NEW YORK STATE | Hudson River Estuary Program

A Program of the New York State Department of Environmental Conservation

GORDON & SVENSON LLP

ATTORNEYS AT LAW

Protecting Wetlands and Streams in Your Community

Photo: Ingrid Haeckel

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CDRPC and NYPF Planning and Zoning Conference, October 20, 2023

Outline

- Importance of Wetlands and Streams
  - Diversity
  - Mapping
  - Benefits
  - Threats
- Federal and State Regulations
- Local Approaches to Wetland and Stream Protection
- Tools and Funding

Photo: Ingrid Haeckel

Take-Home Messages

1. Wetland and stream protection (including buffers) is vital to clean water and other benefits.
2. Existing maps are incomplete.
3. State and federal regulations are changing and leave big gaps.
4. Municipalities can do more.
5. I will make a difference by _____.

Photo: Ingrid Haeckel

Photo: Laura Heady

Hudson River Estuary Program

Working to achieve key benefits:

- vital estuary ecosystem
- clean water
- healthy tributaries
- climate-adaptive communities
- conserved natural areas
- an informed & engaged public
- access for all to the Hudson

https://www.dec.ny.gov/lands/4920.html

Think of a wetland or stream you know…

Photo: C. Vanderlan

What is a stream?

A natural waterway flowing in a visible channel with defined bed and banks.

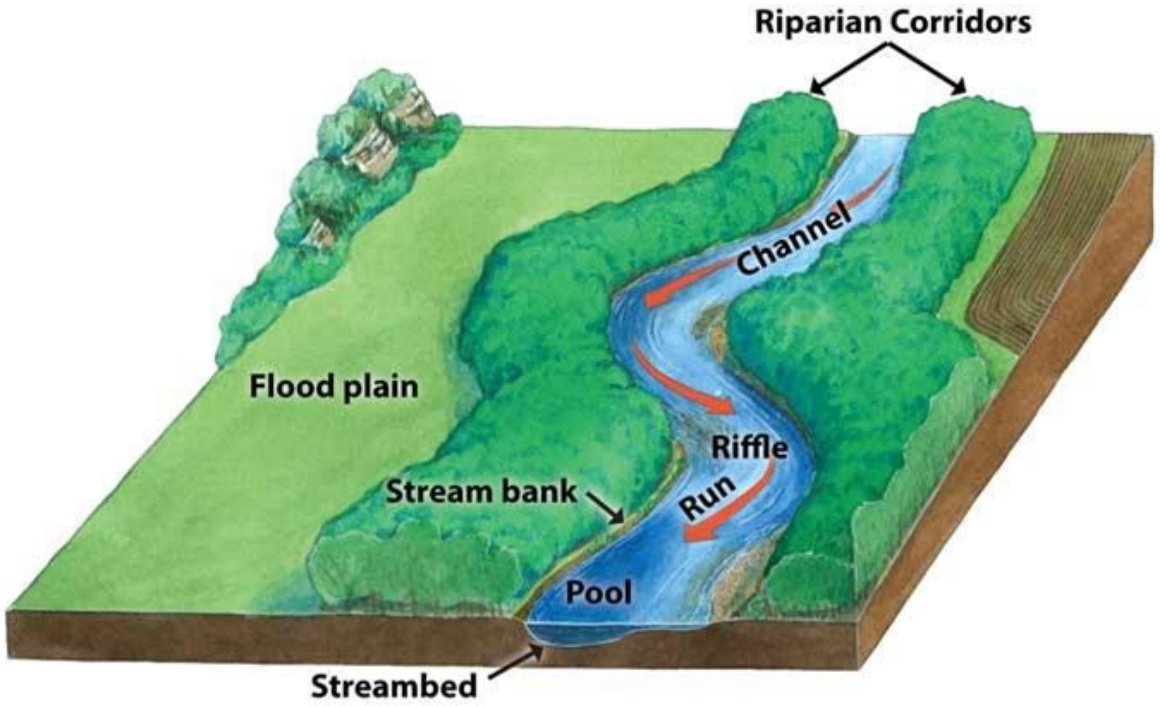


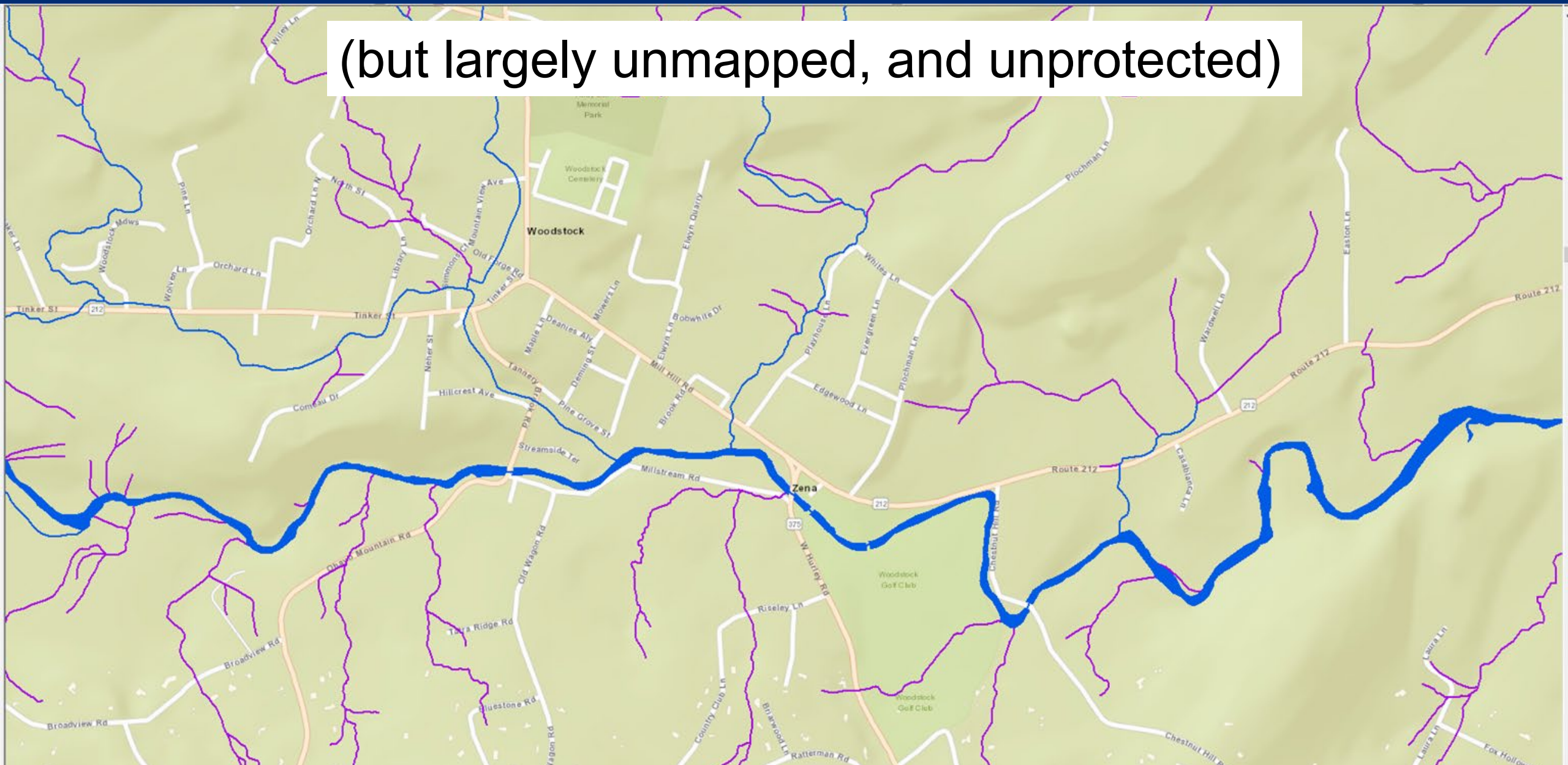
Photo: I. Haeckel

Perennial, Intermittent Streams

Photo: I. Haeckel

Photos by I. Haeckel

Intermittent streams = >60% of stream length



What is a wetland?

Wetlands are defined by three main criteria:

