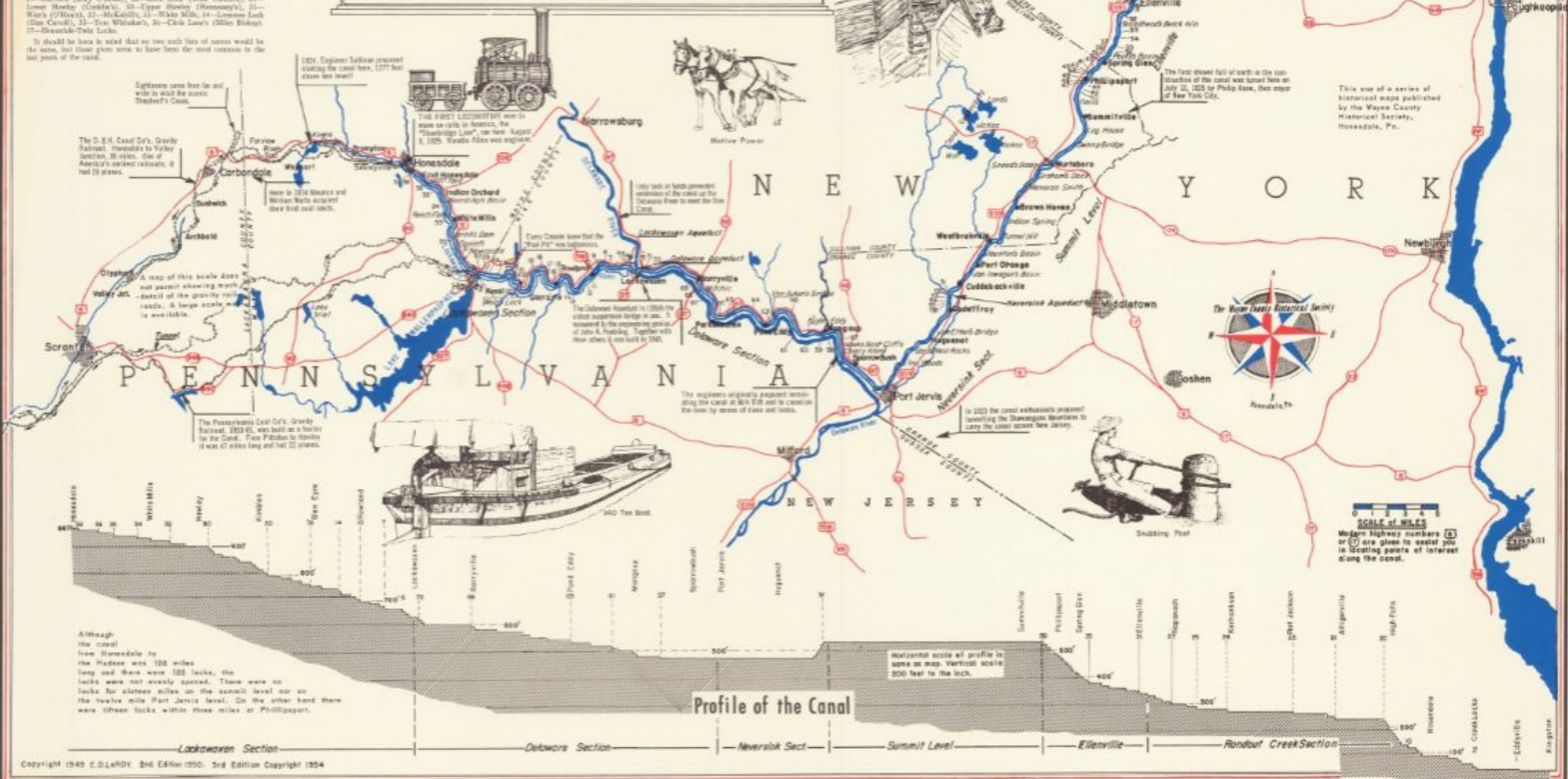
This great engineering work was the first private enterprise in the United States to cost more than a million dollars. It was constructed to bring the anthracite coal of Pennsylvania to the eastern markets and will well after the civil war, carried most of New York City's coal.

The project was first visualized by Maurice B. William Warr and financed through the influence of Philip Hone, then mayor of New York.

The canal was originally only 3' deep 25' wide at the bottom and 52' at the top. It was finally enlarged to a depth of 6', a bottom width of 32' but the top width was little changed. The original locks were 75' X 15' but were enlarged in 1850 to 100' X 15'. As the canal was enlarged the tonnage of the boats increased: 1825-1835, 1840-50 tons, 1840-45, 1850-60 tons. There were 22 aqueducts, 14 bridges, 134 bridges, 22 reservoirs, 18 dams, 14 leaders.

Here the canal crossed the Delaware and Lockhaven Rivers. The first three locks on the Lockhaven were abandoned after the completion of the aqueduct. 4-4-4-Aqueduct, 5-Joe Taper at Tinsboro, 6-O'Dowd's, 6-Babep's, 7-George Rowland's, 11-George Rowland's, 12-Matt's, 12-14-Quinn's, 15-Joe Taper's, 16-Carlson's at Oakesboro, 17-Rodgers, 18-Joe Taper's, 19-Nie Rowland's, 20-The Quakers, 21-Port Road, 22-Mike Rowland's, 23-Mike Rowland's, 24-Frank Dunsen's (The Barker), 25-26-27, 26-Barker's, 27-Cassidy (Billy O'Brien), 28-Rock Lock (Mike Carney), 29-Lower Rowley (Cassidy), 30-Lower Rowley (Hannay's), 31-Rowley (O'Hara), 32-McKenna's, 33-Mike Moe's, 34-Lower Lock (Doe Carney), 35-Ten Whisker's, 36-Clark Lane's (Mike Bishop), 37-Hesside-Twin Locks.

