

USING
NATURAL RESOURCE INVENTORIES
TO IDENTIFY
CRITICAL ENVIRONMENTAL AREAS

A Learning Group Virtual Meeting
29 November 2023

Gretchen Stevens, Hudsonia Ltd.



Hudsonia Ltd.
a nonprofit institute



Hudson River
Estuary Program

A Program of the New York State Department of Environmental Conservation



Cornell University

CRITICAL ENVIRONMENTAL AREAS

- What is a CEA?
- How to establish a CEA
 - Convening a working group
 - Using an NRI
 - Engaging landowners & the public
 - Identifying, delineating, describing & adopting the CEA
- How CEAs are used in public planning and environmental reviews

CRITICAL ENVIRONMENTAL AREA

- provides either an exceptional benefit or a threat to human health; or
- is in an exceptional natural settings; or
- possesses exceptional agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
- has inherent ecological, geological or hydrological sensitivity that may be adversely affected by changes in land use.

[6CRR-NY 617.14(g)]

CRITICAL ENVIRONMENTAL AREAS

- no automatic legal restrictions,
BUT
- features of concern must be considered in land use planning, reviews, decisions, and actions that are reviewed in the SEQR process,
AND
- the lead agency must prepare a written explanation of potential impacts to those features.

CRITICAL ENVIRONMENTAL AREAS

Basic procedure:

- Identify and delineate area
- Create map
- Prepare written description and justification
- Present to legislative body and the public
- Conduct SEQR review (& hold public hearing)
- Adopt CEA (formal adoption by the local legislative body)
- Register CEA with NYSDEC
- Inform local agencies

CRITICAL ENVIRONMENTAL AREAS

What kinds of places?

landfills

hazardous waste sites

flood zones

public water sources

historic areas

important farmland

rare species habitat

wetland complexes

wildlife corridors

large forests

stream corridors

scenic vistas

parks & preserves



CONVENE A WORKING GROUP

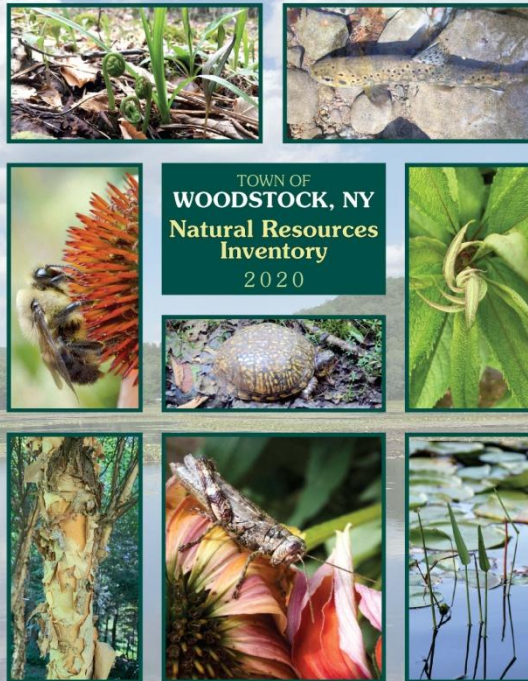
- members of municipal agencies
- environmental professionals
- mapping specialist
- landowners
- others

USING THE NATURAL RESOURCES INVENTORY

NATURAL RESOURCE CONSERVATION PLAN FOR THE TOWN OF NEW LEBANON 2017

Craig Westcott © 2017

C



Town of Olive Natural Resources Inventory



JANUARY 2021

USING THE NATURAL RESOURCES INVENTORY

4. Elev Elevation Zones

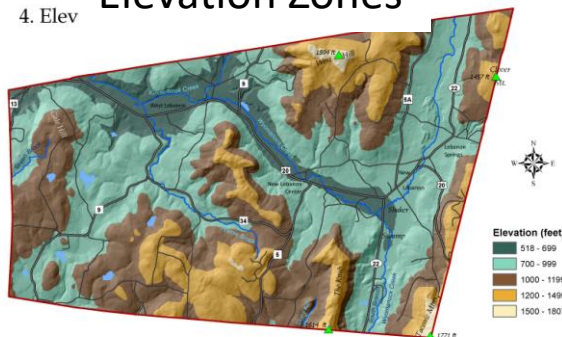


Figure 4 Relief-shaded elevation zones in the Town of New Lebanon, Columbia County, New York, New Lebanon Natural Resource Conservation Plan, 2017.



5. Bedro Bedrock Geology

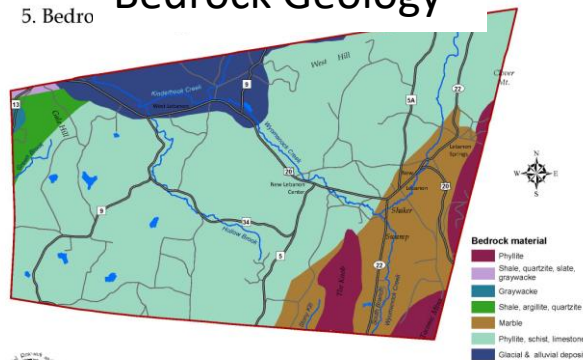


Figure 5 Generalized bedrock geology of the Town of New Lebanon, Columbia County, New York, New Lebanon Natural Resource Conservation Plan, 2017.



6. Surfic Surficial Geology

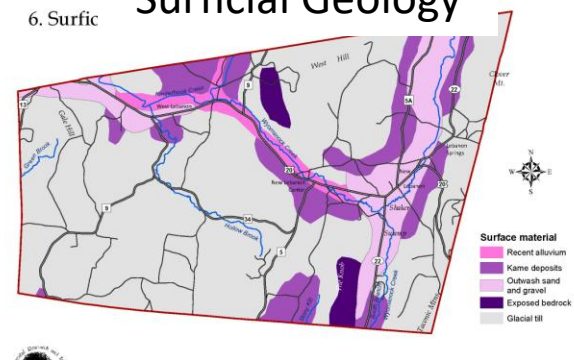


Figure 6 Surficial geology of the Town of New Lebanon, Columbia County, New York, New Lebanon Natural Resource Conservation Plan, 2017.



9. Watersheds, Aquifers and Aquatic Barriers

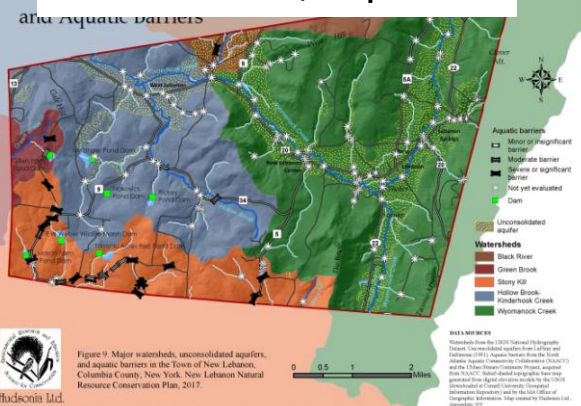


Figure 9 Major watersheds, unconsolidated aquifers, and aquatic barriers in the Town of New Lebanon, Columbia County, New York, New Lebanon Natural Resource Conservation Plan, 2017.