1) hydrology

2) soils

3) vegetation

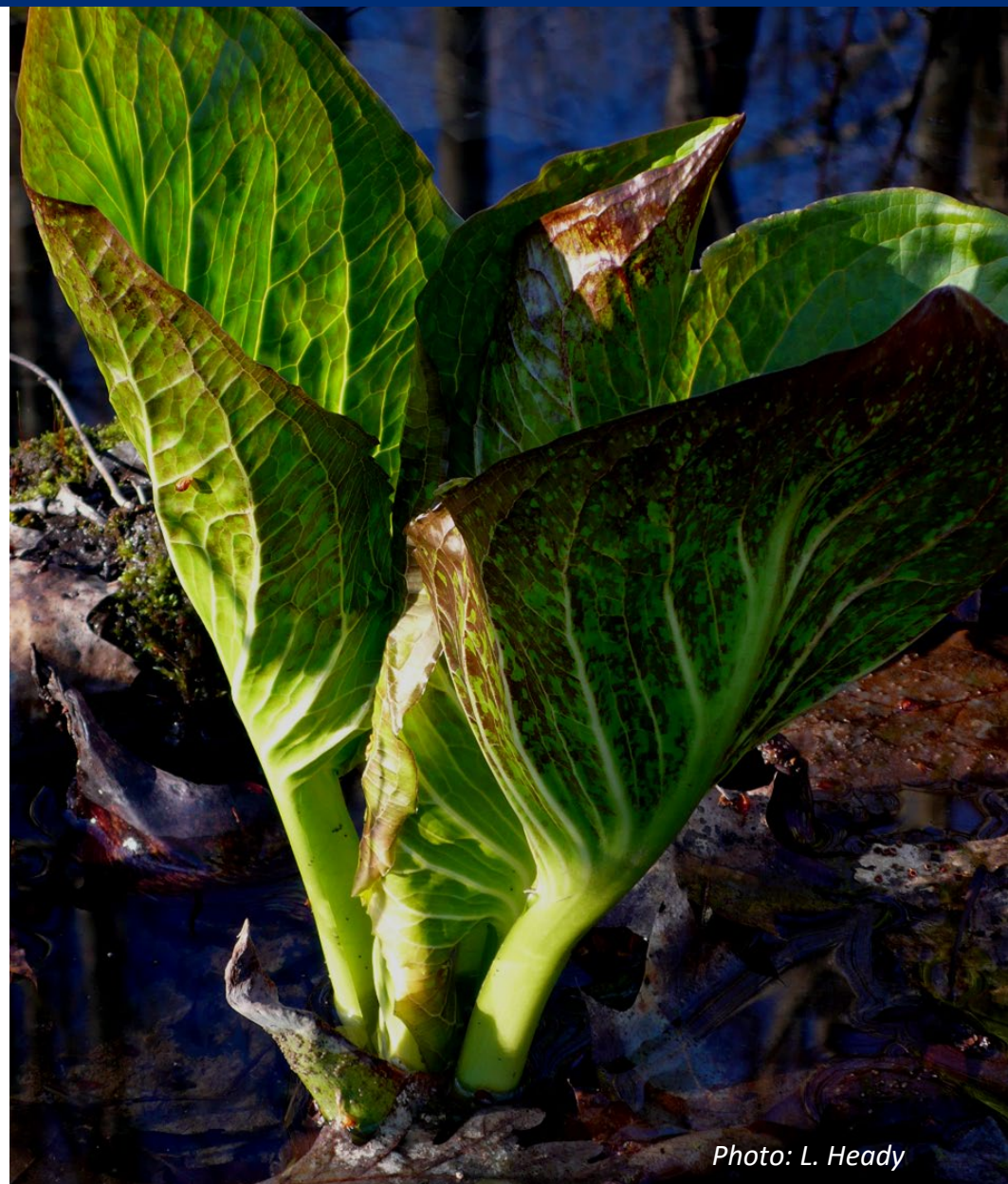


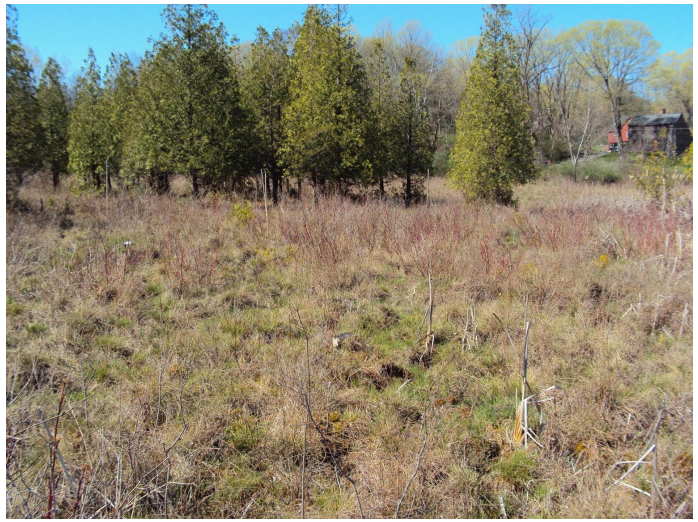
Photo: L. Heady

Wetland Diversity

swamp

marsh

pond, bog

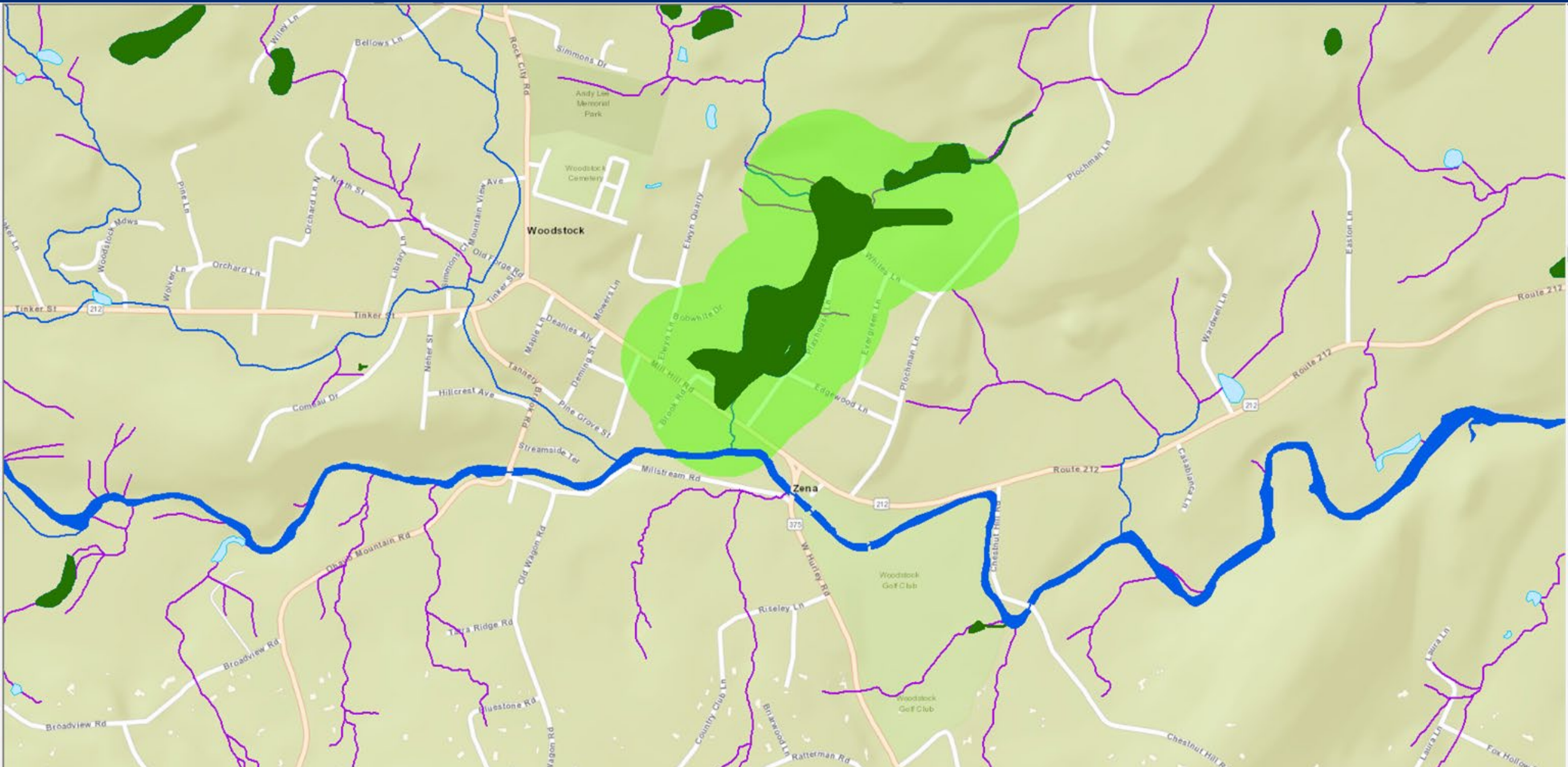


wet meadow

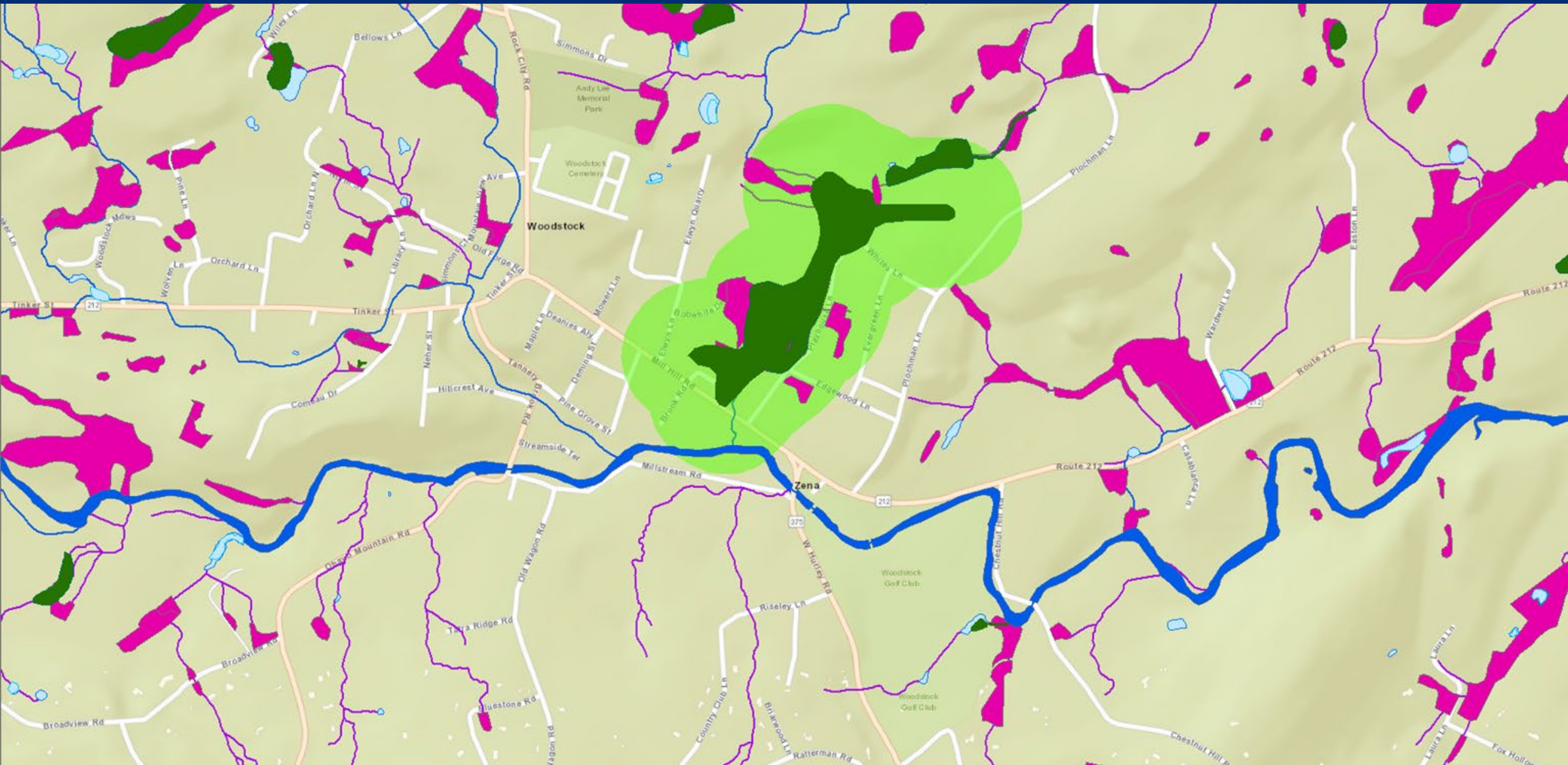
woodland pool

tidal wetland

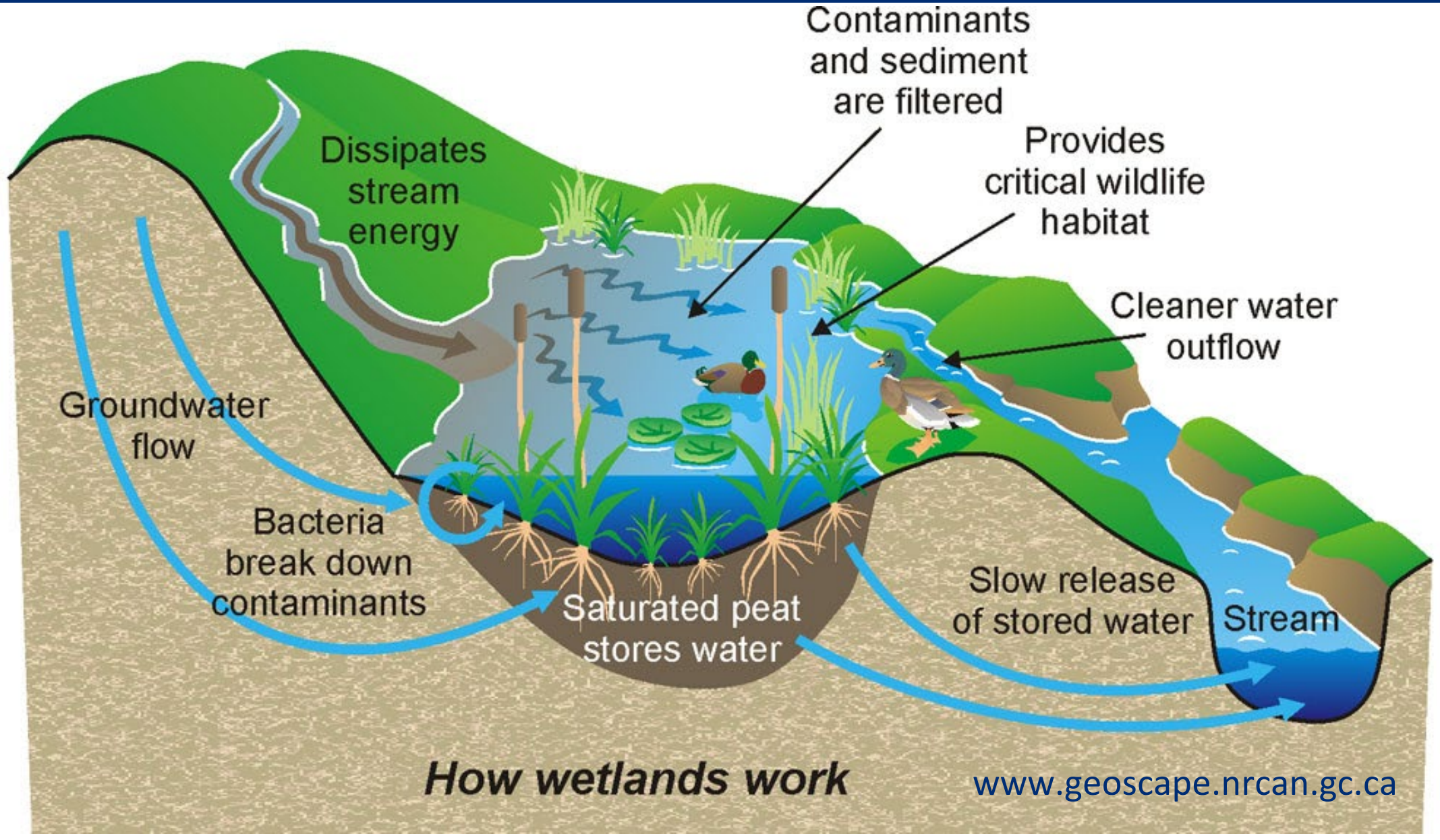
Existing Wetland Mapping



… vs Actual Wetlands



What's at stake? CLEAN WATER

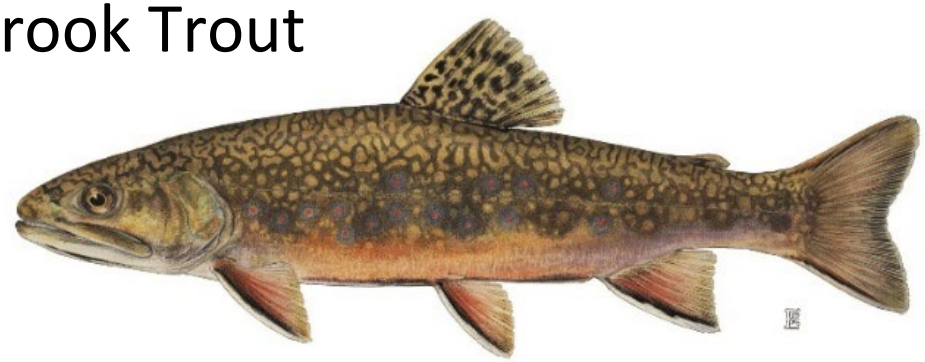


What's at stake? FLOOD CONTROL

Photo by I Haeckel

What's at stake? CRITICAL HABITAT

Brook Trout



NY State Museum

What's at stake? CRITICAL HABITAT

Intermittent woodland pool

Photos by Nate Nardi-Cyrus, Laura Heady

Spotted salamander (SC)

Think of a wetland or stream you know…

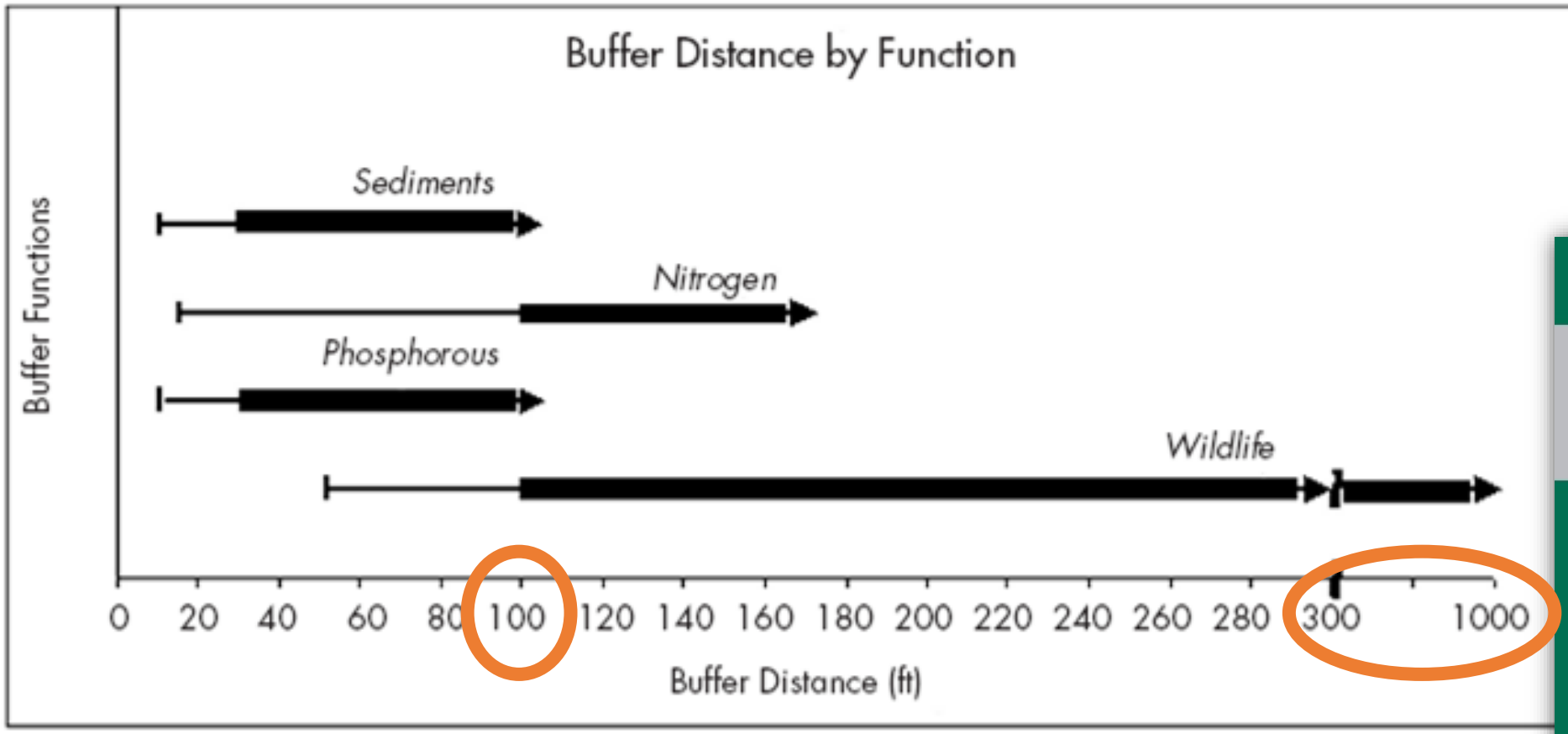
Photo: C. Vanderlan

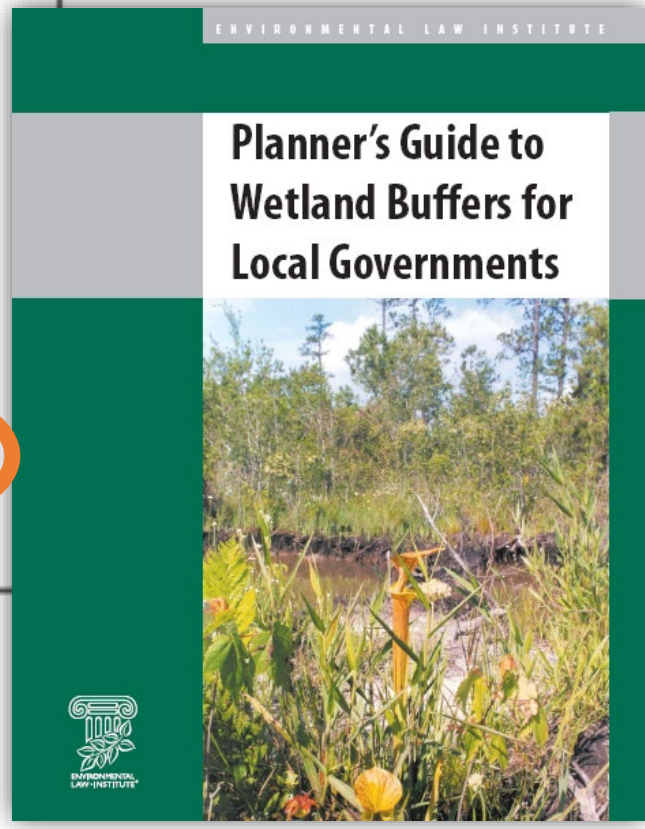
Buffers Protect Water and Habitat

- Slow runoff and reduce erosion.
- Filter nutrients and sediment.
- Control flooding.
- Shade, cooling.
- Source of organic matter.

Photo: I. Haeckel

Effective Buffer Distances





Effective buffer distances or widths relate to functions and benefits.