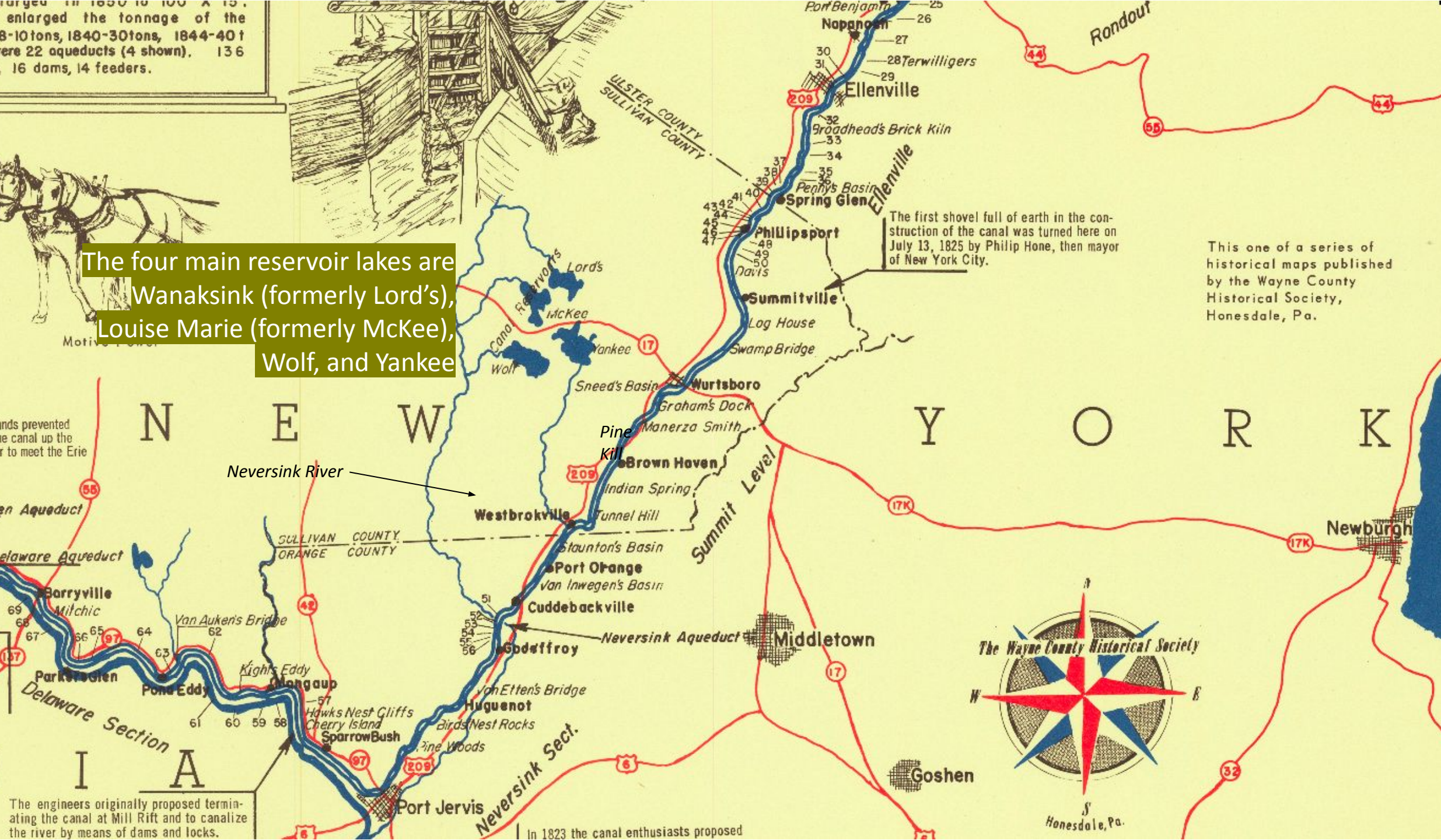
It should be here to note that no two such lists of names would be the same, but these given come to have been the most common in the last years of the canal.



enlarged the tonnage of the
8-10 tons, 1840-30 tons, 1844-40 t
ere 22 aqueducts (4 shown). 136
16 dams, 14 feeders.



The four main reservoir lakes are
Wanaksink (formerly Lord's),
Louise Marie (formerly McKee),
Wolf, and Yankee



The first shovel full of earth in the construction of the canal was turned here on July 13, 1825 by Philip Hone, then mayor of New York City.

This one of a series of historical maps published by the Wayne County Historical Society, Honesdale, Pa.