10. Wetlands Wetlands

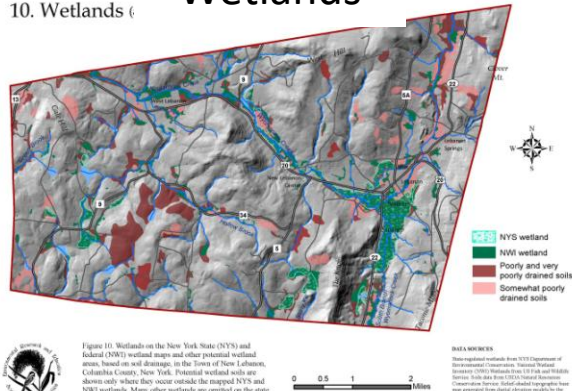


Figure 10 Wetlands on the New York State (NYS) and federal (FWS) wetland maps and other potential wetland areas, based on soil drainage, in the Town of New Lebanon, Columbia County, New York. Potential wetland soils are shown only where they occur outside the mapped NYS and FWS wetlands. Many other wetlands are omitted on the state and federal wetland maps. All wetland jurisdictional determinations should be made on the basis of field observations. New Lebanon Natural Resource Conservation



Special Biological Resources

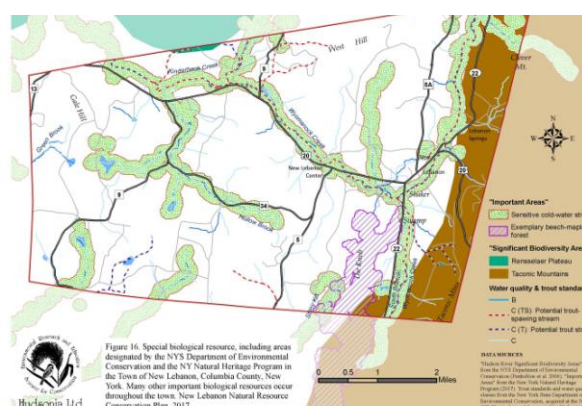


Figure 16 Special biological resource, including areas designated by the NYS Department of Environmental Conservation and the NY Natural Heritage Program in the Town of New Lebanon, Columbia County, New York. Many other important biological resources occur throughout the town. New Lebanon Natural Resource Conservation Plan, 2017.



Cool Ravine

The term “cool ravine” refers to a rare kind of ravine with very high, very steep rocky walls narrowly flanking a rocky stream that runs through the ravine bottom. New Lebanon has many ravines along its intermittent and perennial streams, but only a few cool ravines—a rare habitat in the town and the region.

Cool ravines may offer refuge to plants and animals stressed by the warming climate.

The walls of a cool ravine are typically forested with a mixture of hardwoods and eastern hemlock. The physical and biological structure of this habitat creates an unusually shady, cool, moist microclimate that often supports plants of more northern affinities, such as striped maple, mountain maple, Canada yew, yellow birch, red-berried elder, American spikenard, and hobblebush. Bryophyte cover (mosses and liverworts) is often

extensive. Ferns such as ebony spleenwort, walking fern, and purple-stemmed cliffbrake may be present if the rocks are calcareous. Stream salamanders such as northern dusky and northern two-lined salamander are likely to use cool ravine habitats, and spring salamander is a possibility. Slimy salamander may use the rocky ravine wall areas, and other terrestrial-breeding salamanders may be abundant there and in the surrounding forest. Rare and uncommon birds such as winter wren, Acadian flycatcher, blackburnian warbler,[†] and black-throated green warbler[†] sometimes breed in these habitats. Mammals may include woodland jumping mouse and southern redback vole, and small-footed bat[†] may roost in **talus** on the ravine walls.

New Lebanon has at least three cool ravines, and perhaps more that are yet undiscovered. These habitats where air temperatures are markedly cooler than those of the surrounding landscape provide habitat for unusual plants and animals, and may offer critical refuge for organisms stressed by the warming climate in the coming decades.

Ledge and Talus

In this document we use the term “ledge” for bedrock exposed at the ground surface, and “talus” for the fields of loose rock that often accumulate below steep ledges and cliffs. Some ledge and talus habitats support well-developed forests, while others have only sparse, patchy, and stunted vegetation. Ledge and talus habitats sometimes appear to be harsh and inhospitable, but they can support an extraordinary diversity of uncommon and rare plants and animals. Some species, such as wall-rue, smooth cliffbrake, purple-stemmed cliffbrake, and northern slimy salamander are found only in and near such rocky places in the region. The communities and species that occur at any particular location are determined by many factors, including bedrock type, outcrop size, aspect, exposure, slope, elevation, biotic influences, and kinds and intensity of human disturbance.

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Cool ravines may offer refuge to plants and animals stressed by the warming climate.

COOL RAVINE

- high, steep, rocky walls
- deeply shaded, cool, moist microclimate
- plants of northern habitats
- cool refuge for plants and animals

by the warming climate in the coming decades.