Threats

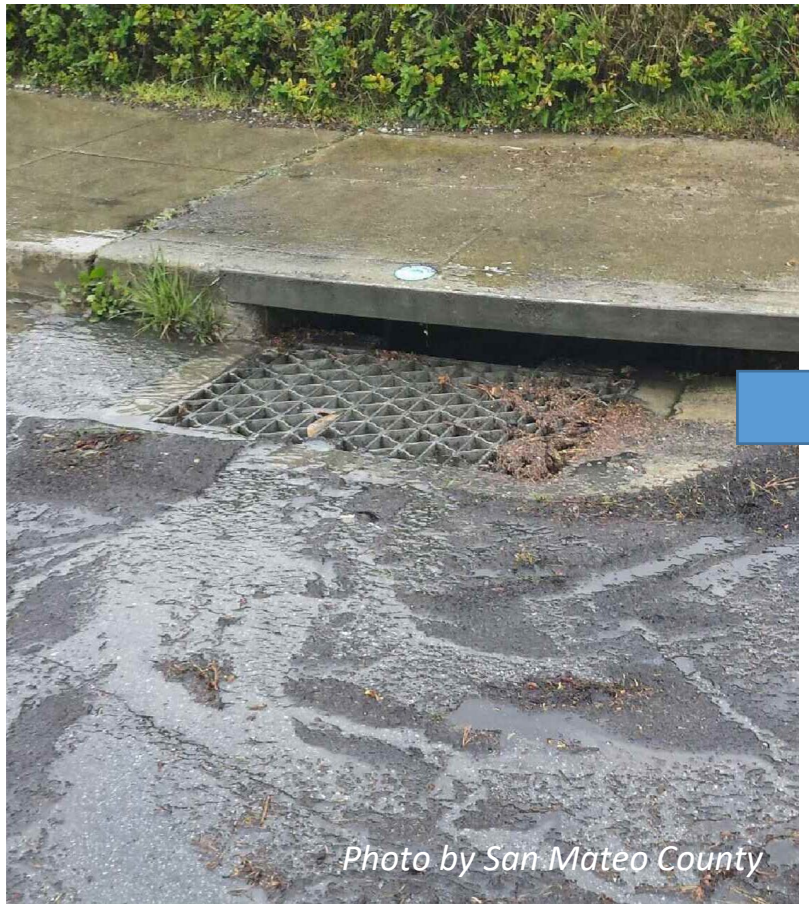
Vegetation Clearing, Filling, Grading, Channelizing, Burial

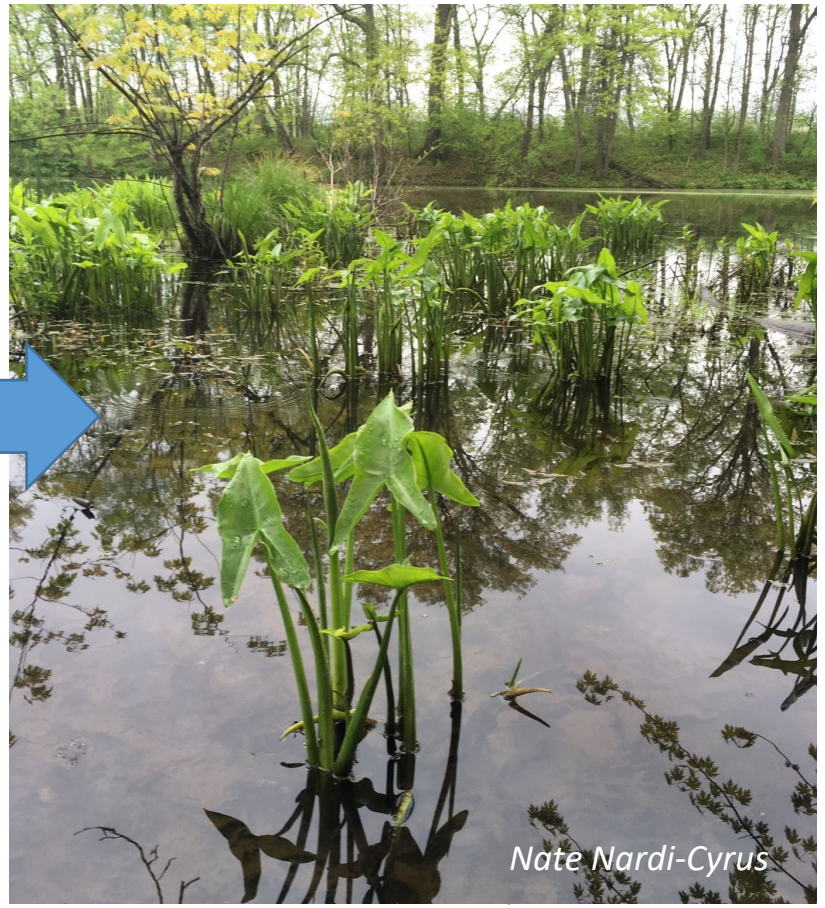
Threats

Construction in wetlands and in buffers

Threats

Inadequate stormwater management



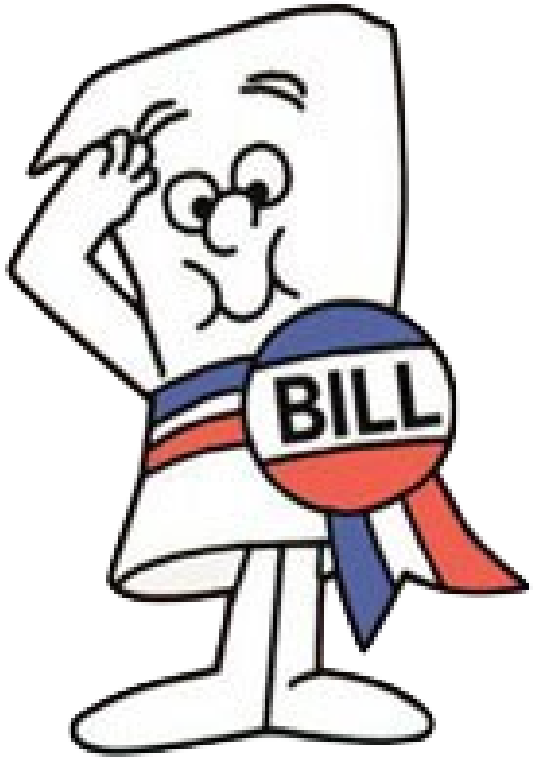


Think of a wetland or stream you know…

Photo: C. Vanderlan

State and Federal Regulations

Administrative Law 101



Legislature

Statute

Agency

Regulations

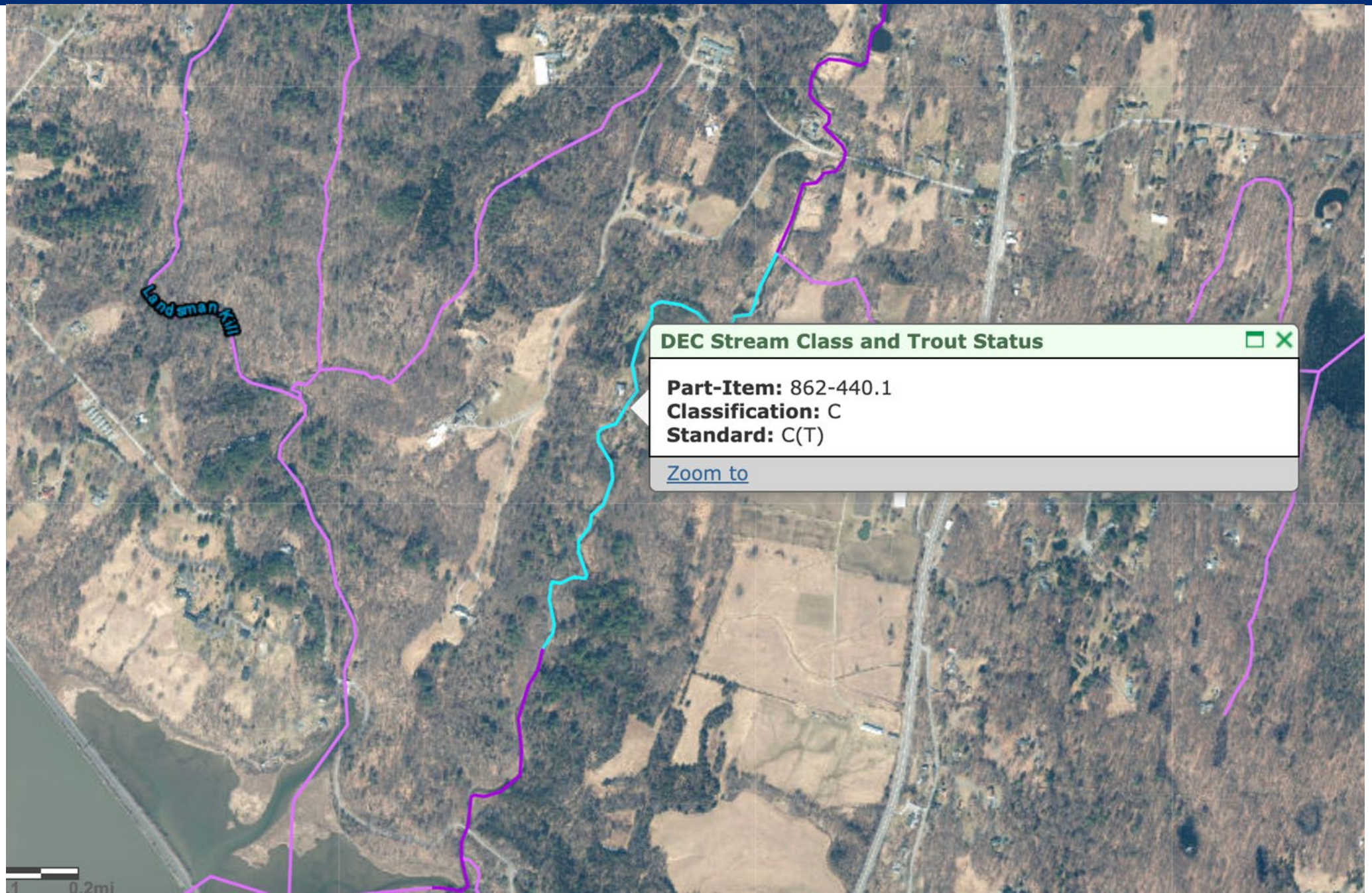
New York State

STREAMS

Protection of Waters (ECL Art. 15)

Regulates physical disturbance of streams

- Which streams?
  - AA, A, B, C(T)/(TS) – not C or D
  - Mapped
  - Perennial
  - Also:
    - Intermittent if mapped
    - Unmapped perennial tribs


Landsman Kill
DEC Stream Class and Trout Status
Part-Item: 862-440.1
Classification: C
Standard: C(T)
Zoom to
0.2mi

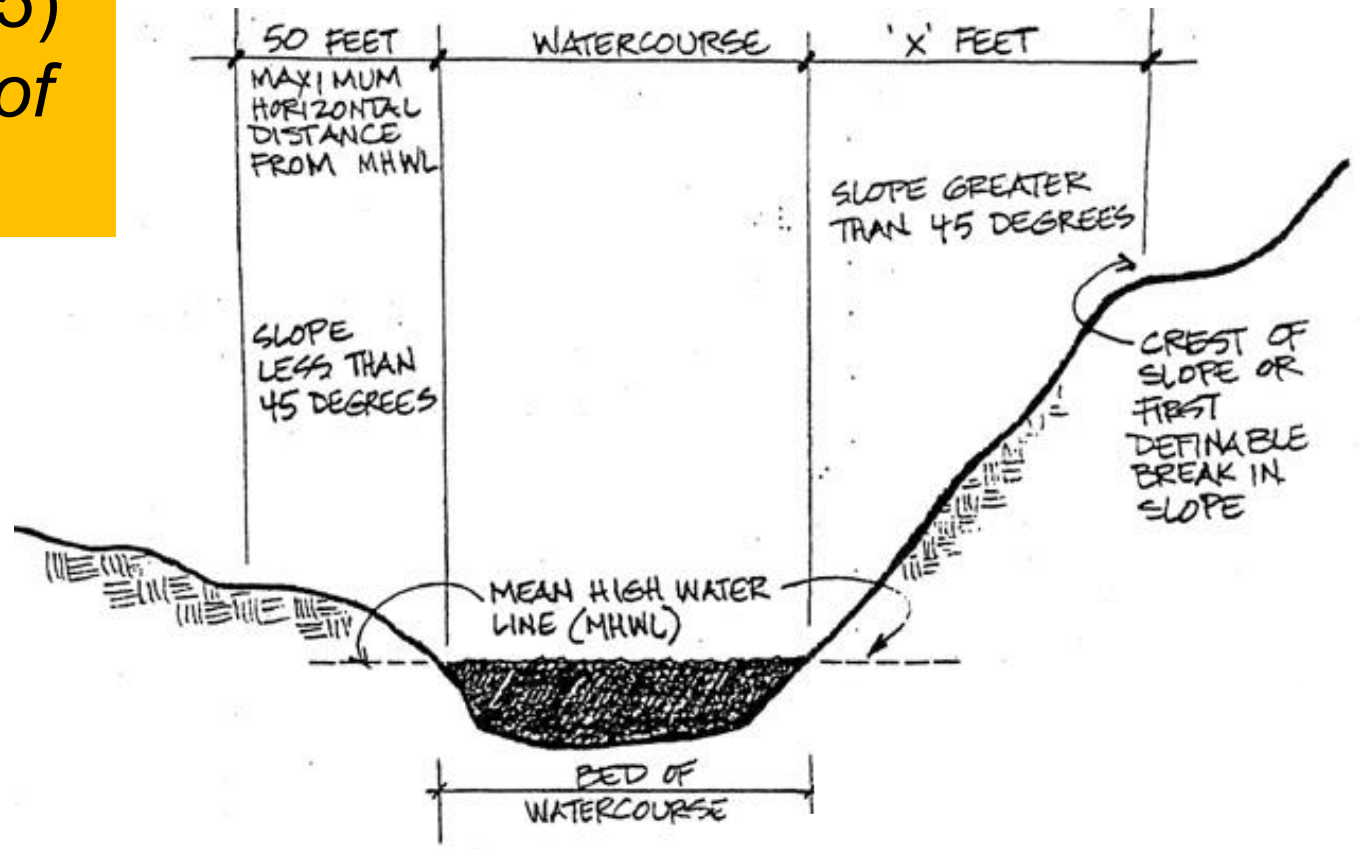
New York State

STREAMS

Protection of Waters (ECL Art. 15)

Regulates physical disturbance of streams

- What area?
  - Bed
  - Banks – maximum 50 feet
  - Includes ponds <10 acres



New York State

STREAMS

Protection of Waters (ECL Art. 15)

Regulates physical disturbance of streams

- Upcoming changes?
  - None
  - (Legislative attempts to expand to Class C, but not enacted)

New York State

WETLANDS

Freshwater Wetlands (ECL Art. 24)

Regulates disturbance of wetlands and adjacent areas

- Which wetlands?
  - >12.4 acres
  - Mapped
  - Smaller wetlands of “unusual local importance”

New York State

WETLANDS

Freshwater Wetlands (ECL Art. 24)

Regulates disturbance of wetlands and adjacent areas

- What areas?
  - Wetland
  - 100-foot adjacent area

New York State

WETLANDS

Freshwater Wetlands (ECL Art. 24)

Regulates disturbance of wetlands and adjacent areas

State legislature amended Article 24 in 2022 – new regulations underway

- Changes in 2025:
  - Jurisdiction is no longer based on maps
  - New criteria for small wetlands of “unusual importance”
- Changes in 2028:
  - Size threshold reduces to 7.4 acres, so more wetlands are regulated

Federal

WETLANDS & STREAMS

Clean Water Act § 404

Regulates discharge of fill into "Waters of the US"

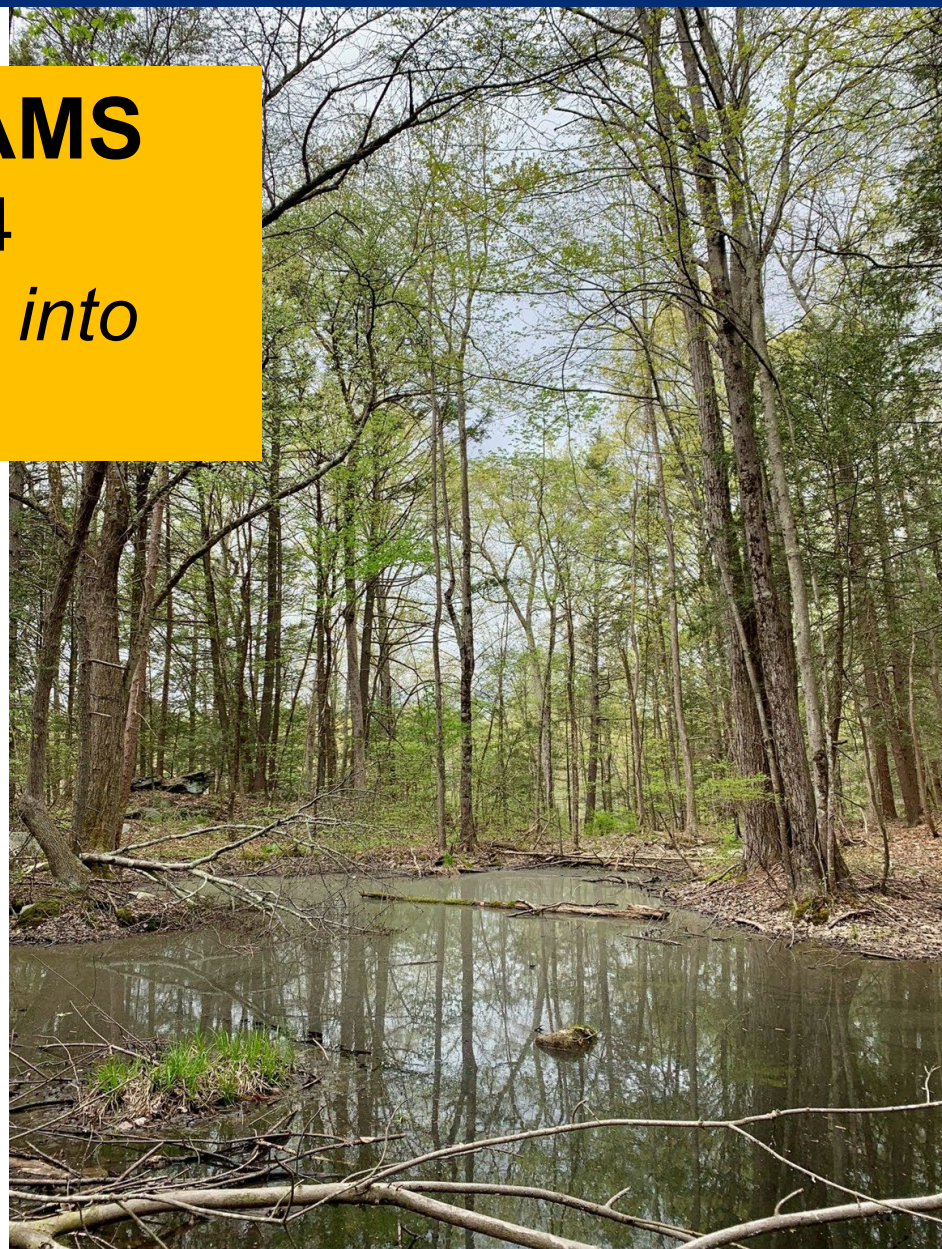
- Which wetlands and streams?
  - "Waters of the United States"
  - No size limit
  - No regulatory mapping (NWI maps are predictive only)
  - Only wetland or stream, no adjacent area