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Delaware Section
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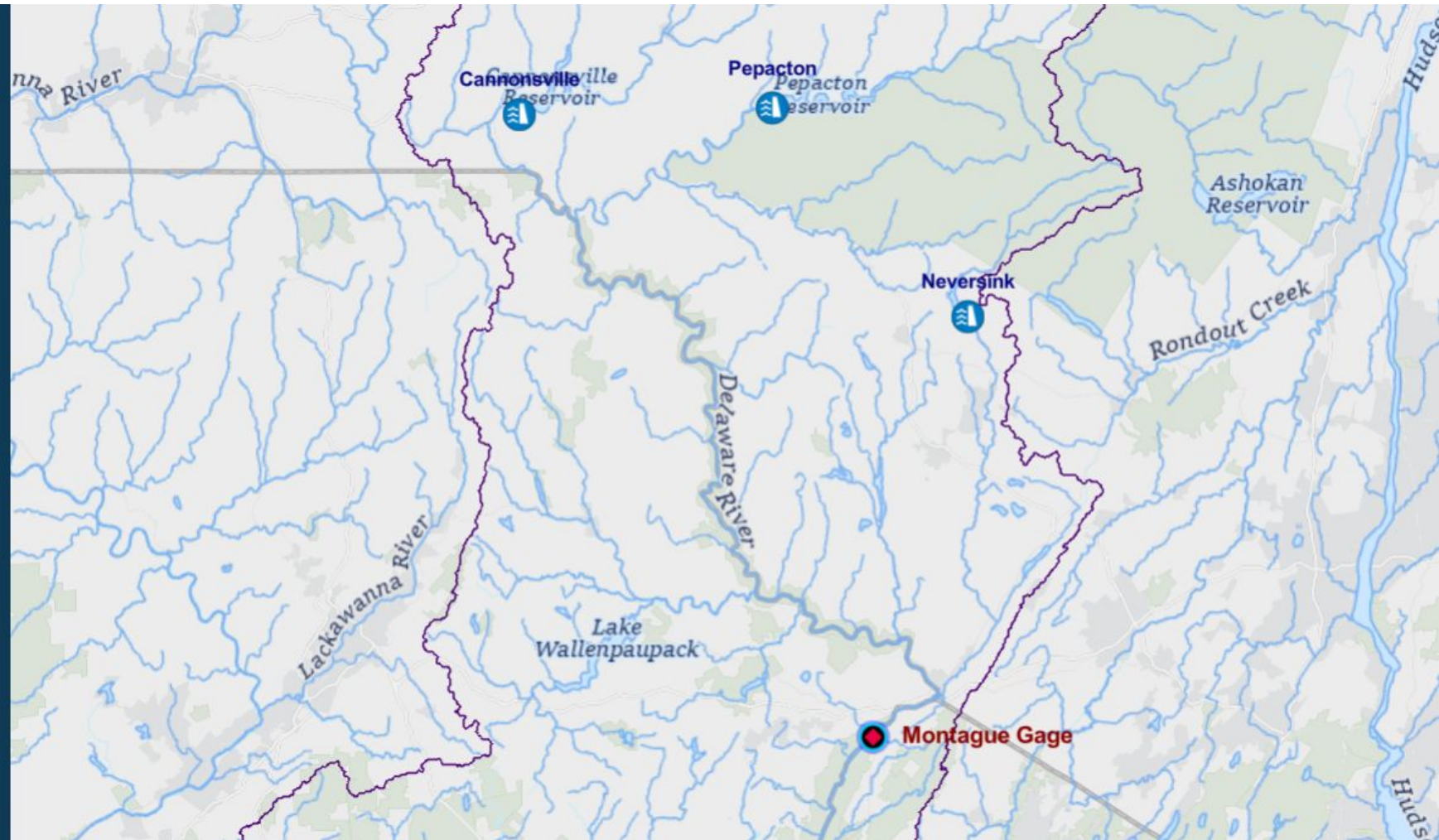
The engineers originally proposed terminating the canal at Mill Rift and to canalize the river by means of dams and locks.

In 1823 the canal enthusiasts proposed

2. WATER

The Catskill Mountain Region in the upper Delaware River Basin provides an excellent source of high quality water and as of today New York City obtains more than half of its water supply from three major reservoirs in the upper Delaware River Basin: Cannonsville, Pepacton and Neversink.

The Delaware River and its tributaries provide water for many different purposes, such as water supply, power generation, water quality maintenance, in-stream flow needs for aquatic life, fishing, boating and recreation. DRBC's





Hudson Valley Natural Resource Mapper

A Tool for Communities in the Hudson River Estuary Watershed



Hudson River
Estuary Program

A Program of the New York State Department of Environmental Conservation



Cornell University

Base Map: Topographical

[How to use
this map](#)