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COOL RAVINE

Gretchen Stevens





Gretchen Stevens



David Farren



Blackburnian warbler

©Ezra Staengl



small-footed bat

©Brock Fenton



winter wren

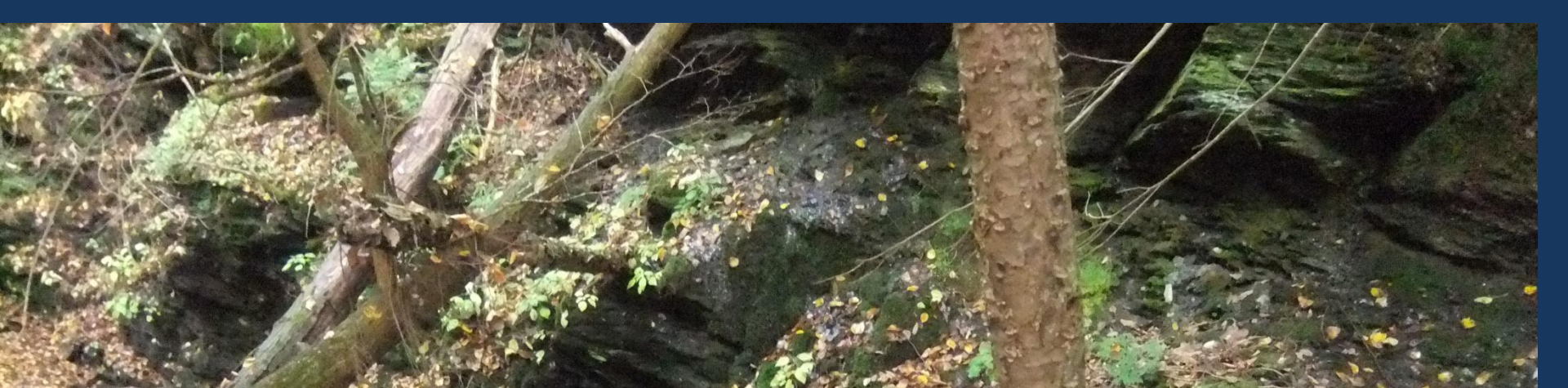
©Brad Imhoff



slimy salamander

©Mike Marchand

Gretchen Stevens



northern dusky salamander

©Todd Pierson



spring salamander

MassWildlife



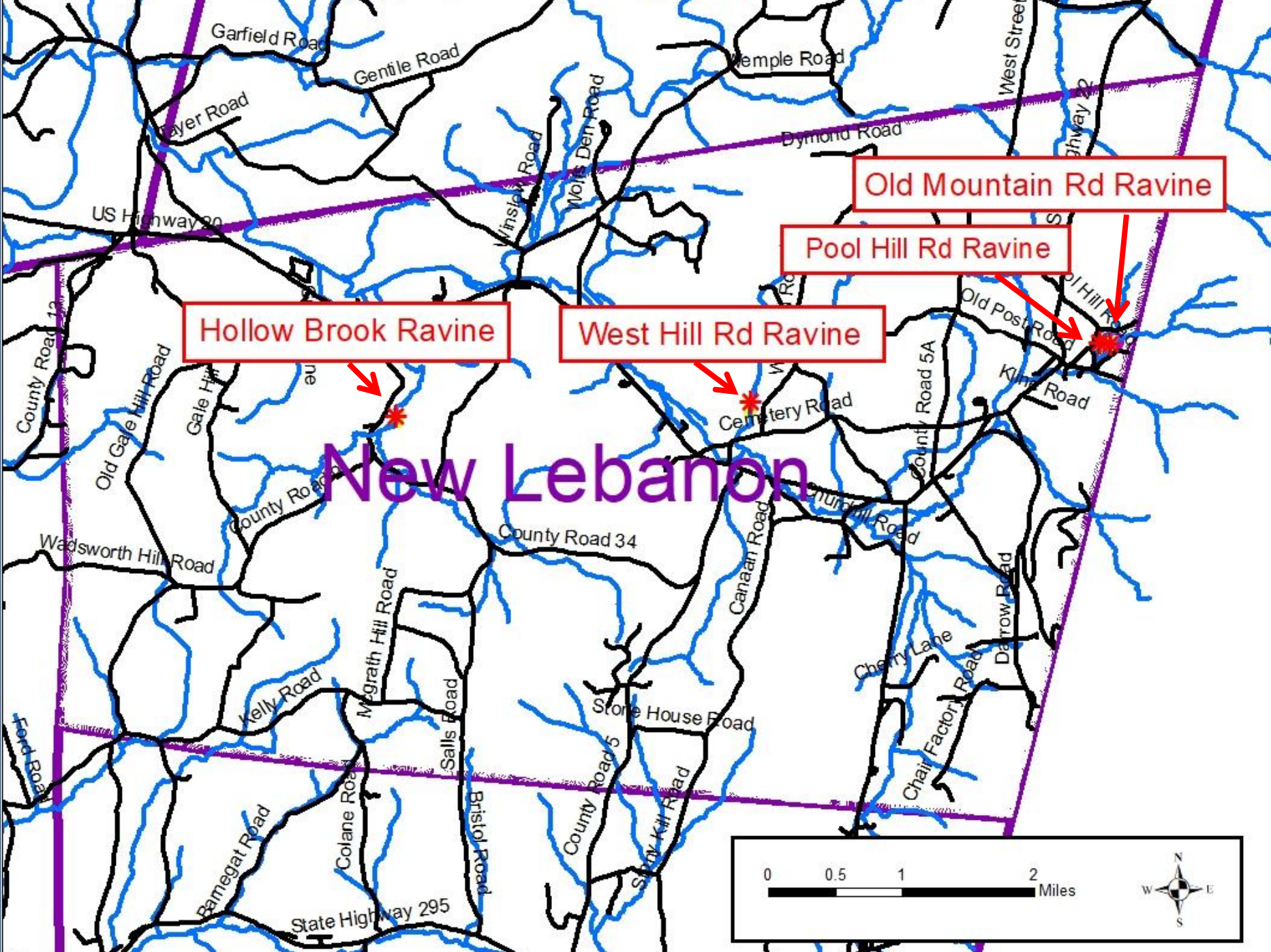
Gretchen Stevens



Gretchen Stevens



Donald Lamonaca