Federal

WETLANDS & STREAMS

Clean Water Act § 404

Regulates discharge of fill into "Waters of the US"



- Permitting
  - General permits
    - Allow up to ½ acre of wetland loss
  - Individual permits

Federal

WETLANDS & STREAMS

Clean Water Act § 404

Regulates discharge of fill into "Waters of the US"

- Waters of the United States
  - Rivers, streams, adjacent wetlands
  - Rules in flux about "adjacent" wetlands
  - US Supreme Court *Sackett* decision in May 2023 invalidated significant nexus rule

Federal

RECENT CHANGE

WETLANDS & STREAMS

Clean Water Act § 404

Regulates discharge of fill into "Waters of the US"

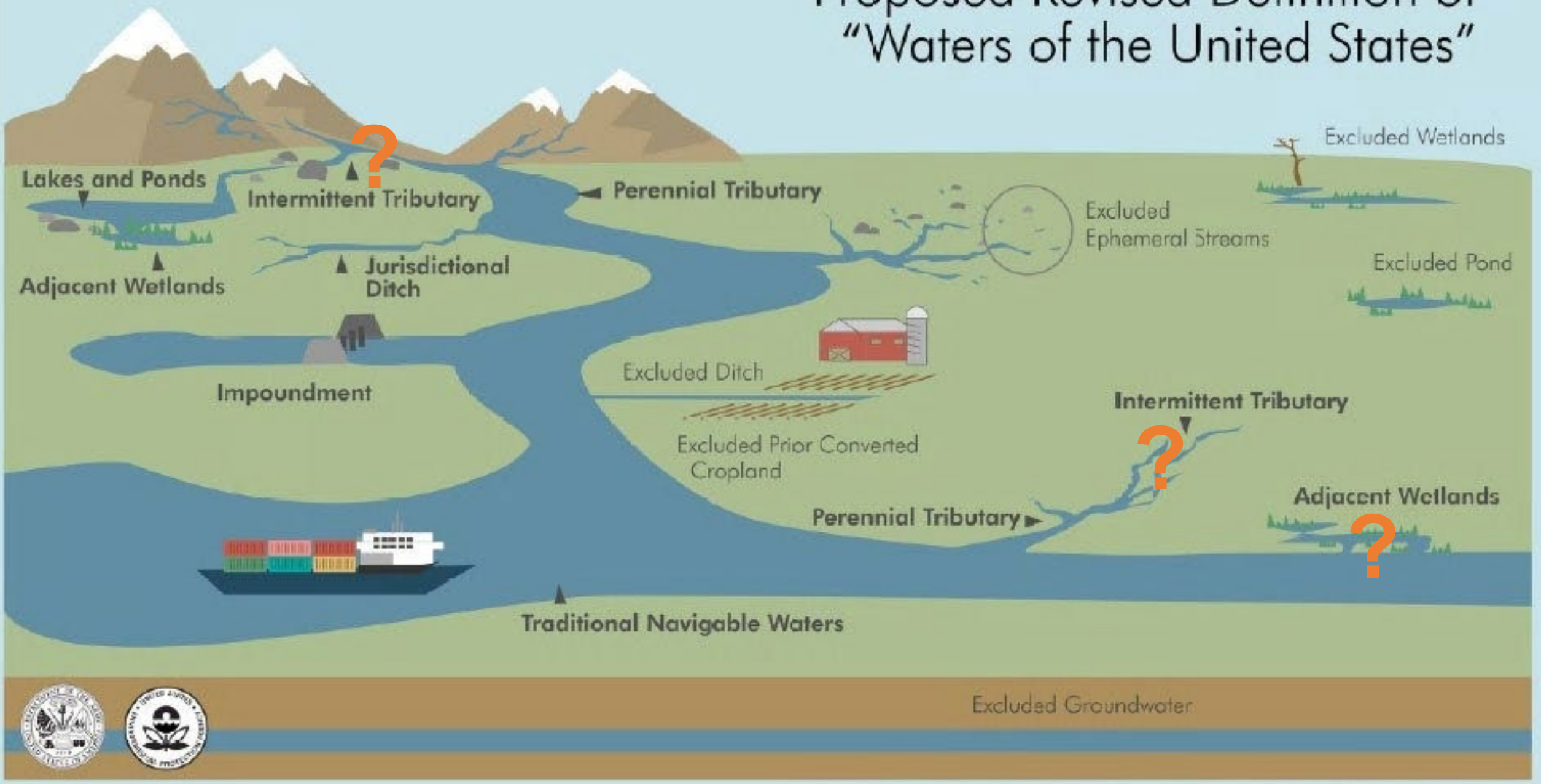
- Waters of the United States
  - New regulation released August 2023:
    - Tributaries that are "relatively permanent, standing or continuously flowing"
    - Adjacent wetlands with a "continuous surface connection" to such waters

Federal

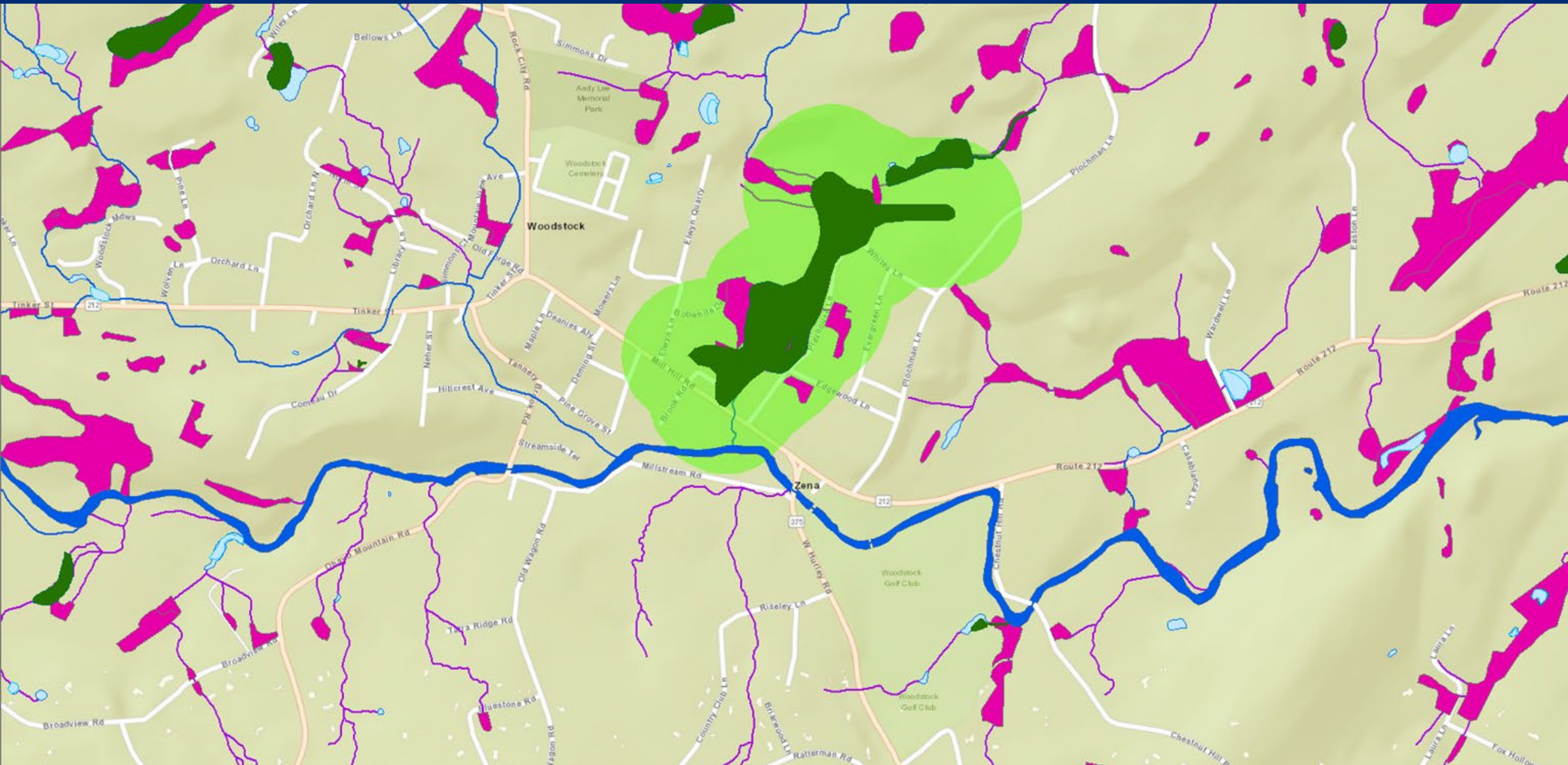
EPA estimates on *reduced* jurisdiction nationwide:

- 1.2 million to 4.9 million miles of ephemeral streams
- up to 63 percent of wetlands by acreage

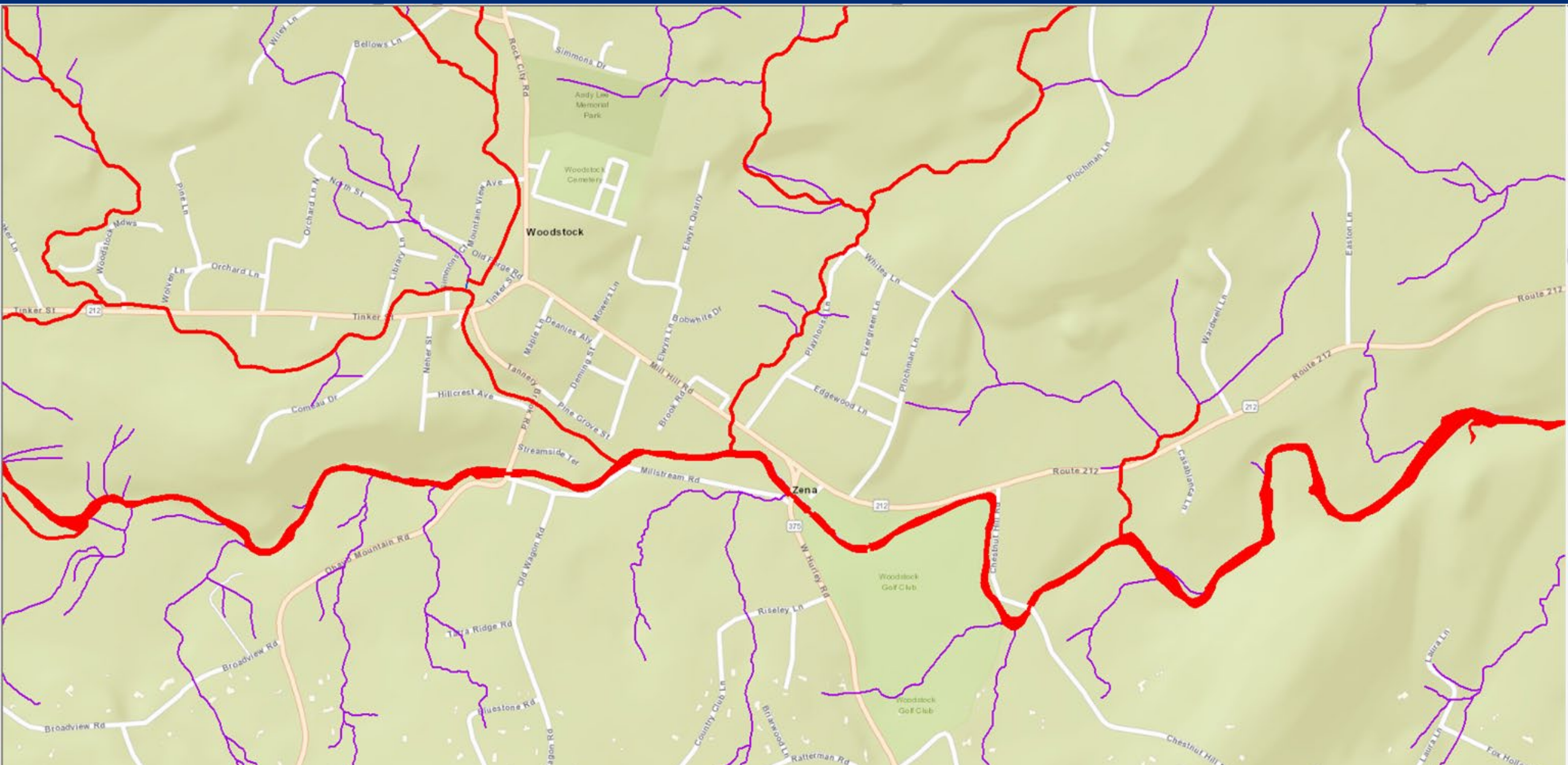
Proposed Revised Definition of "Waters of the United States"