Search

Tools

Hudson River Estuary Layers

Stream and Watershed Layers

Wetland Layers

Forest Layers

Biodiversity Layers

Scenic and Recreation Layers

Reference Layers

☐ All Layers

Layers may be visible at differing scales

☐ Counties

☐ Cities

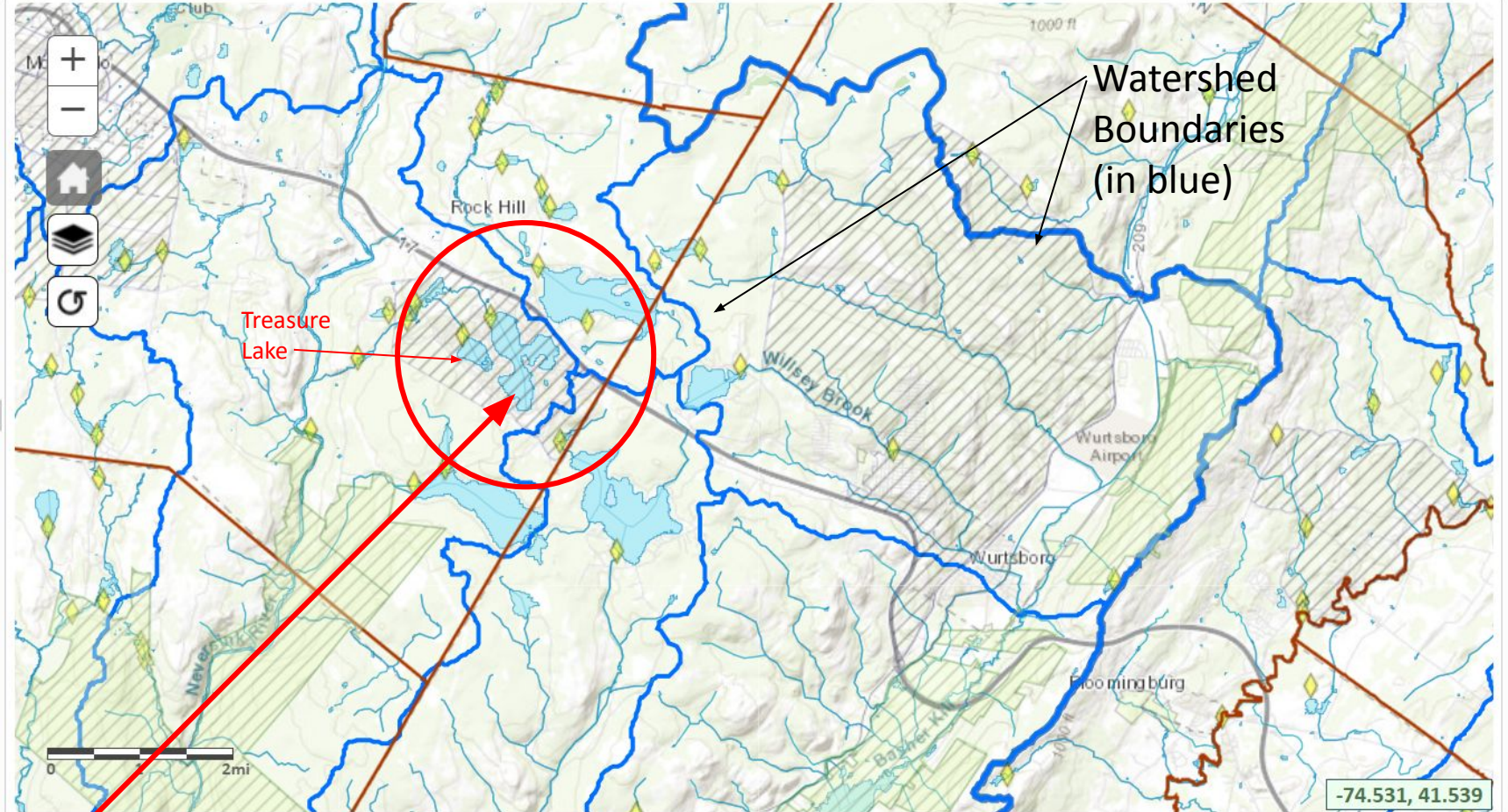
☒ Towns

☐ Villages

☒ Potential Environmental Justice Areas



Manmade Dam



Lake Louise Marie provides drinking water to the community of Emerald Green and several Rock Hill Businesses. The lake is vulnerable to contamination due to over-development and deforestation.

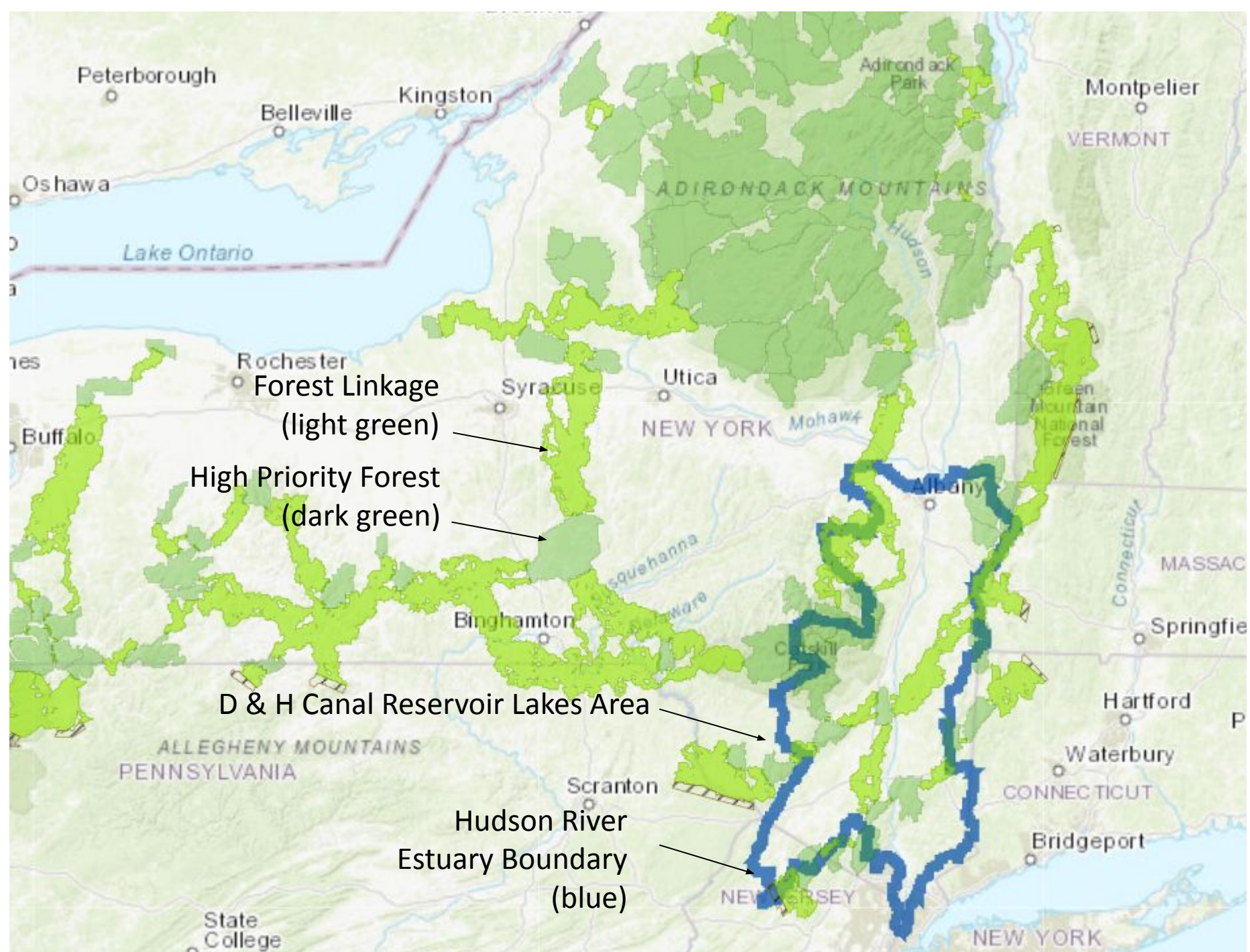
3. FORESTS

Much of the forest around the lakes area has the highest **NYS DEC priority ranking**. These forests are equivalent to the quality of forests in the Adirondack Park, the Catskill Park, and Minnewaska State Park



FOREST LINKAGES

Linkage forests are critical for wildlife movement. Many species cannot survive in fragmented forests. The lakes area is directly adjacent to priority forest and linkage forests