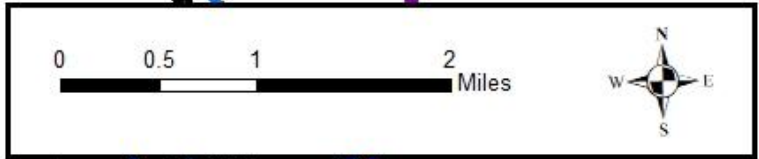
Hollow Brook Ravine

West Hill Rd Ravine

Pool Hill Rd Ravine

Old Mountain Rd Ravine

New Lebanon



WARM SPRING TOWN OF NEW LEBANON

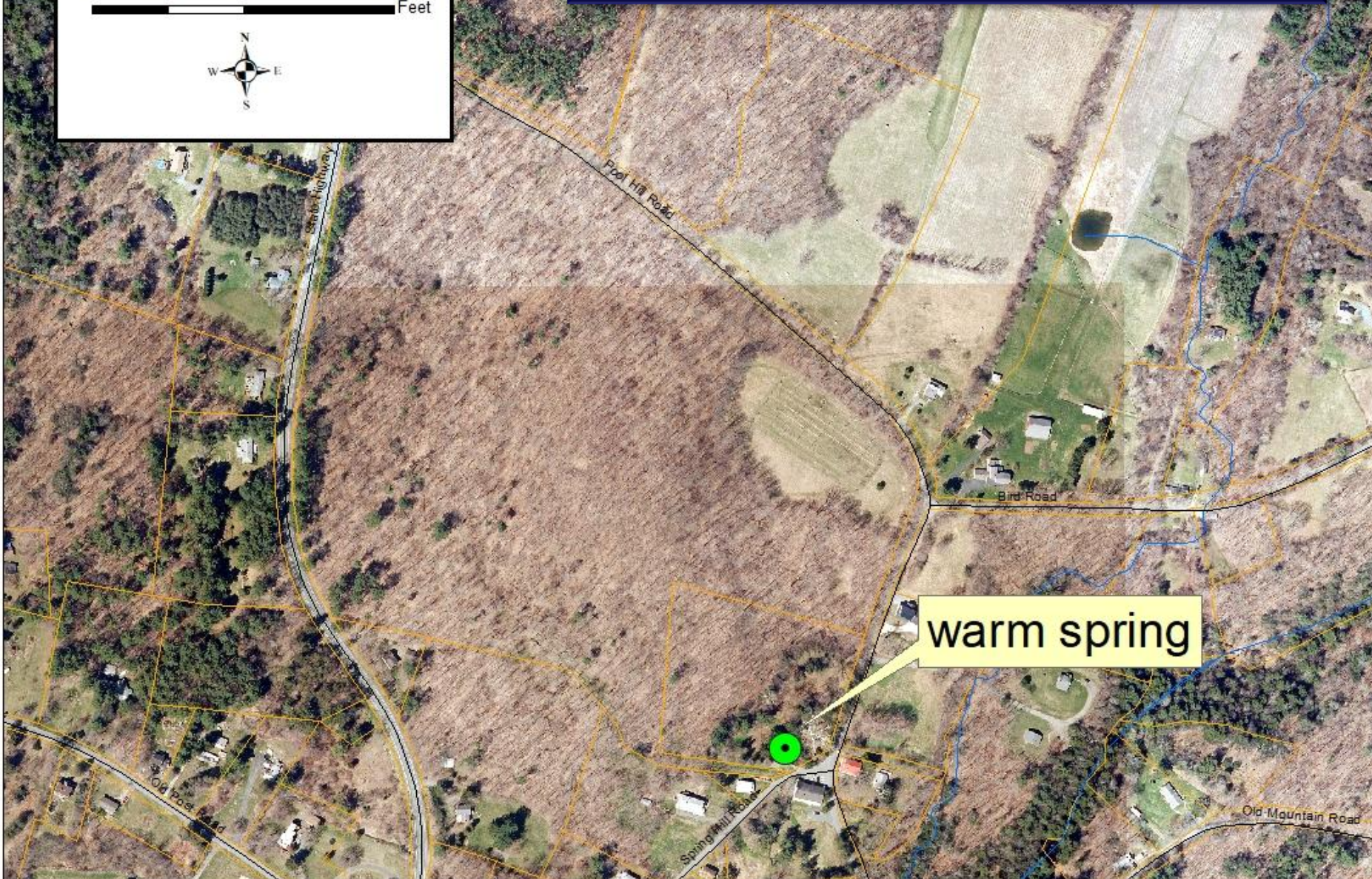


warm spring



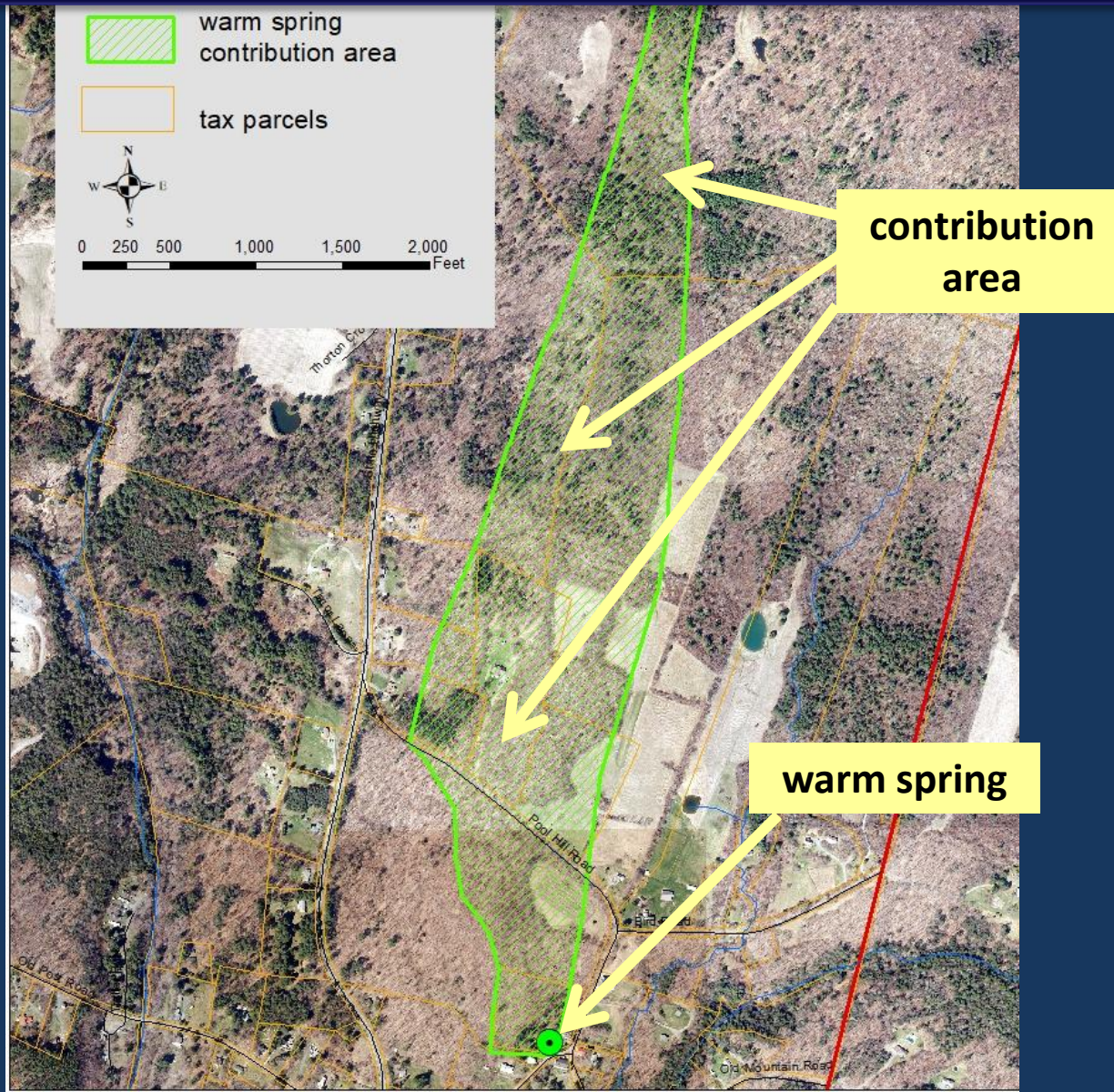
tax parcel

0 200 400 800
Feet



warm spring

WARM SPRING CRITICAL ENVIRONMENTAL AREA

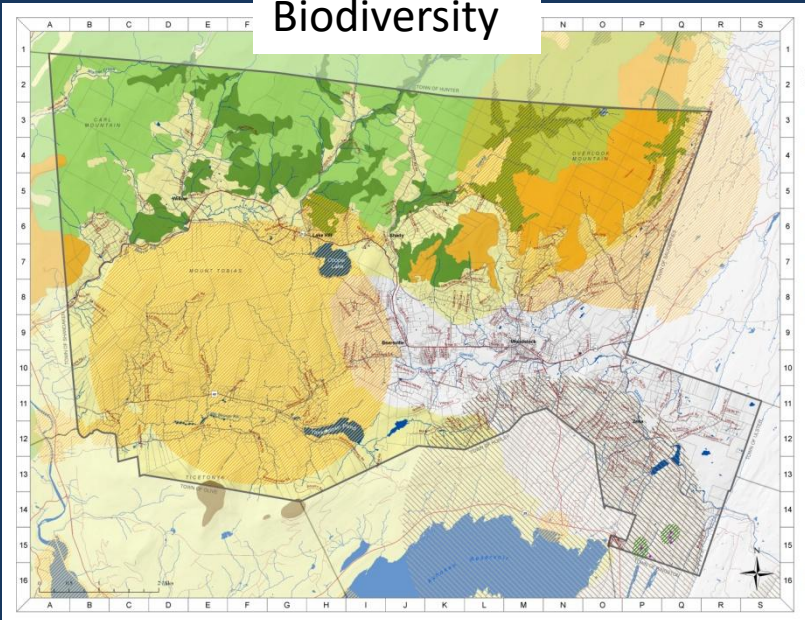




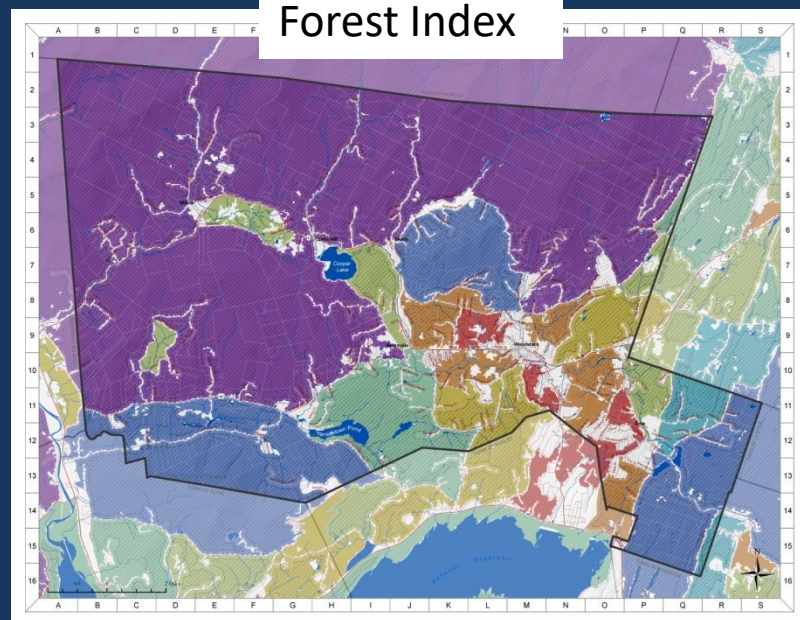
TOWN OF
WOODSTOCK, NY
Natural Resources
Inventory
2020