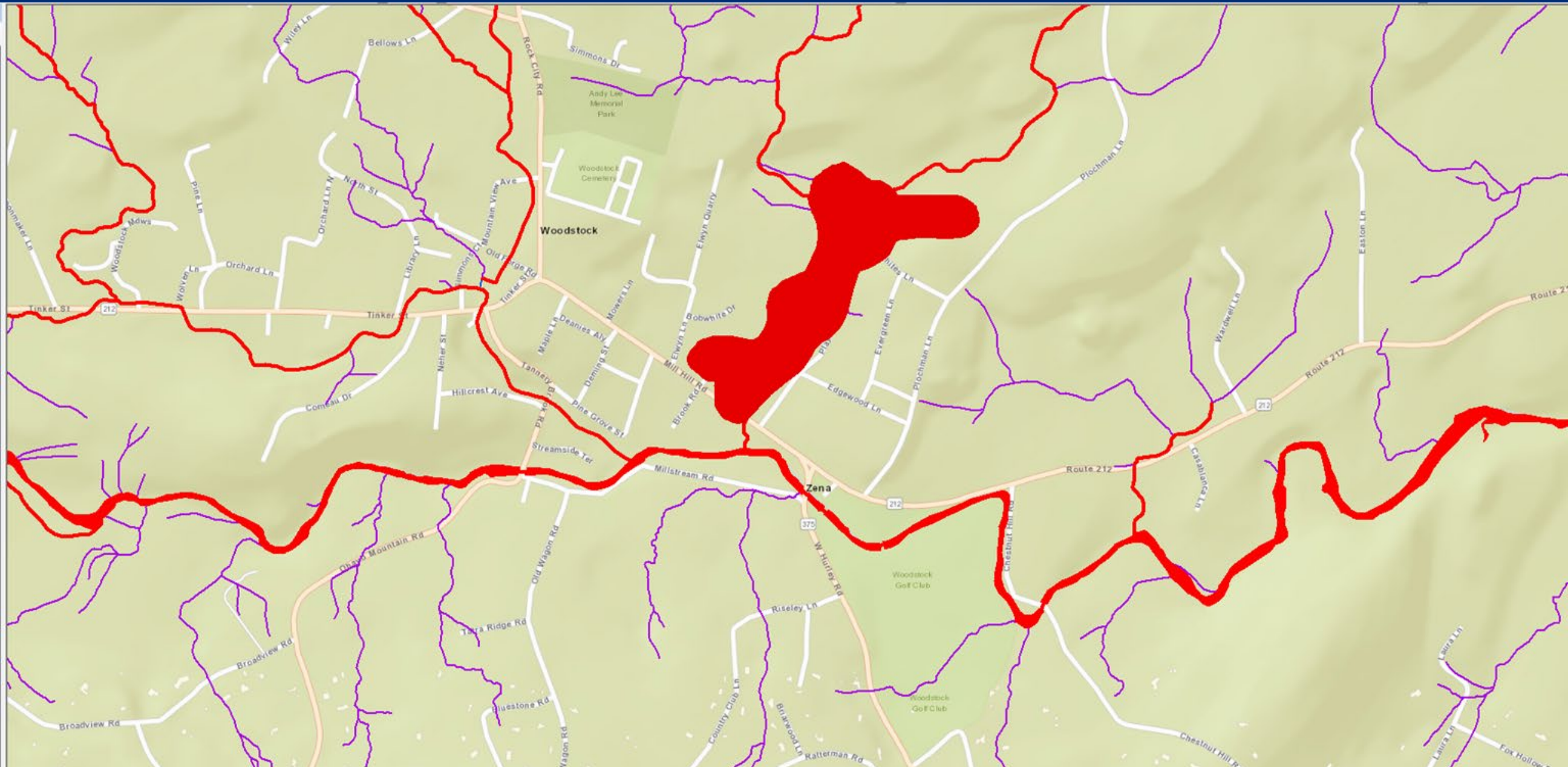
Local Stream and Wetland Mapping



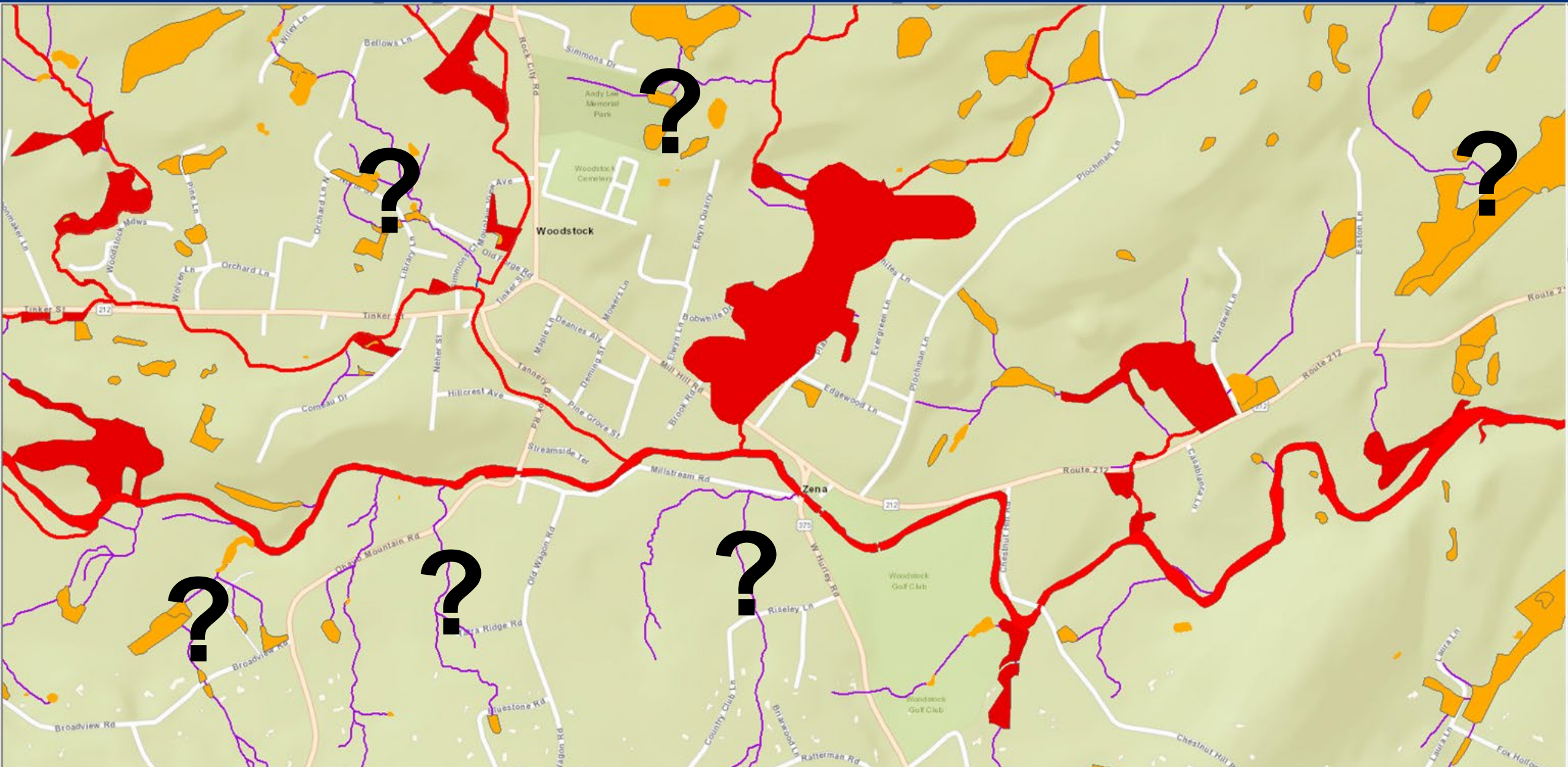
NYS-Regulated Streams



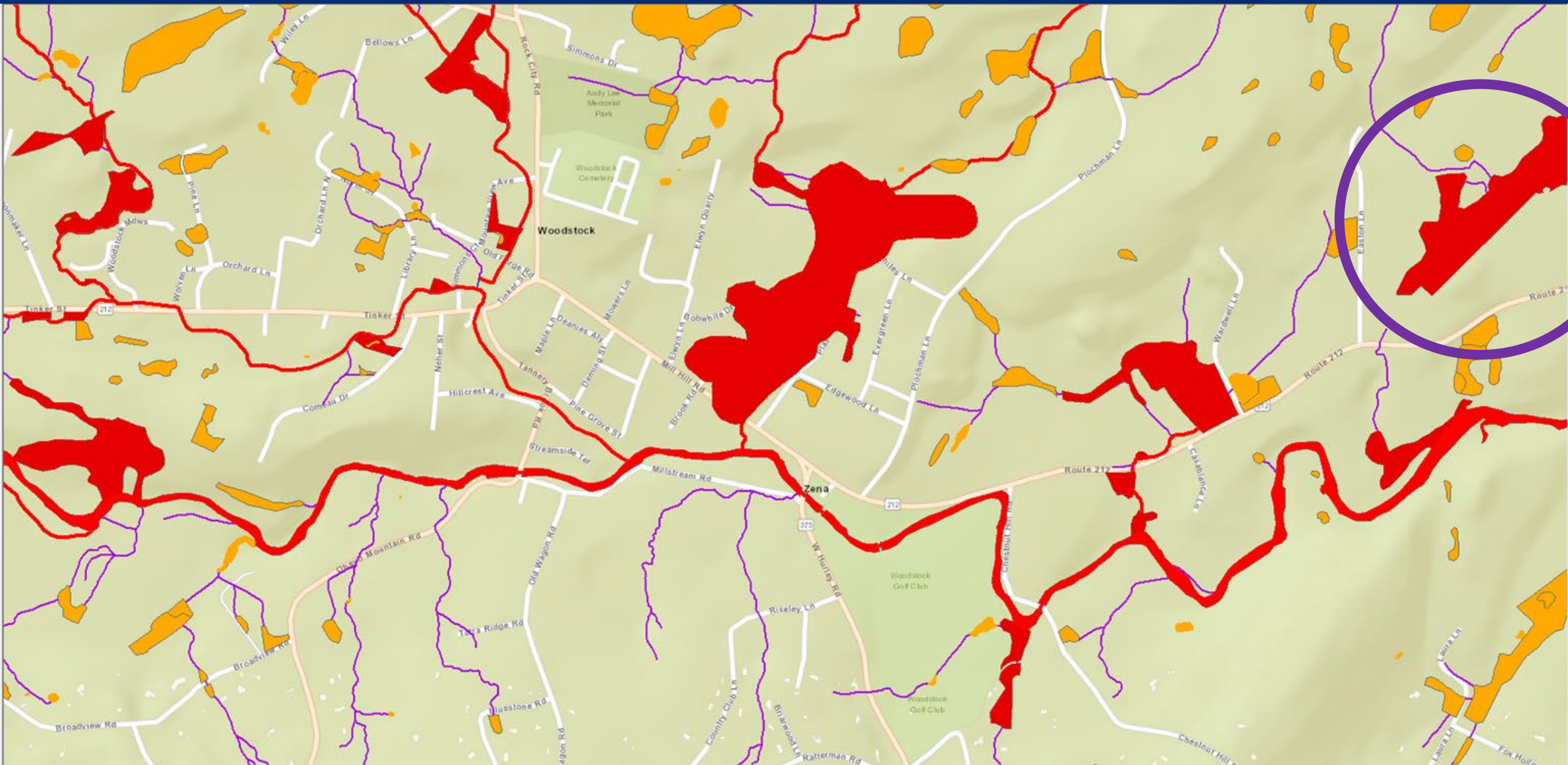
NYS-Regulated Wetlands + Buffer



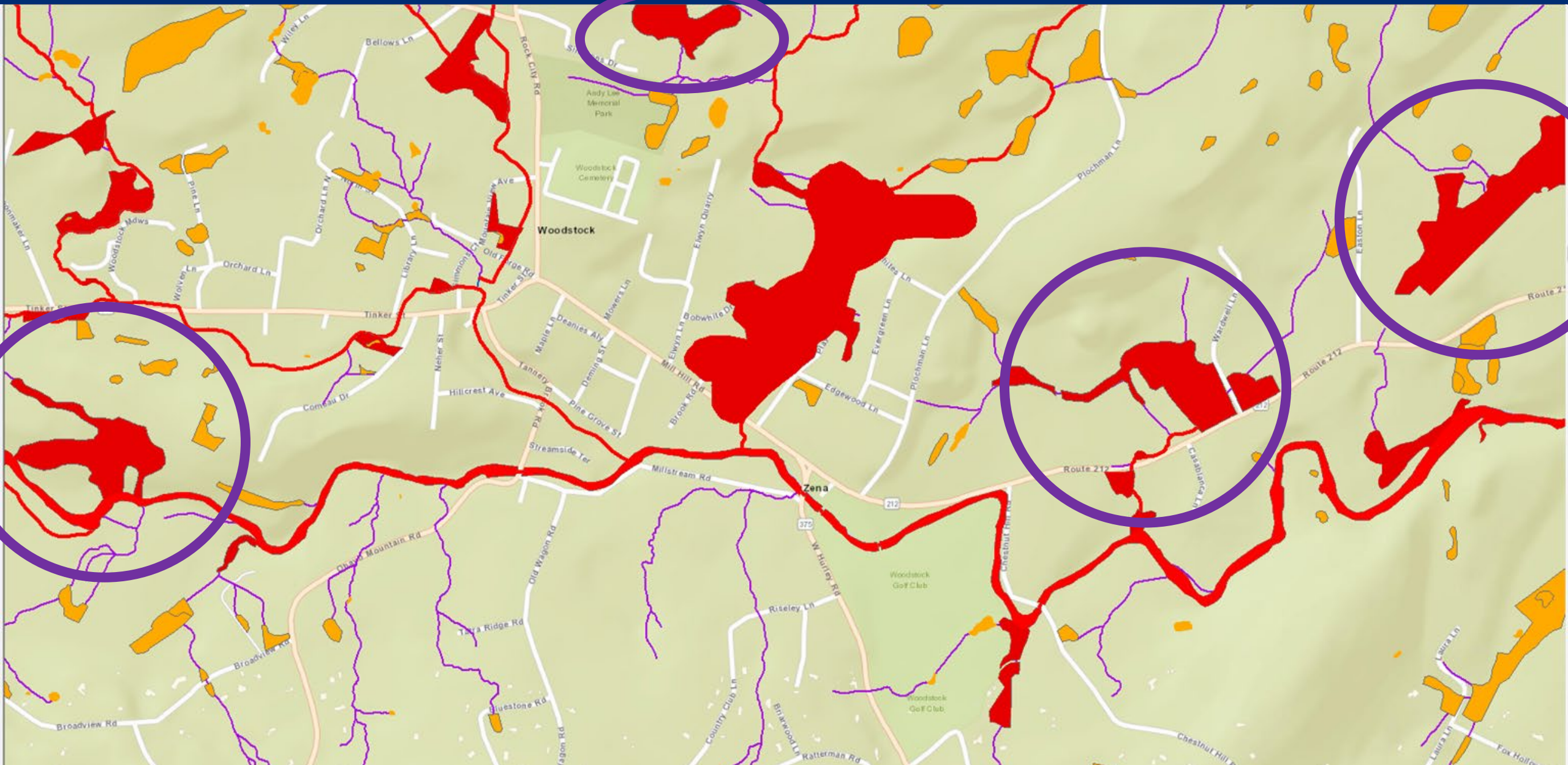
NYS + Federal regulated area

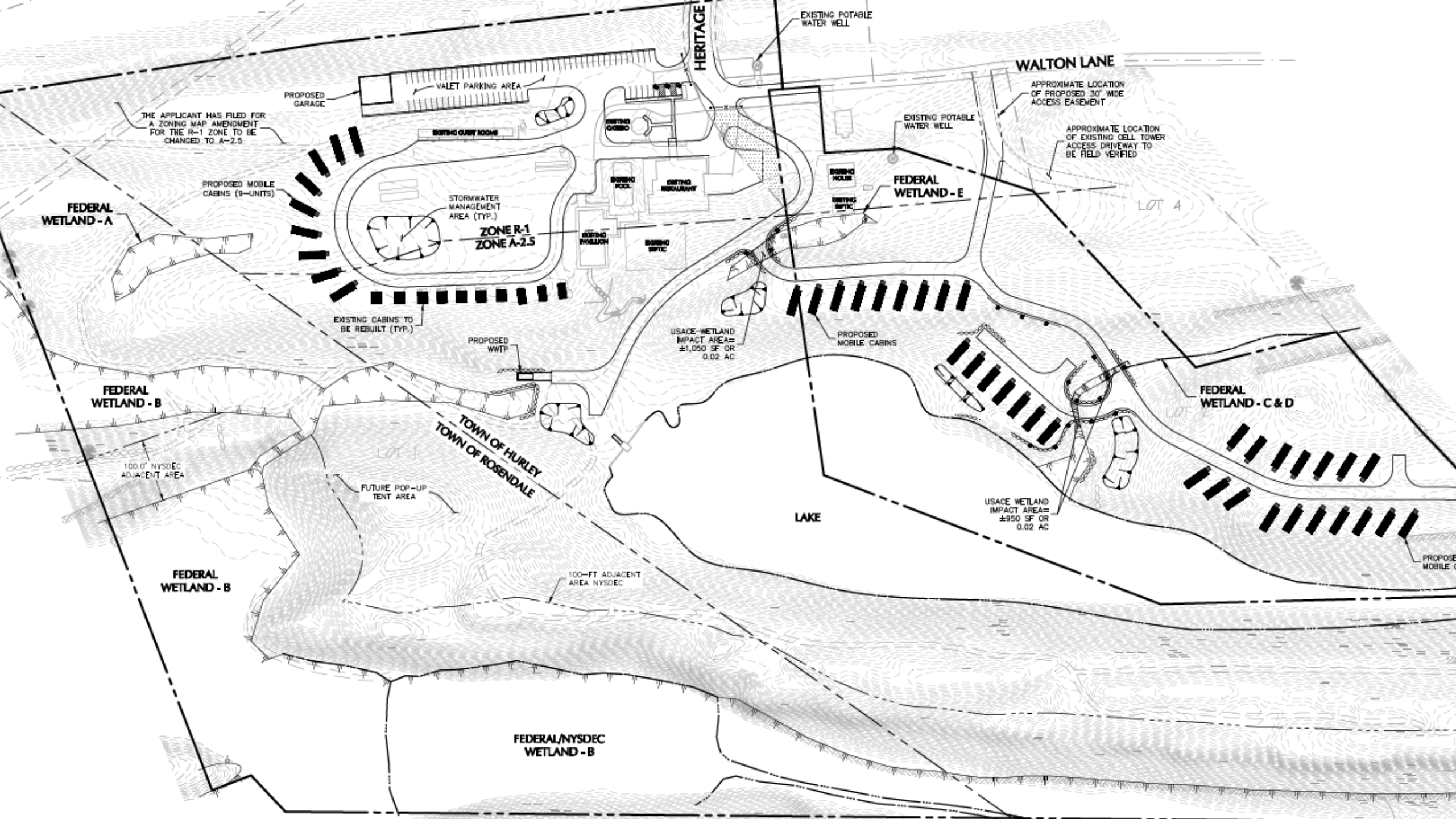


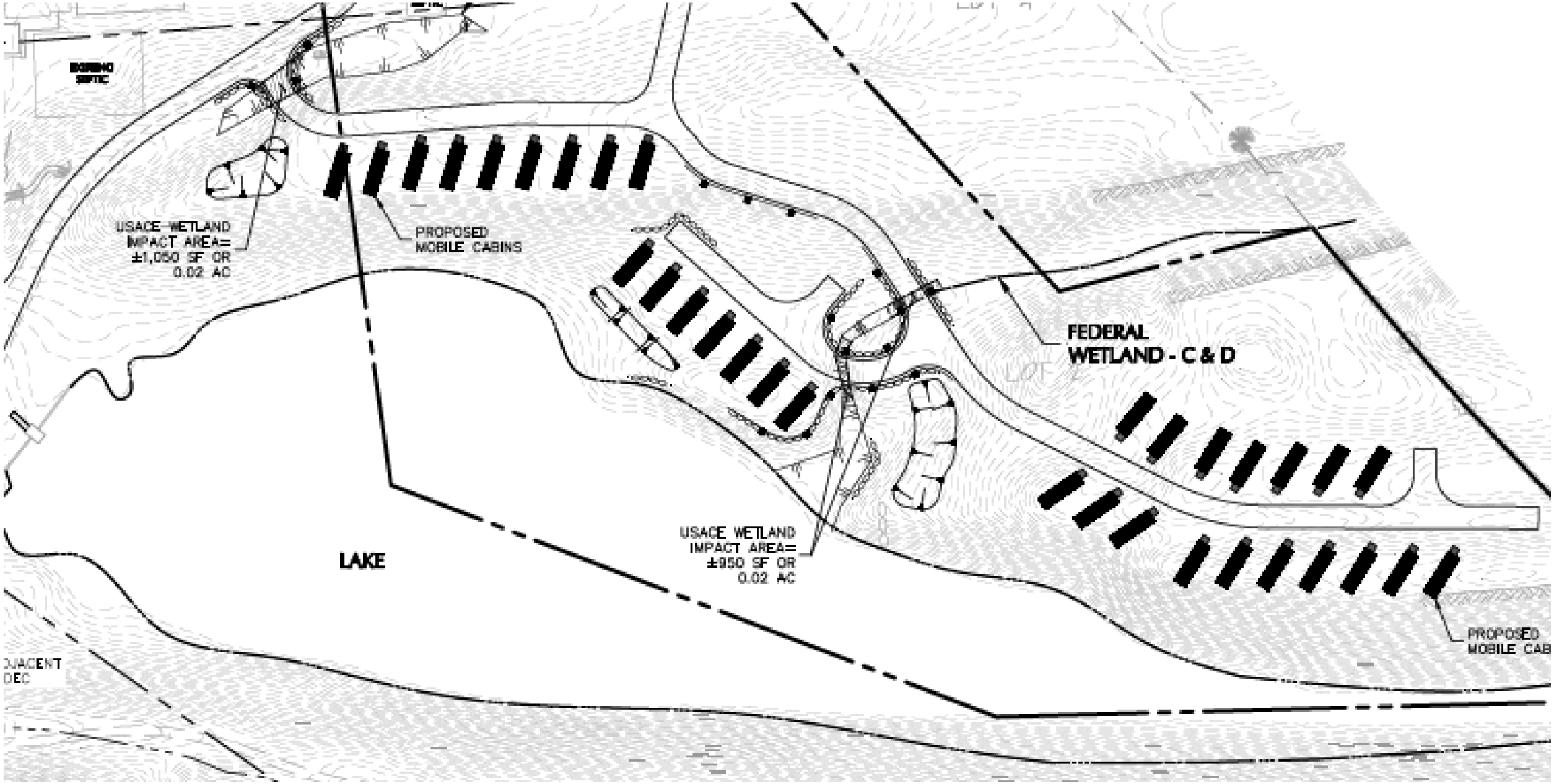
Added NYS regulated area in 2025



Added NYS regulated area in 2028




HERITAGE
EXISTING POTABLE WATER WELL
WALTON LANE
APPROXIMATE LOCATION OF PROPOSED 30' WIDE ACCESS EASEMENT
APPROXIMATE LOCATION OF EXISTING CELL TOWER ACCESS DRIVEWAY TO BE FIELD VERIFIED
PROPOSED GARAGE
VALET PARKING AREA
THE APPLICANT HAS FILED FOR A ZONING MAP AMENDMENT FOR THE R-1 ZONE TO BE CHANGED TO A-2.5
EXISTING GUEST ROOMS
EXISTING GAZEBO
EXISTING POOL
EXISTING RESTAURANT
EXISTING HOUSE
EXISTING SEPTIC
EXISTING POTABLE WATER WELL
FEDERAL WETLAND - E
LOT 4
PROPOSED MOBILE CABINS (9-UNITS)