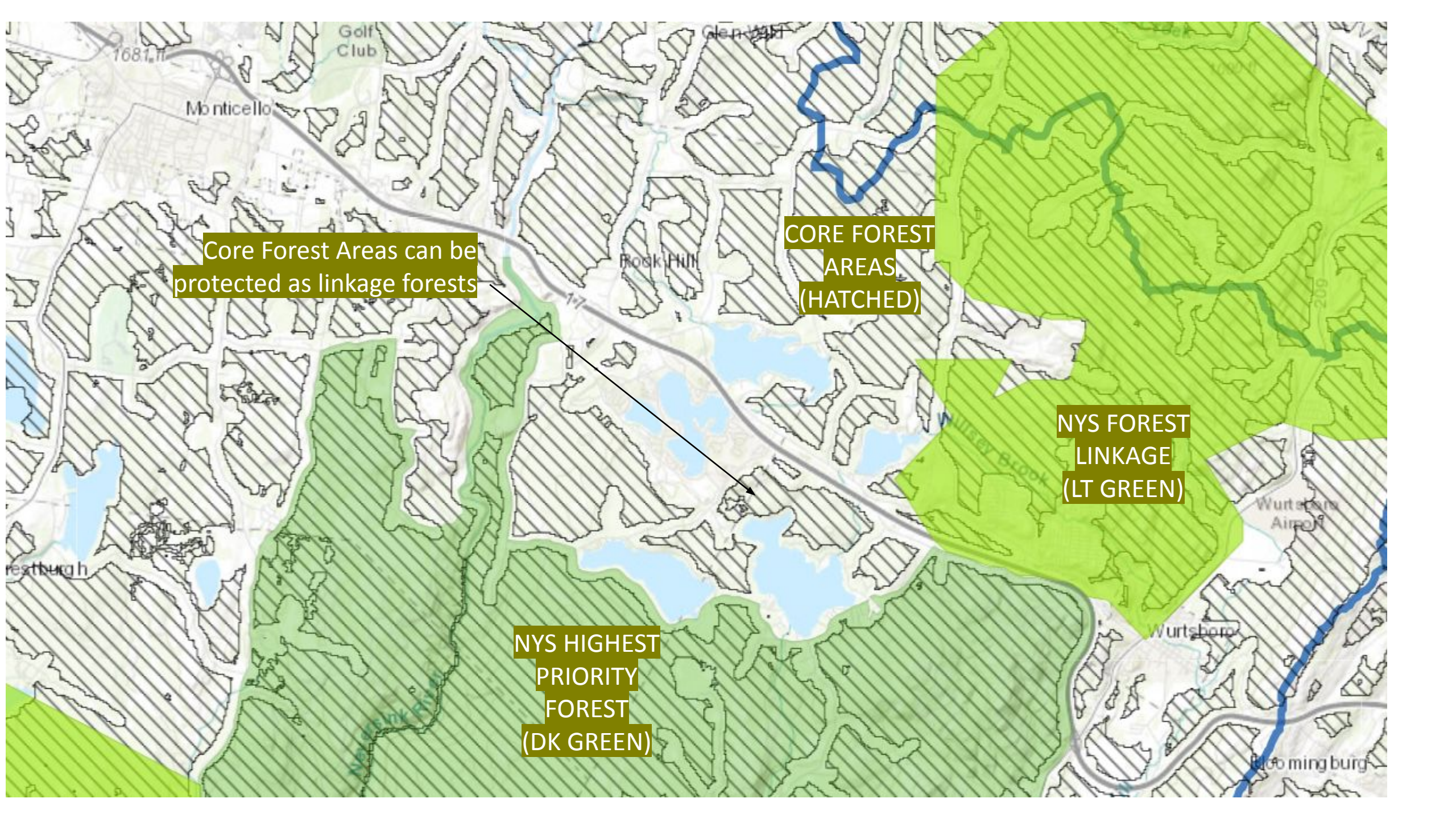


The lakes area itself is a food source for birds of prey, and it connects the bald eagles from their breeding ground of the Mongaup Valley to the food sources in the waters of Neversink and the Bashakill, and they coast the air currents along the ridge of the Shawangunk Mountains