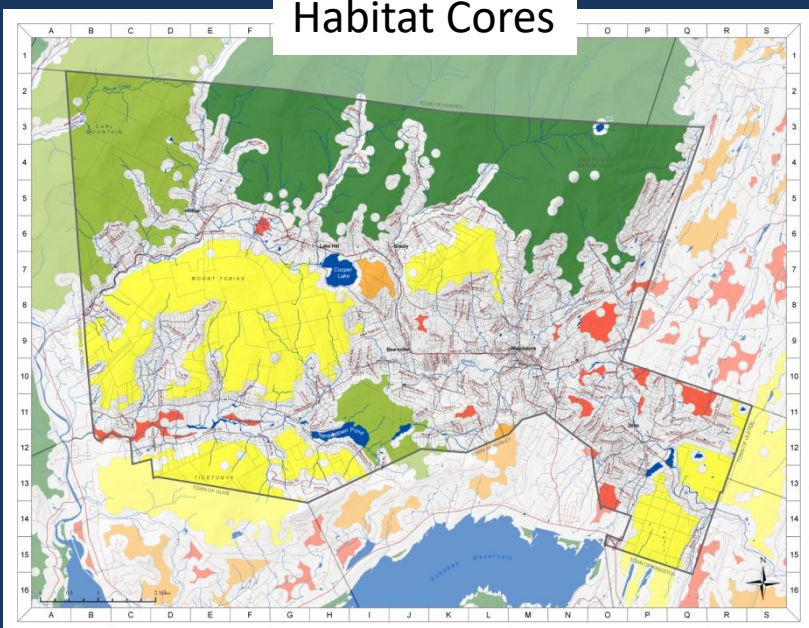
Biodiversity



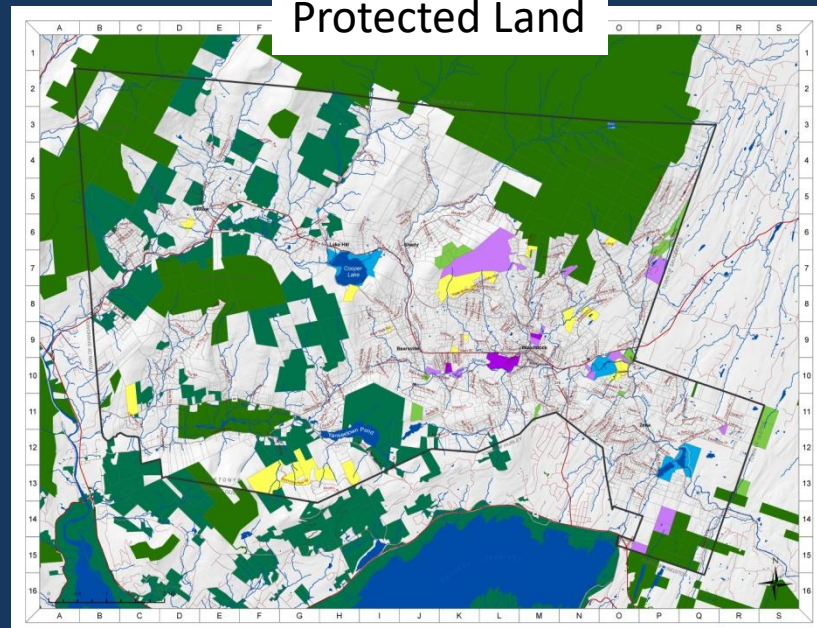
Forest Index



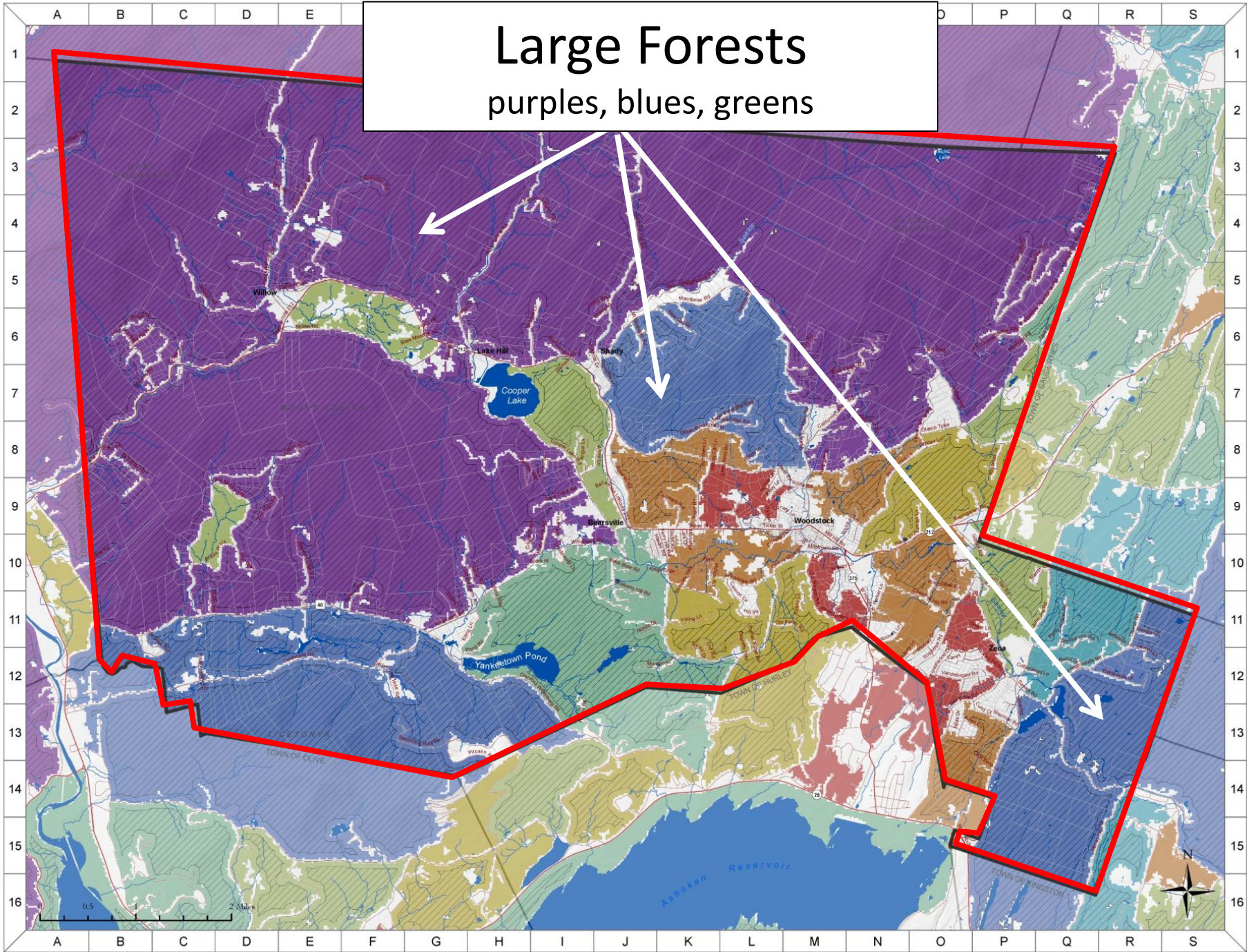
Habitat Cores



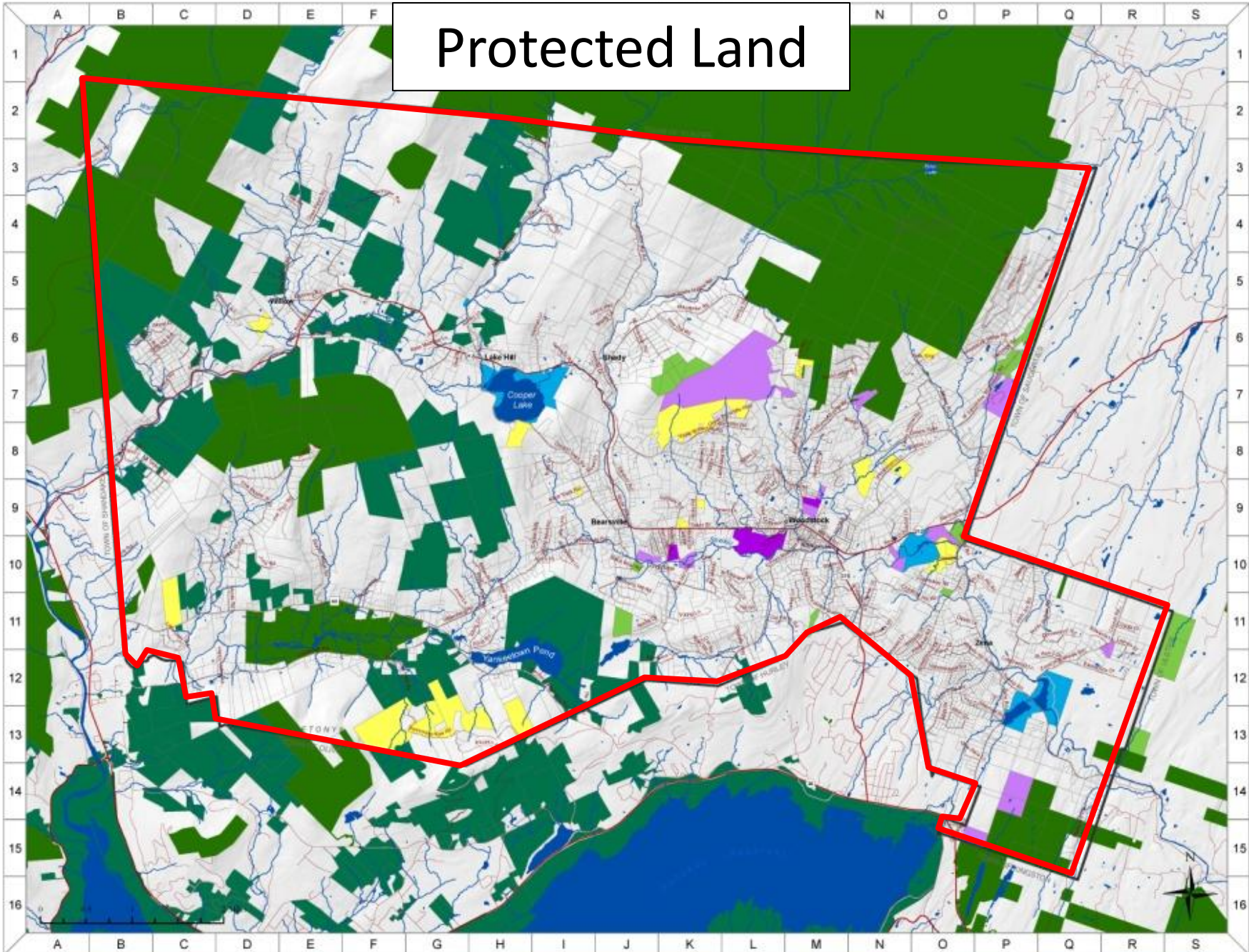