STORMWATER MANAGEMENT AREA (TYP.)
ZONE R-1
ZONE A-2.5
EXISTING PAVILLION
EXISTING SEPTIC
FEDERAL WETLAND - A
EXISTING CABINS TO BE REBUILT (TYP.)
PROPOSED WWTP
USACE WETLAND IMPACT AREA= ±1,050 SF OR 0.02 AC
PROPOSED MOBILE CABINS
FEDERAL WETLAND - C & D
FEDERAL WETLAND - B
TOWN OF HURLEY
TOWN OF ROSENDALE
LOT 1
100.0' NYSDEC ADJACENT AREA
FUTURE POP-UP TENT AREA
LAKE
USACE WETLAND IMPACT AREA= ±950 SF OR 0.02 AC
FEDERAL WETLAND - B
100-FT ADJACENT AREA NYSDEC
FEDERAL/NYSDEC WETLAND - B


USACE WETLAND
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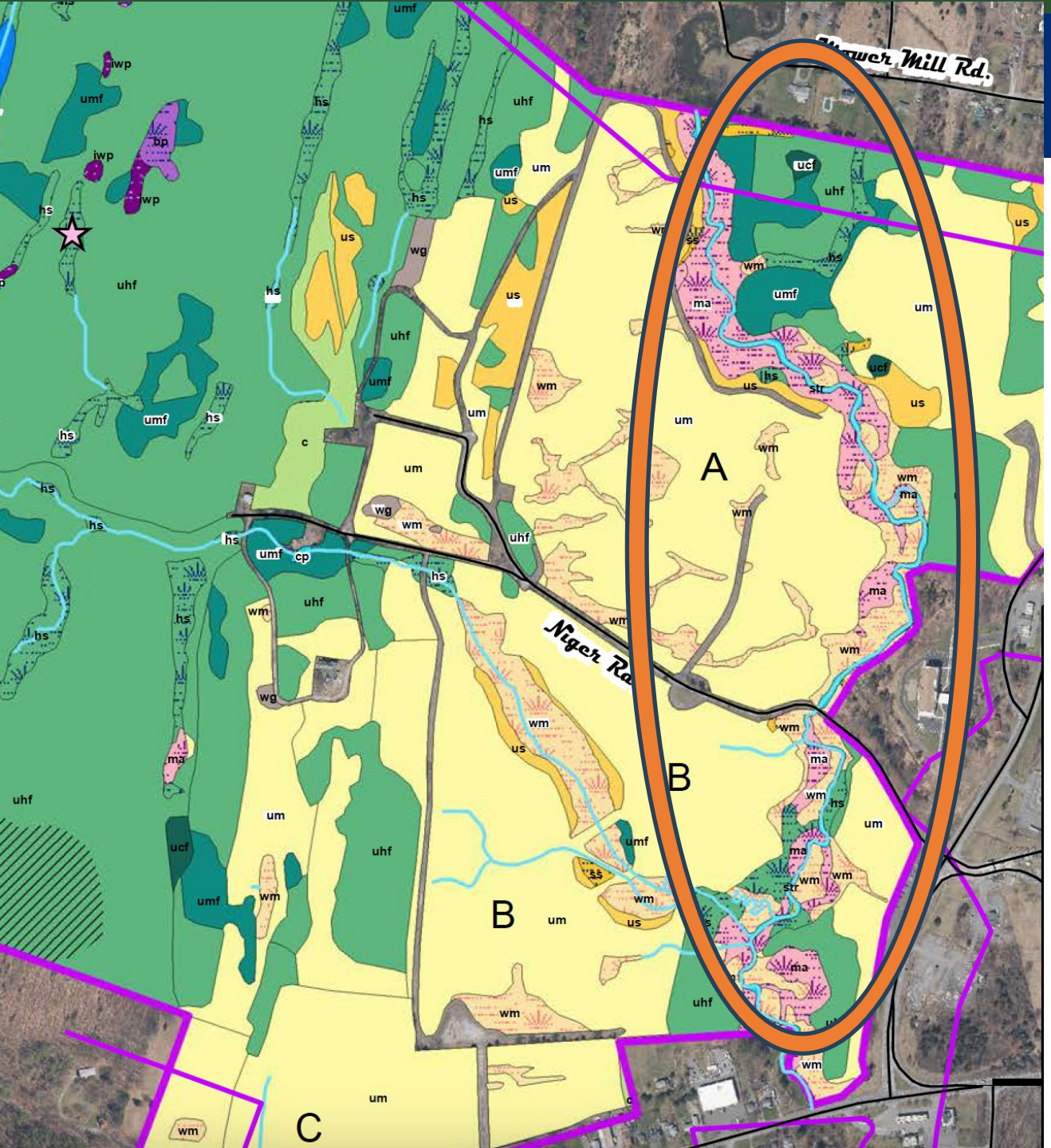
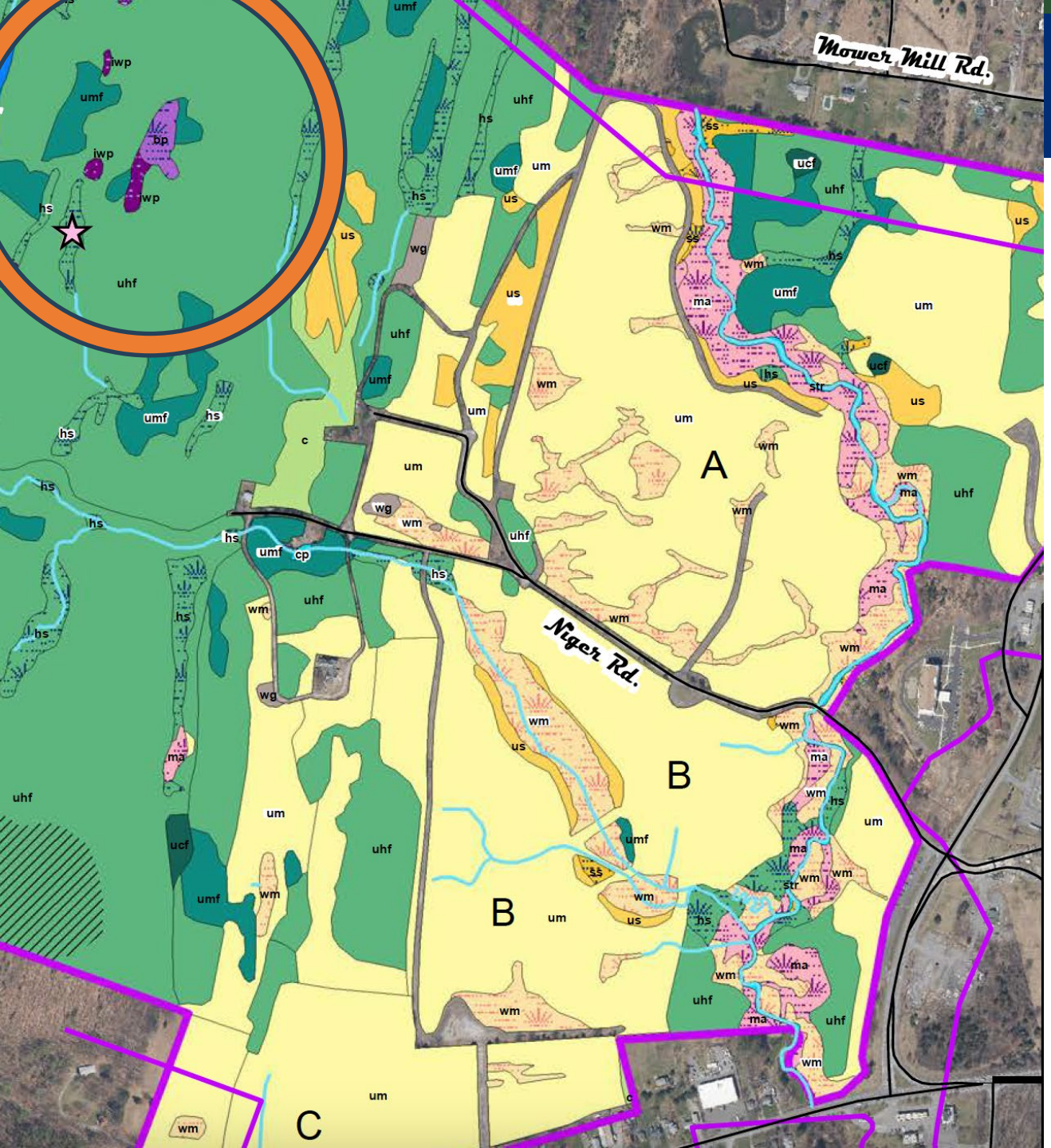
PROPOSED
MOBILE CAB



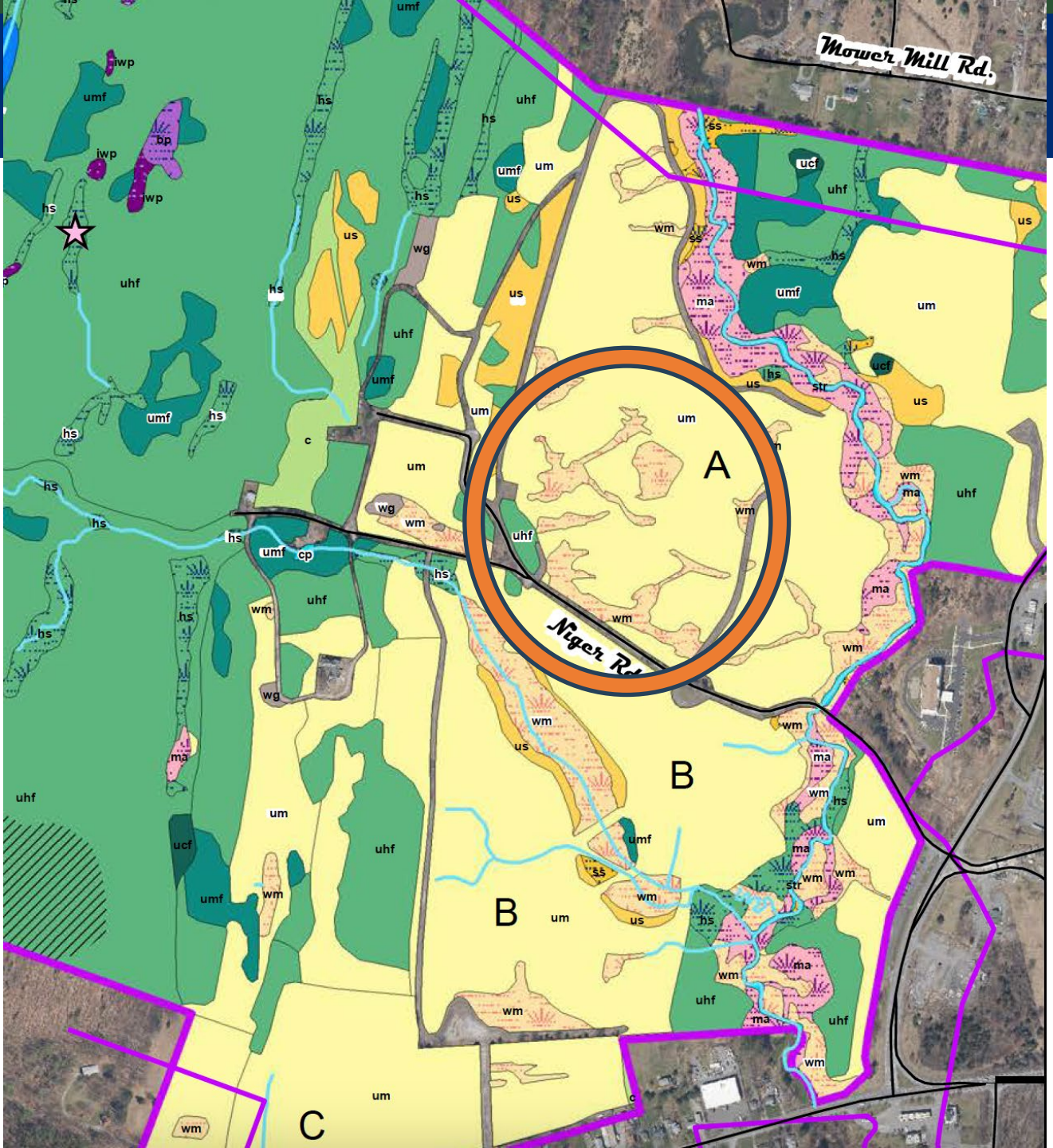
Review

- Example 1
  - Stream corridor with wetlands complex
  - Stream is perennial, mapped, and NYS Class C
  - Wetlands include swamps and wet meadows
  - Wetlands have not been mapped as a state protected wetland