Eagle and 3 Fledglings at Lake Louise Marie





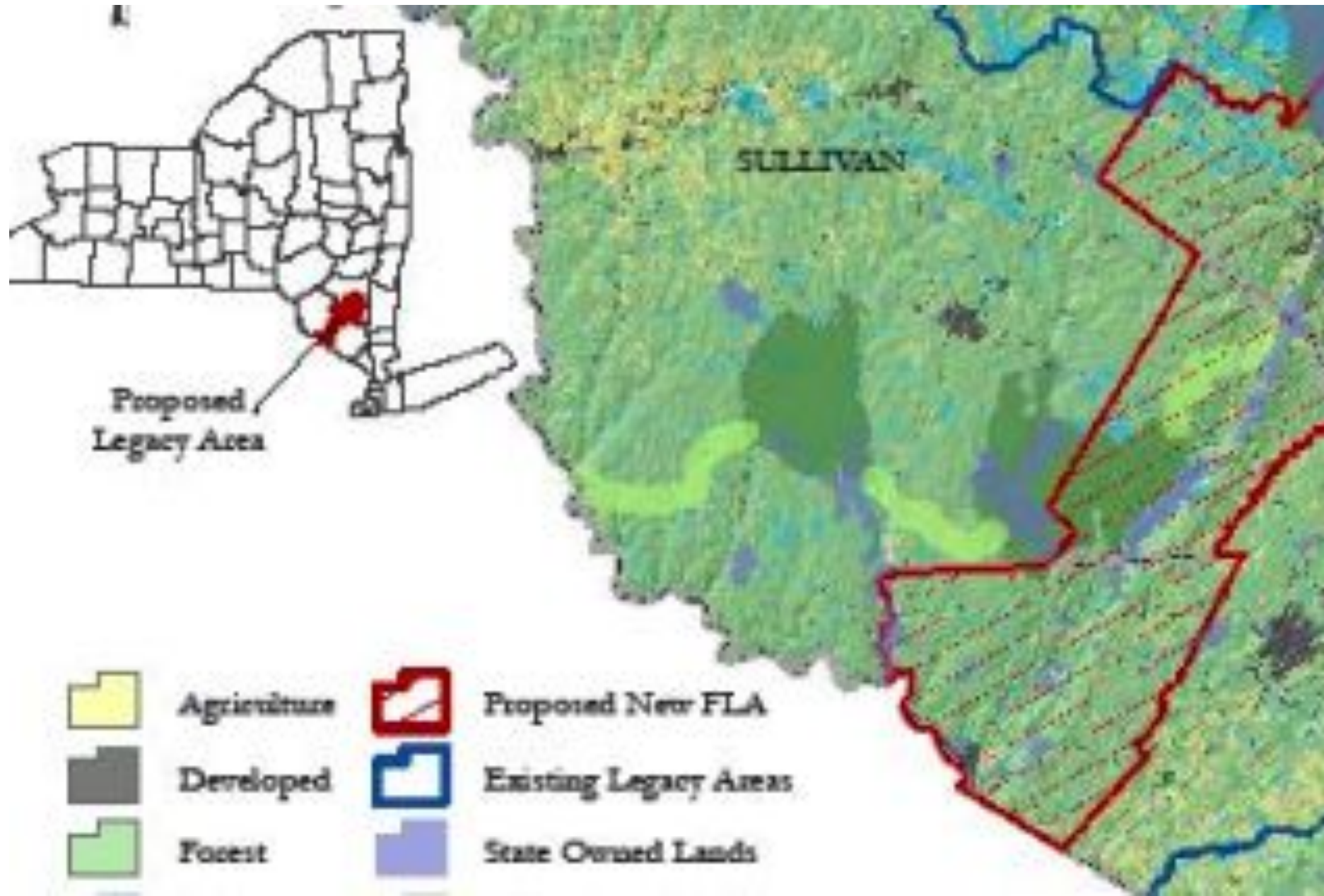
Core Forest Areas can be protected as linkage forests

CORE FOREST AREAS (HATCHED)

NYS FOREST LINKAGE (LT GREEN)

NYS HIGHEST PRIORITY FOREST (DK GREEN)

SHAWANGUNK RIDGE PROPOSED FOREST LEGACY AREA (FLA)



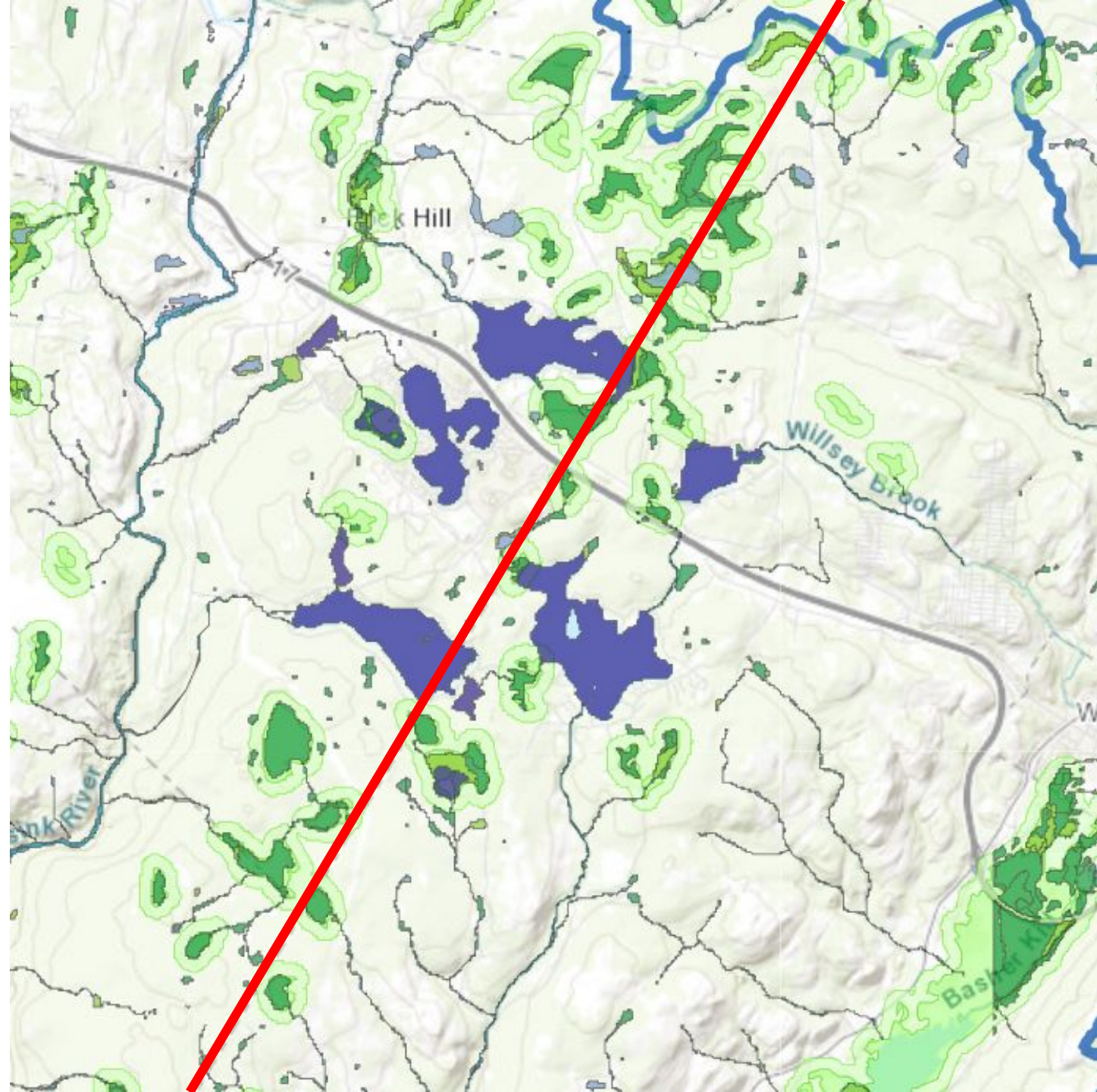
Approximately 50% of the original wetlands in New York State have been lost due to development and other human activities

4. WETLANDS

Wetlands play a crucial role in supporting biodiverse habitats of various species of plants and animals. They also provide:

- Flood and stormwater control
- A source of potable water
- Pollutant filtering that improves water quality
- A significant carbon sink

Proposed DEC Rules: Starting 1/1/2025 - Small wetlands of "unusual importance" will be regulated if they meet 1 of 11 newly established criteria listed in the new legislation.
1/1/2028 - Regulated wetlands threshold will decrease from 12.4 acres to 7.4 acres.