Protected Land



Large Forests
purples, blues, greens



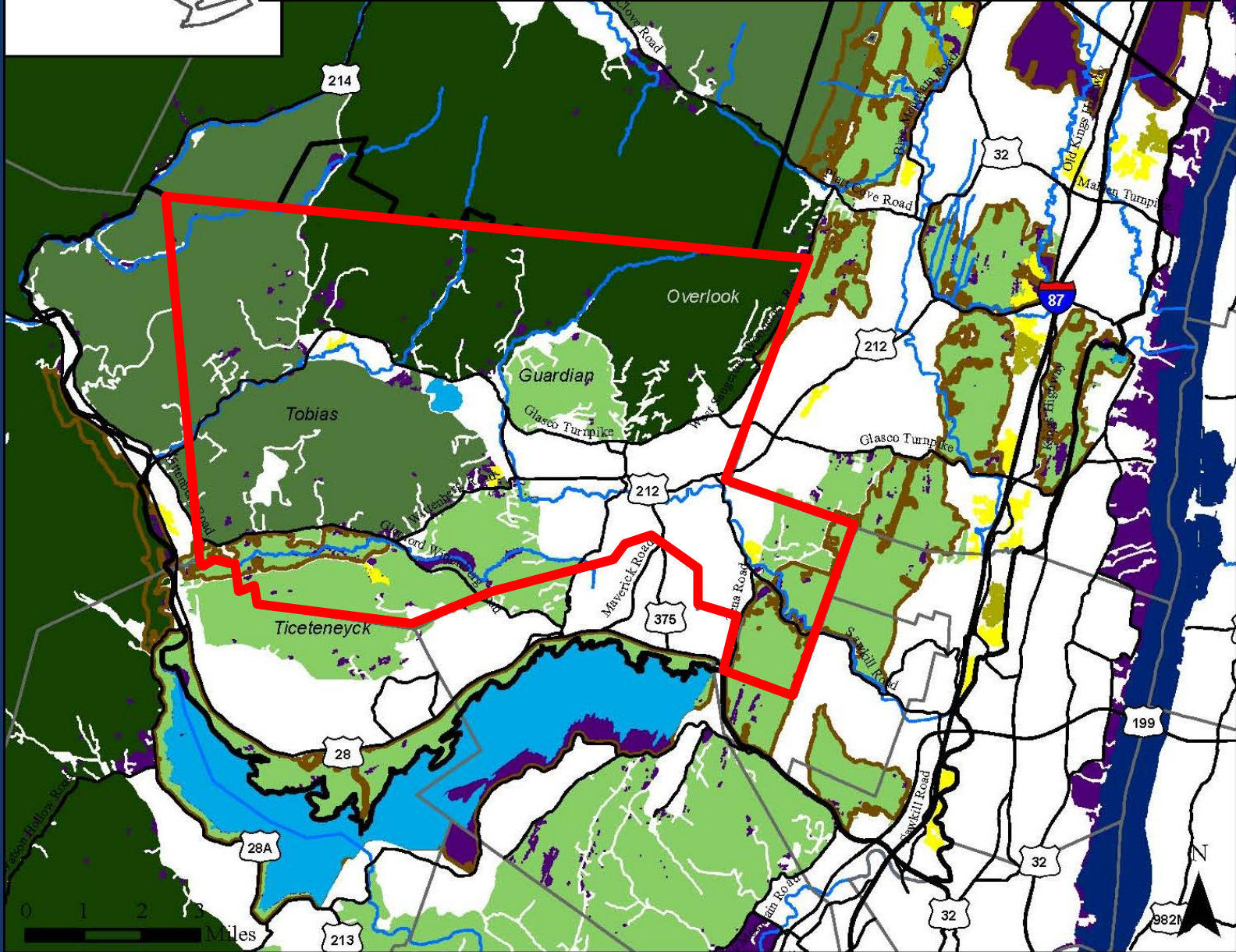
Protected Land





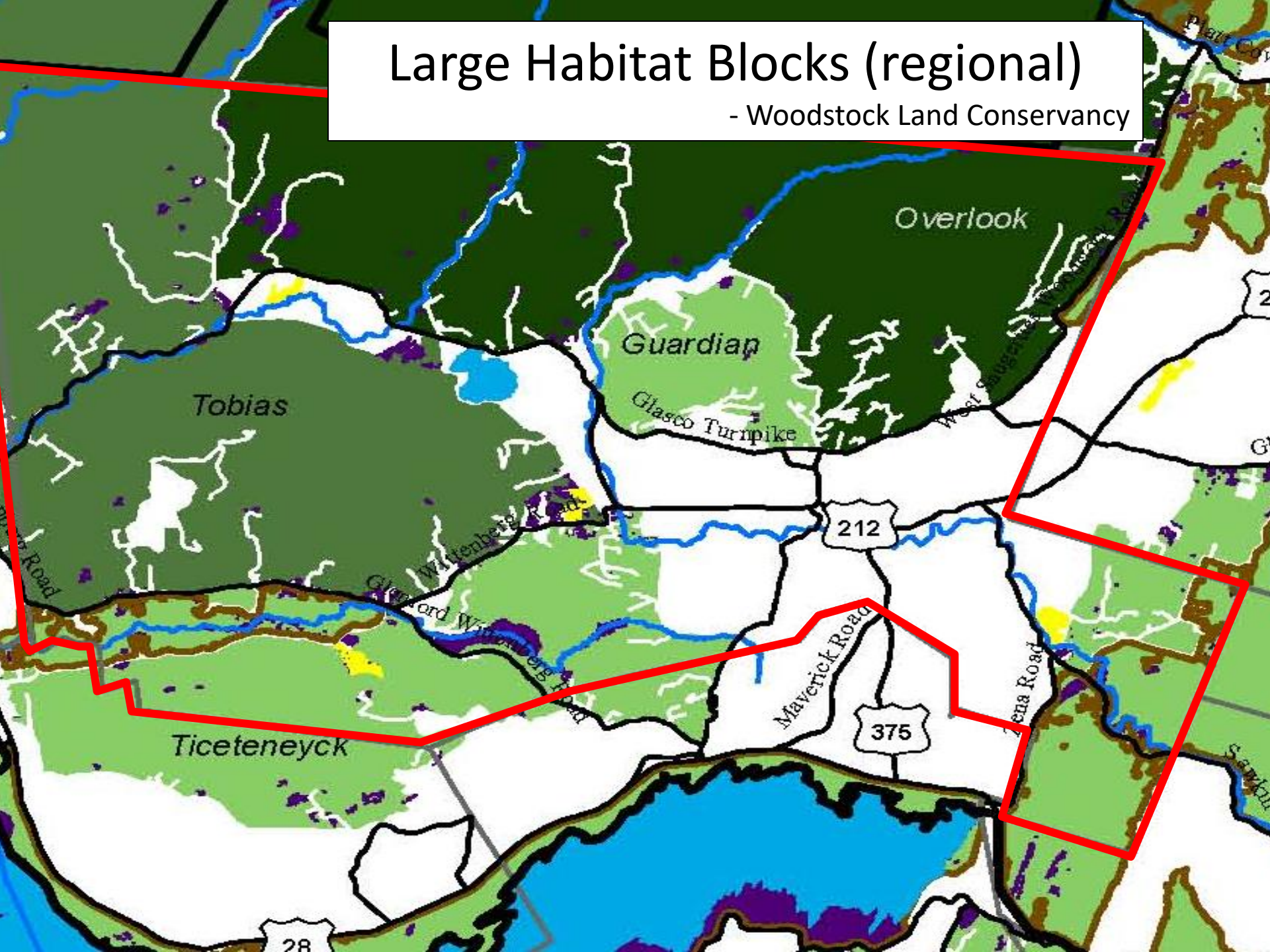
Large Habitat Blocks (regional)