5. BIODIVERSITY

Hudsonia Ltd. was commissioned to complete a biodiversity study of the area.

This is one just one example of their findings...

*“Very important habitat and interesting plant communities in the extensive floating bog mats on **Treasure Lake**, with at least regionally rare plants. There were abundant carnivorous plants as well--pitcher plant and two kinds of sundew. **Treasure Lake** lived up to its name and our expectations!”* (excerpt of an email from Chris Graham at Hudsonia Ltd).



SIGNIFICANT NATURAL COMMUNITIES / RARE PLANTS AND ANIMALS

NY Natural Heritage Program Map (to be updated with Hudsonia findings)

Search

Tools

Layers and Legend

☒ State Regulated Freshwater Wetlands
(Outside of the Adirondack Park)

☐ State Regulated Wetland Checkzone 

☒ Imperiled Mussels

☐ Mussel Screening Ponded Waters

☐ Mussel Screening Streams

☒ Significant Natural Communities

☐ Natural Communities Near This Location 

☒ Rare Plants or Animals

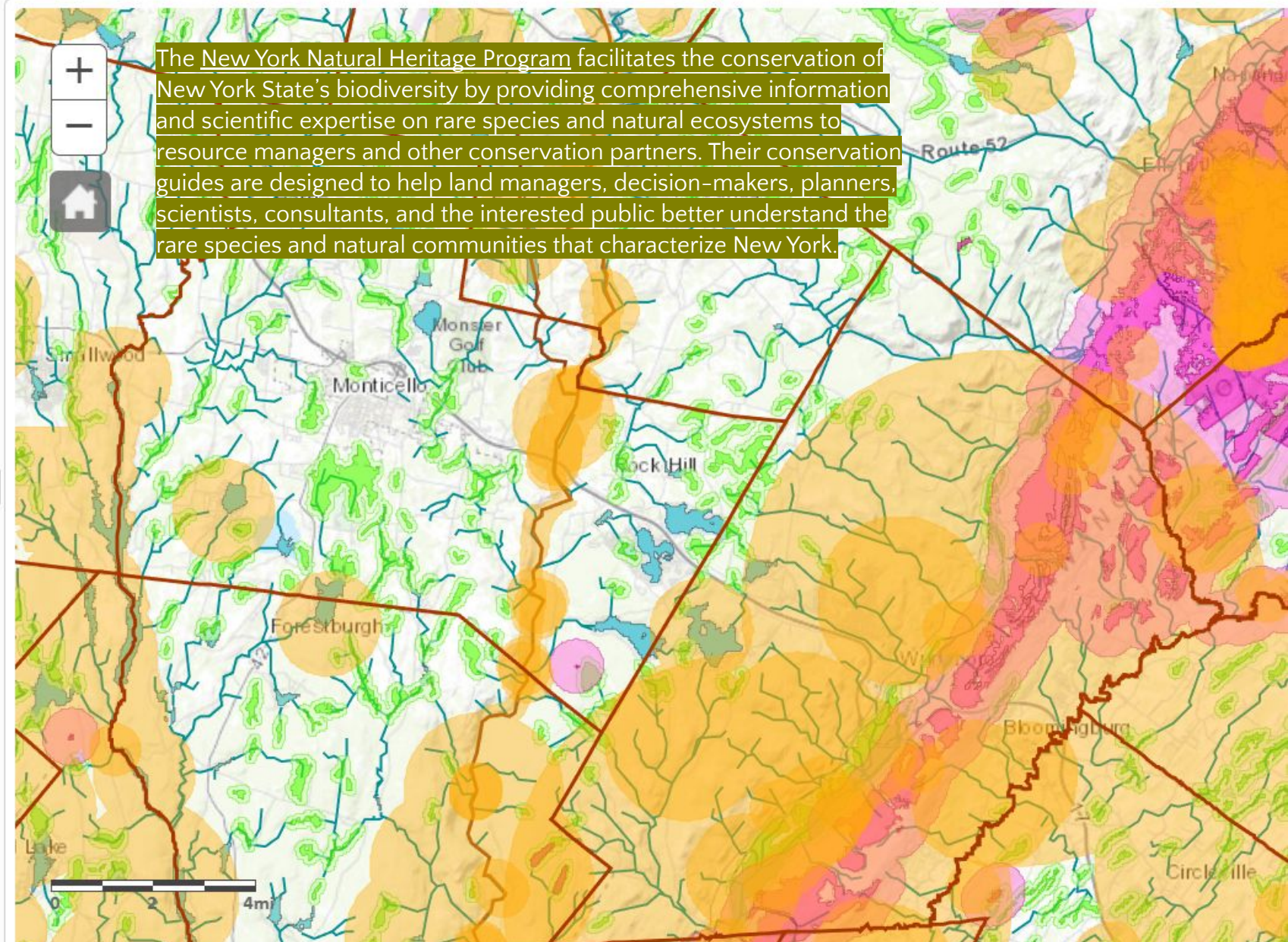
Other Wetland Layers

Reference Layers

Tell Me More...

Need A Permit?