- Woodstock Land Conservancy



Large Habitat Blocks (regional)

- Woodstock Land Conservancy



Large Habitat Blocks (regional)

- Woodstock Land Conservancy



Proposed Zena Woods CEA

Zena Woods Critical Environmental Area

- large forests
- shrublands
- meadows
- forested swamps
- at least 20 vernal pools
- other wetlands
- many small streams
- Sawkill
- unconsolidated aquifer



proposed Critical Environmental Area



protected land



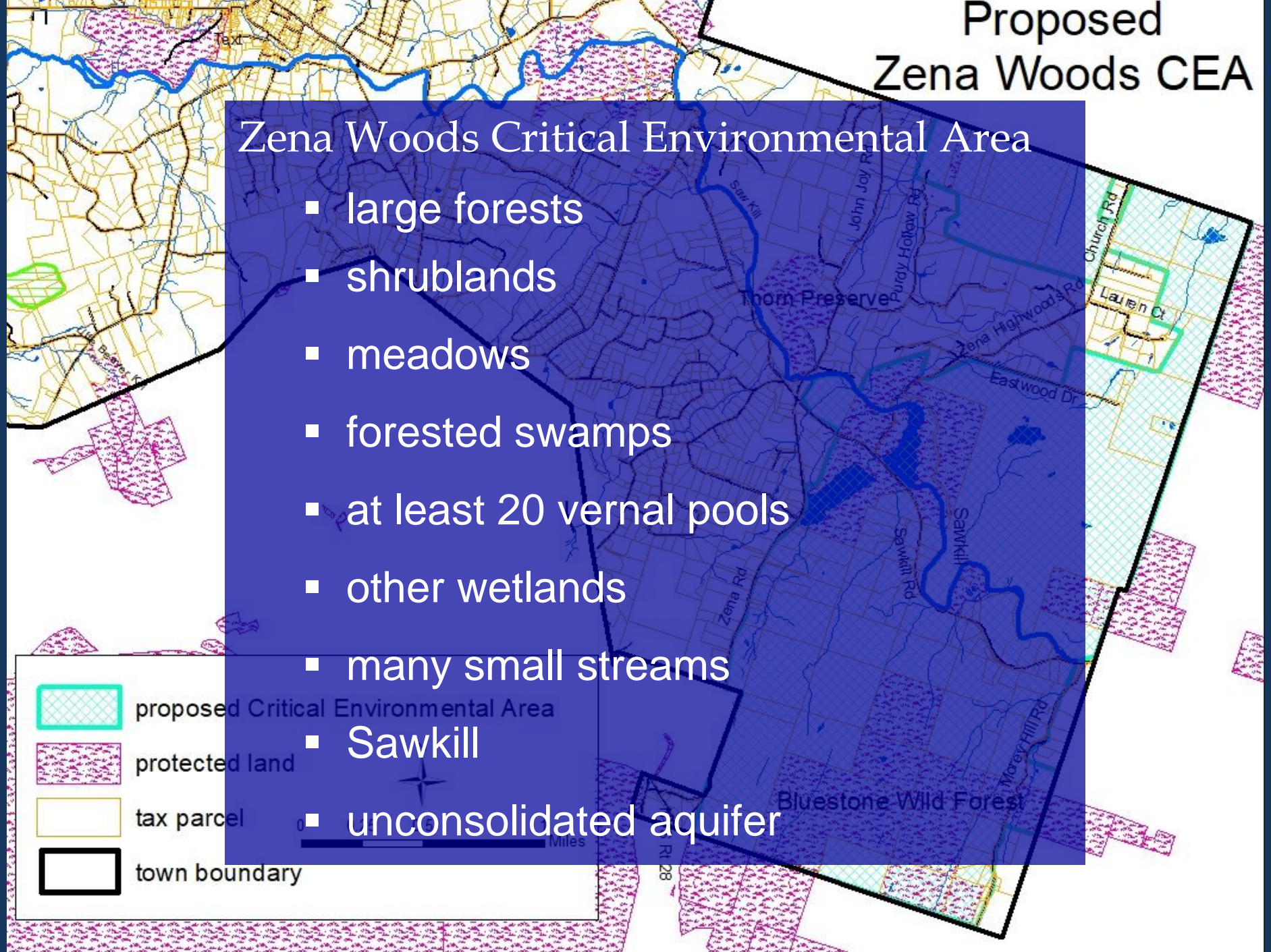
tax parcel



town boundary

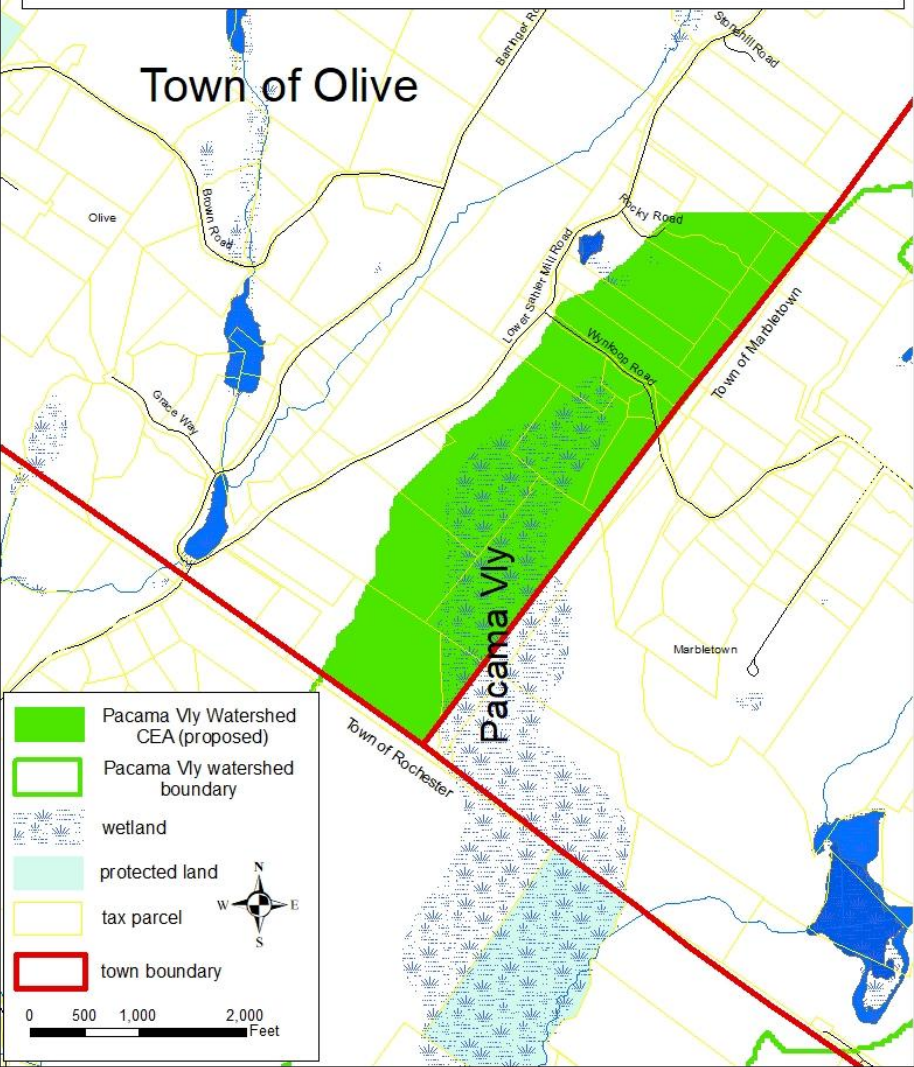


Miles



Pacama Vly Watershed Critical Environmental Area (proposed)

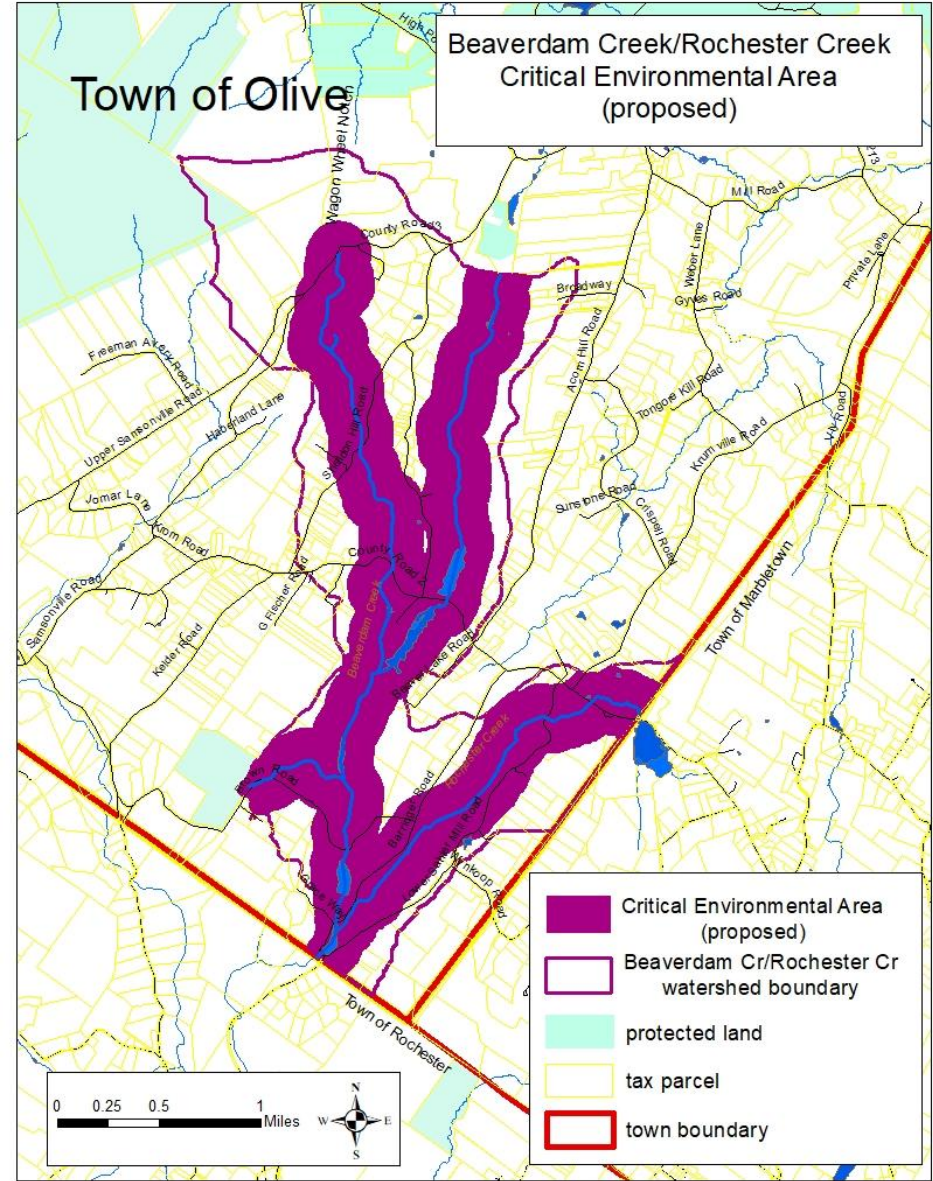
Town of Olive



- Pacama Vly Watershed CEA (proposed)
- Pacama Vly watershed boundary
- wetland
- protected land
- tax parcel
- town boundary

Town of Olive

Beaverdam Creek/Rochester Creek Critical Environmental Area (proposed)



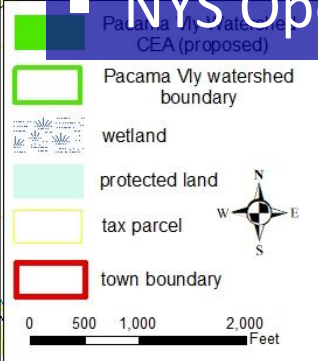
- Critical Environmental Area (proposed)
- Beaverdam Cr/Rochester Cr watershed boundary
- protected land
- tax parcel
- town boundary

Pacama Vly Watershed Critical Environmental Area (proposed)

Town of Olive

PACAMA VLY CEA

- rare wetland communities
- rare plant species
- rare dragonfly species
- Significant Biodiversity Area
- NYS Open Space priority

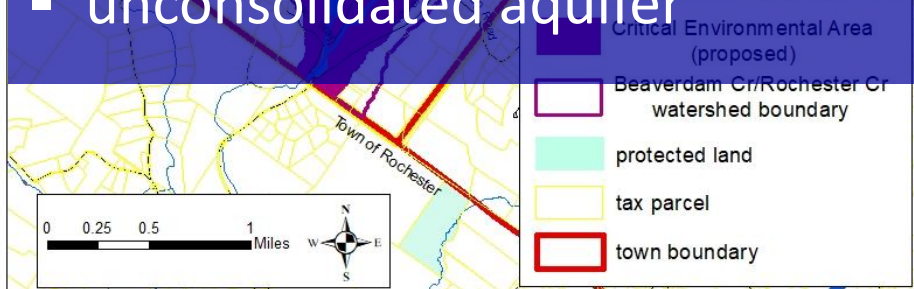


Town of Olive

Beaverdam Creek/Rochester Creek Critical Environmental Area (proposed)

Beaverdam/Rochester Creeks CEA

- trout streams
- riparian habitats
- migration corridors
- rare dragonfly species
- rare terrestrial animal
- unconsolidated aquifer



ENGAGING THE PUBLIC

- Website info
- Presentations to municipal agencies
- Letters and conversations with CEA landowners
- Public information meeting;
special invitations to CEA landowners

PROCEDURE FOR ESTABLISHING THE CEA

1. Identify and delineate the proposed CEA
2. Create map, written description, and justification
3. Present to town/village/city agencies and the public, and solicit comments, ideas, additional info
4. SEQR review, including public hearing
5. Decision to adopt?
6. Register with NYSDEC
7. Notify agencies

CRITICAL ENVIRONMENTAL AREAS

- no automatic legal restrictions,
BUT
- features of concern must be considered in land use planning, reviews, decisions, and actions that are reviewed in the SEQR process,
AND
- the lead agency must prepare a written explanation of potential impacts to those features.

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QUESTIONS?

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