Contacts



SYNERGISTIC HABITATS

- Incredibly rich biodiversity
- Threatened and endangered species
- Rest for migrating birds such as common loons
- Abundant food sources for birds of prey
- Active amphibian migration routes
- Bald eagle nesting grounds
- Unique rhododendron forests

69% of the world's wildlife population has vanished in the past 20 years, including insects and birds



Eastern American Toad
migration seen on Canal Road



Osprey with fish on
Wolf Lake



Timber Rattlesnake
seen on Yankee Lake Road



Pitcher Plants seen on Treasure Lake

***Umbilicaria americana*:**

“The Belly Button of the World”

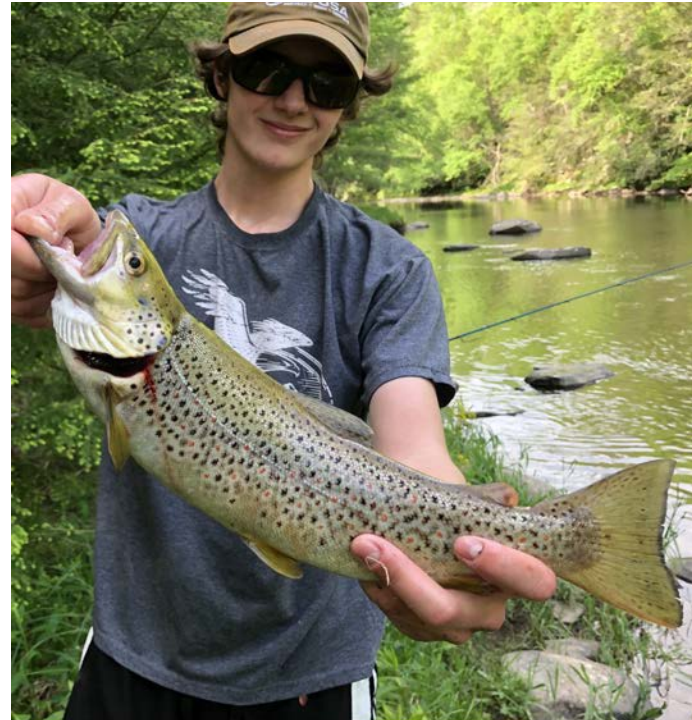
“The Ear of the Stone”

Rock tripe is the first lifeform that established itself post ice-age. Rock tripe like *Umbilicaria americana* “homestead” the granite boulders dropped in the landscape by glacial movement. This ancient lichen is found primarily in lakeshore woods of the Adirondacks and the Catskills.

“Umbilicaria is highly sensitive to air pollution. When you find *Umbilicaria*, you know you are breathing in the purest air. Atmospheric contaminants like sulfur dioxide and ozone will kill it outright. Pay attention when it departs.” Excerpt from *Braiding Sweetgrass* by Robin Wall Kimmerer

Photos: *Umbilicaria americana* (same or similar) in the forests of Wolf Lake





6. COMMUNITY & BEAUTY

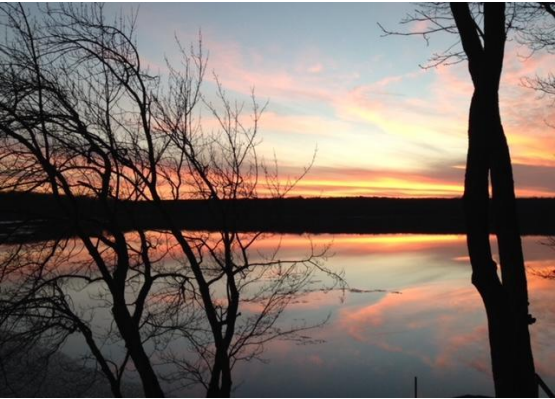
The area is part of the Catskill legacy as summer escape for city dwellers who come to relish the tranquility and natural beauty of the area

Vibrant communities have formed around each of the lakes and in Rock Hill

Rural and mostly residential: Primary residences, second homes, and vacation homes

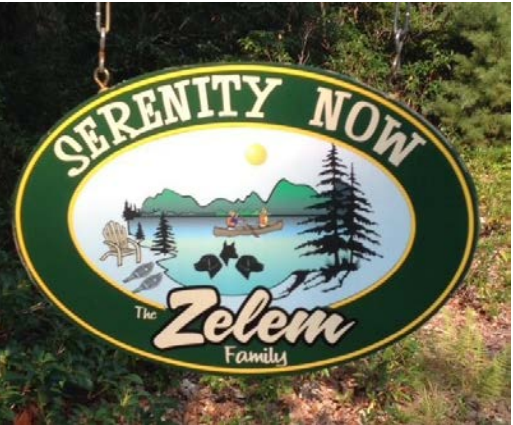
Rock Hill businesses support the local community



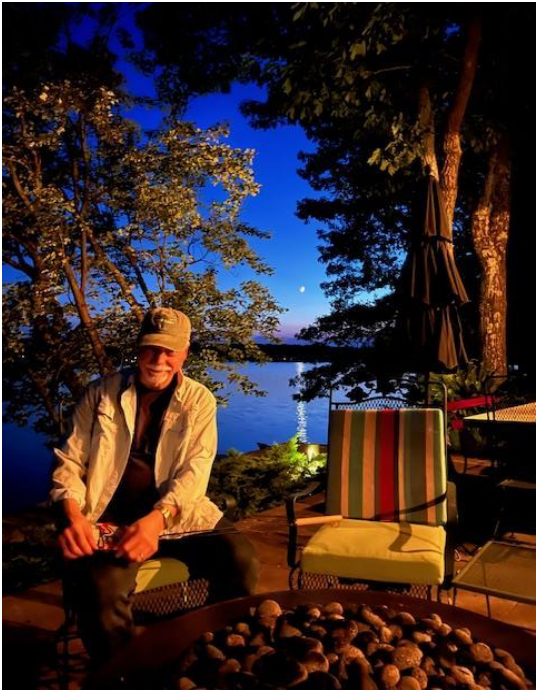


COMMUNITY

RECREATION



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