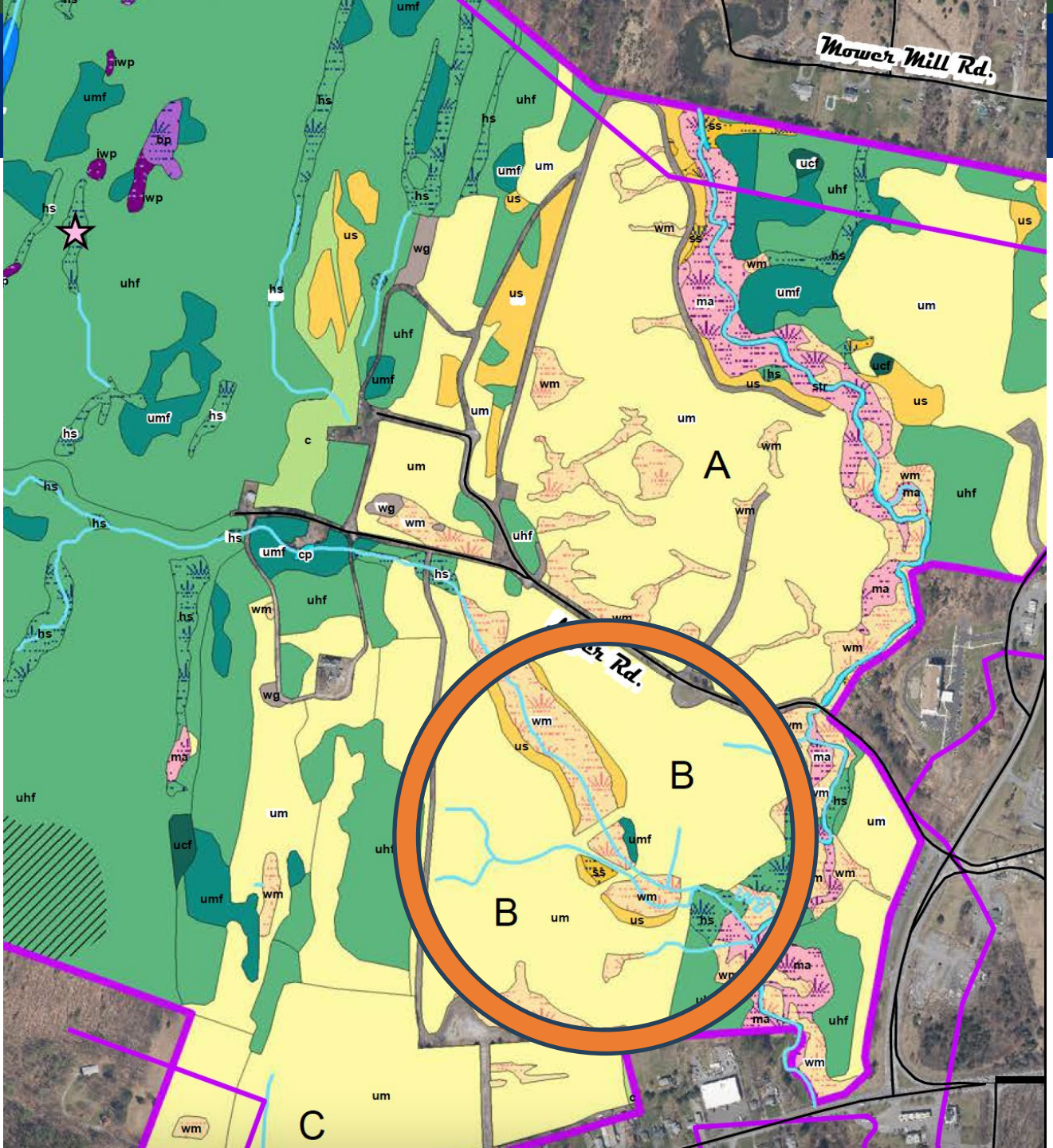
Review

- Example 2
  - Isolated wetlands in forest
  - Includes buttonbush pool, intermittent woodland pool, intermittent swamp
  - No connection to stream



Review

- Example 3
  - Patches of wet meadows within former agricultural pasture
  - ~4 acres of wetland total
  - No connection to a stream



Review

- Example 4
  - Intermittent stream with adjacent wetlands
  - Wetlands include marsh and wet meadow
  - Stream not mapped by NYSDEC

Local Regulation

Benefits of local regulation

- Don’t rely on state and federal regulation
- Protect resources important to your community

Municipal authority:

- New York State Municipal Home Rule Law § 10
- Freshwater Wetlands Act – ECL Art. 24

Regulatory approach

- What regulations are already in place?
  - Are they being implemented by the planning board?
  - Are they being enforced by code enforcement?
- What resources are important?
  - What are the threats?
  - How best to protect?

Wetland and watercourse protection law

Components

- Regulated activities
  - Construction, other
- Regulated areas
  - Streams, wetlands
  - Buffers
- Permitting
- Penalties

Wetland and watercourse protection law

Example:
Town of Woodstock

- Applies to wetlands of all sizes, vernal pools, streams, and waterbodies
- Includes a buffer of 30-100 feet depending on resource
- Requires permit for various activities
- Implemented by Wetland and Watercourse Inspector

Other Approaches

Zoning setbacks

- New construction must be set back a required distance from resource

Example:

Town of Gardiner

- No new construction within 100 feet of top of bank of DEC-regulated stream

Other Approaches

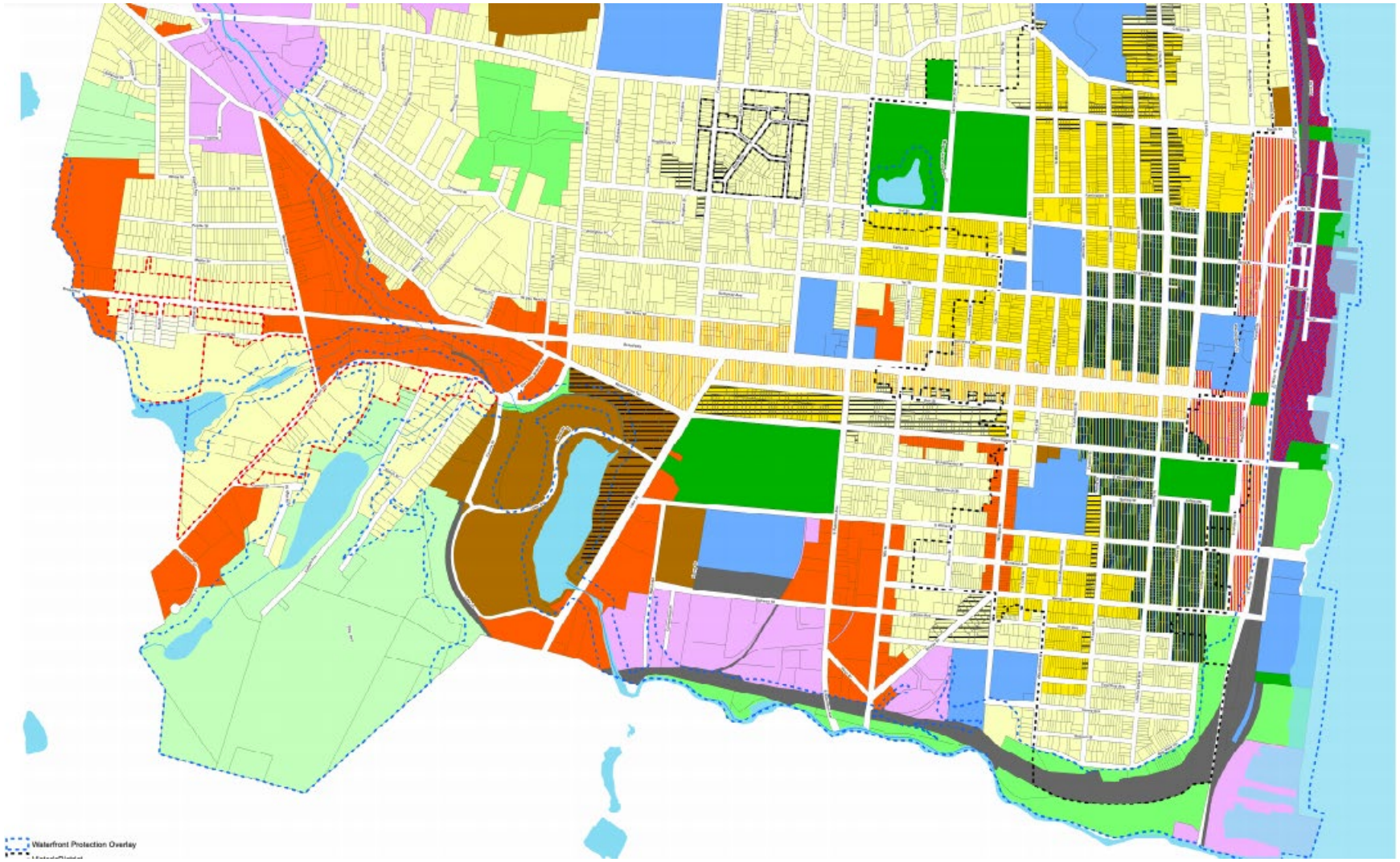
Overlay zoning

- Regulate development along a specific corridor

Example:

City of Newburgh Waterfront Protection Overlay District

- Regulates development along Hudson River and major creeks



Other Approaches

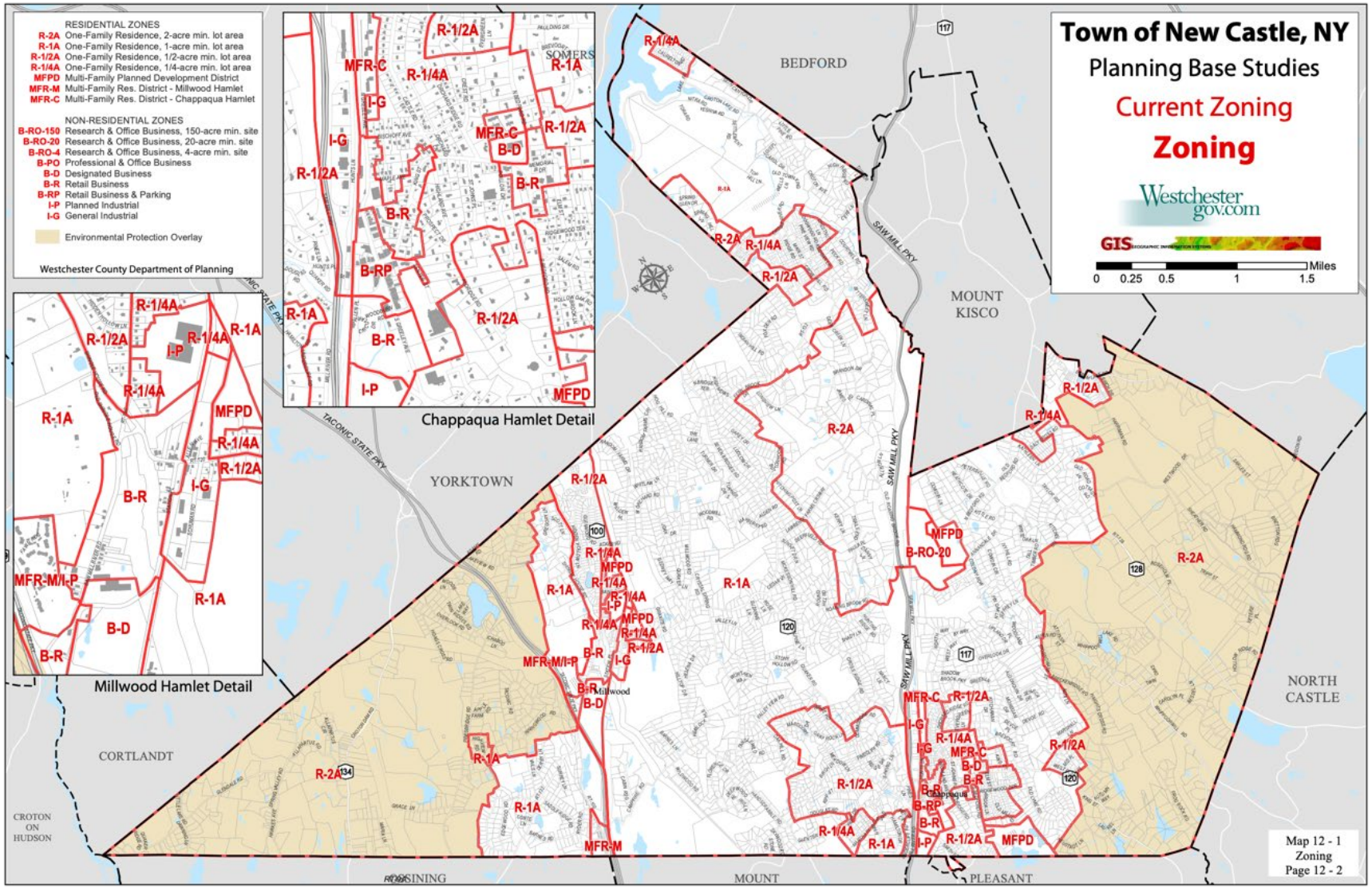
Overlay zoning

- Apply wetland protection in certain sensitive areas

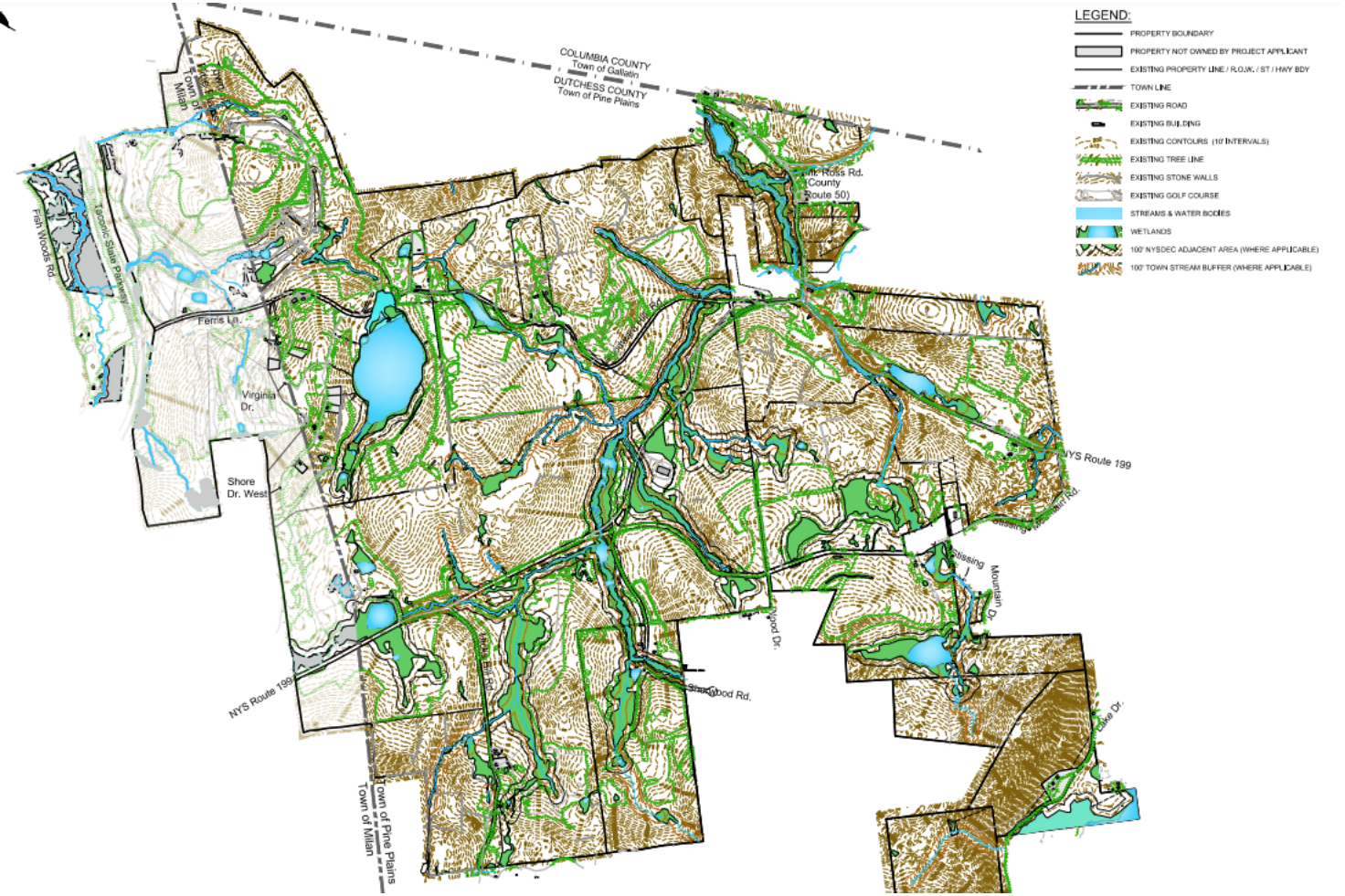
Example:

Town of New Castle Environmental Protection Overlay

- Enhanced wetlands protection for two source watersheds



Other Approaches



Conservation planning process

- Identify conservation areas before building areas

Example:

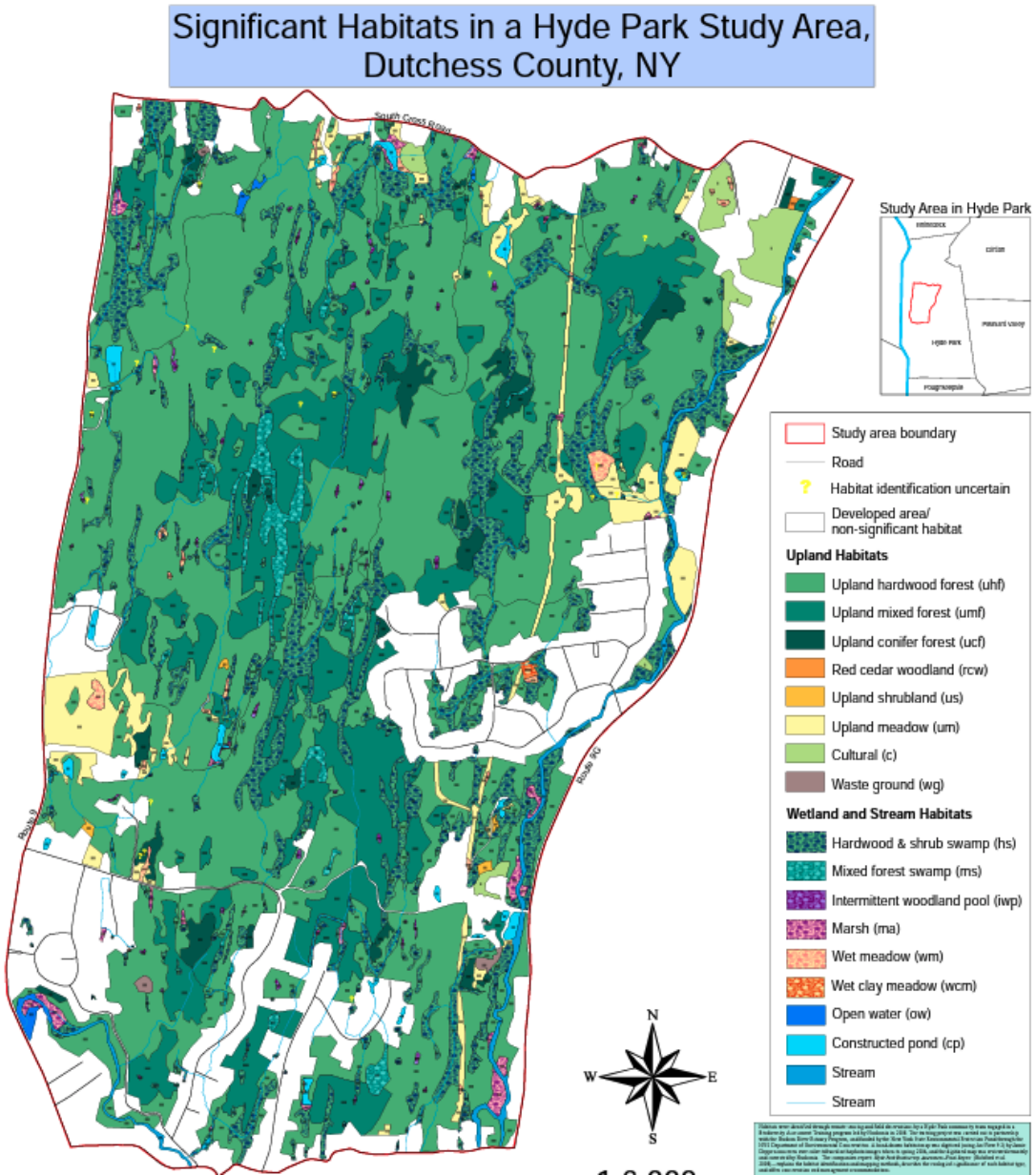
Town of Pine Plains Conservation Subdivision

- Required process in rural district
- Applicant and board agree to conservation area before laying out development

Resource

Local Wetland Protection Approach	Minimum Wetland Size	Size of Buffer or Regulated Area	Applicability	Technique
Town of Pawling (NY) Wetland and Watercourse Law[15]	1/4 acre	100 ft; for wetlands surrounded by steep slopes, the buffer shall extend 100 ft from the top of the slope	Comprehensive. See Section 111-4 of the Town of Pawling law	Local Wetland Law
Town of Poughkeepsie (NY)	1/10 acre	25 ft for 1-5 acres, 50 ft for 5-9 acre, 75 for	Comprehensive. See Section 116-5 of the	Local Wetland Law

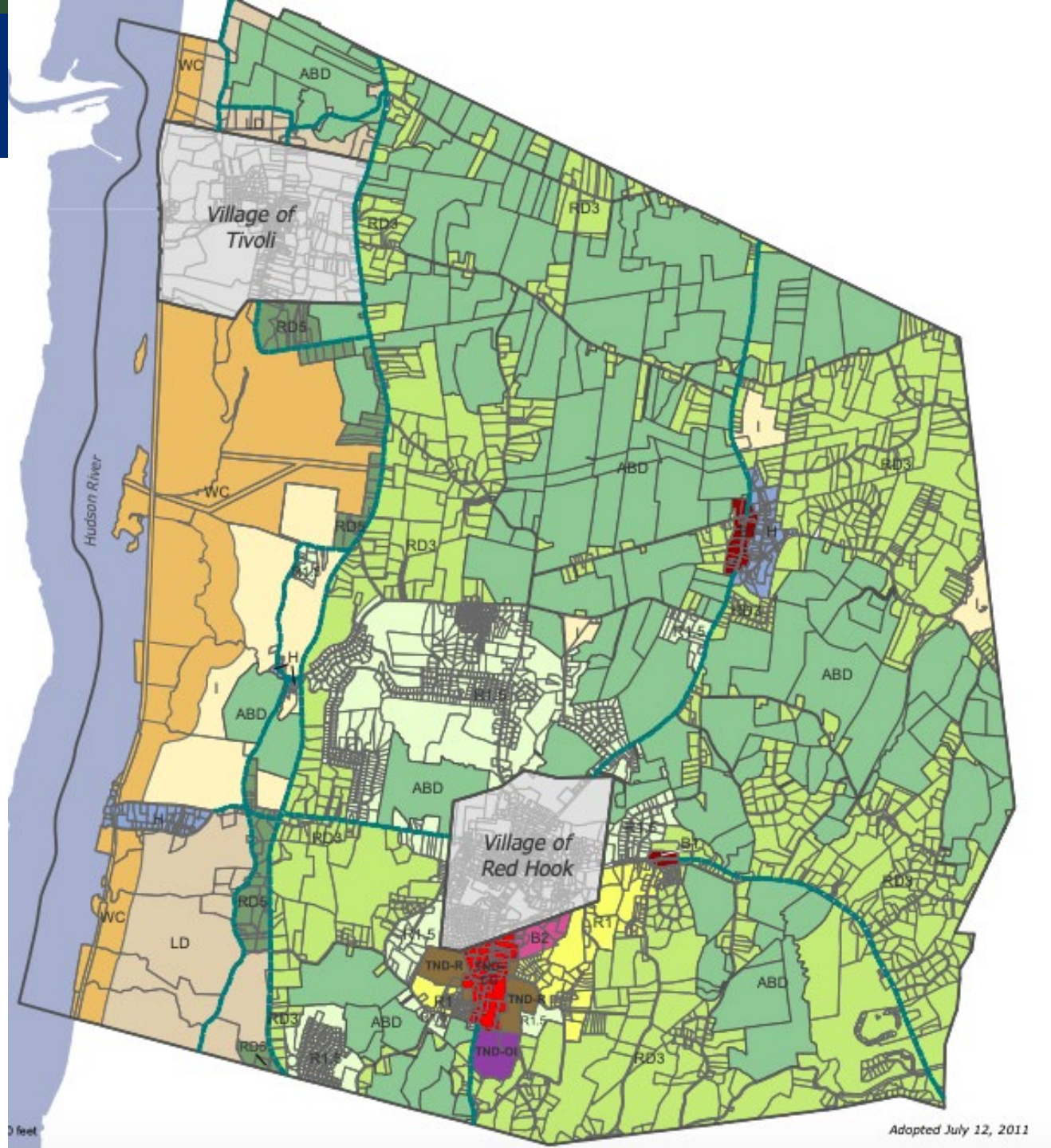
SEQR



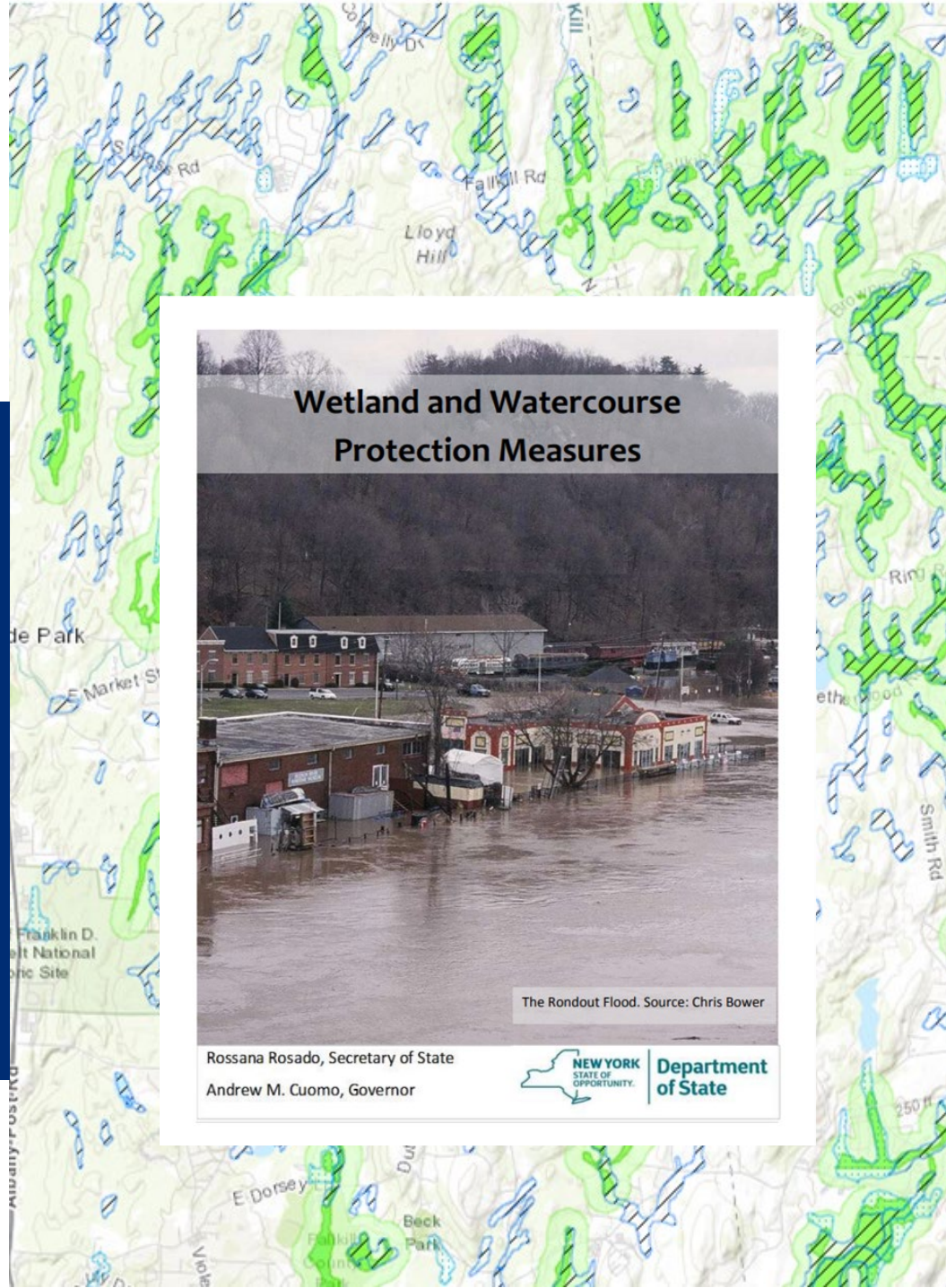
- Generally applicable – not limited to regulated resources
- Proactive data collection is valuable – NRI, habitat mapping
- Importance of officials and consultants who are educated on local resources and priorities
- Option: Critical Environmental Areas to document key areas

Layers of Protection

- Consider conservation at:
  - Townwide scale
  - Site scale
  - Individual resource



Additional Training, Tools, and Funding



Trainings

Overview of NY's Freshwater Wetland Regulatory Changes, webinar

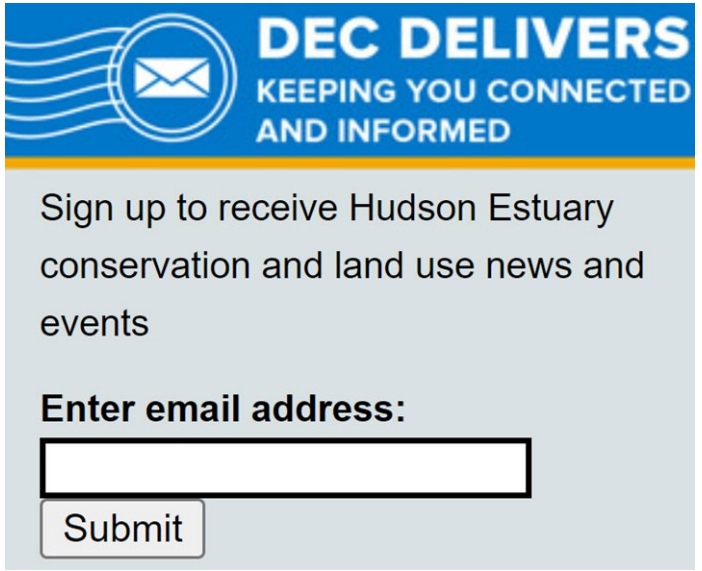
December 14, 1:00-2:15

The SEQR Process & Habitat Conservation, in person

November 2, 5:30-8:30 - Wappingers Falls

November 8, 5:30-8:30 - Delmar

Recordings of prior webinars at https://www.dec.ny.gov/lands/120539.html



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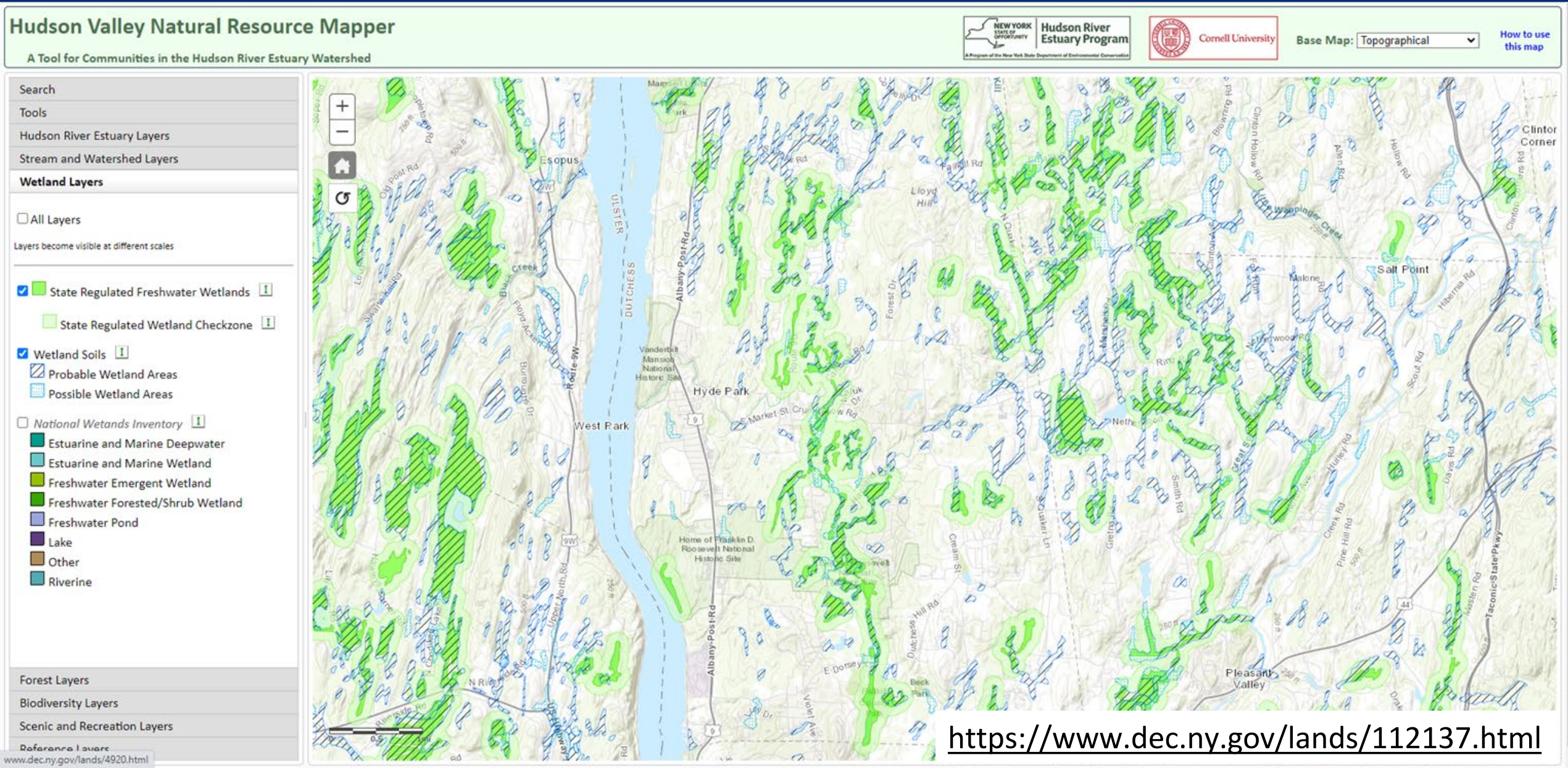
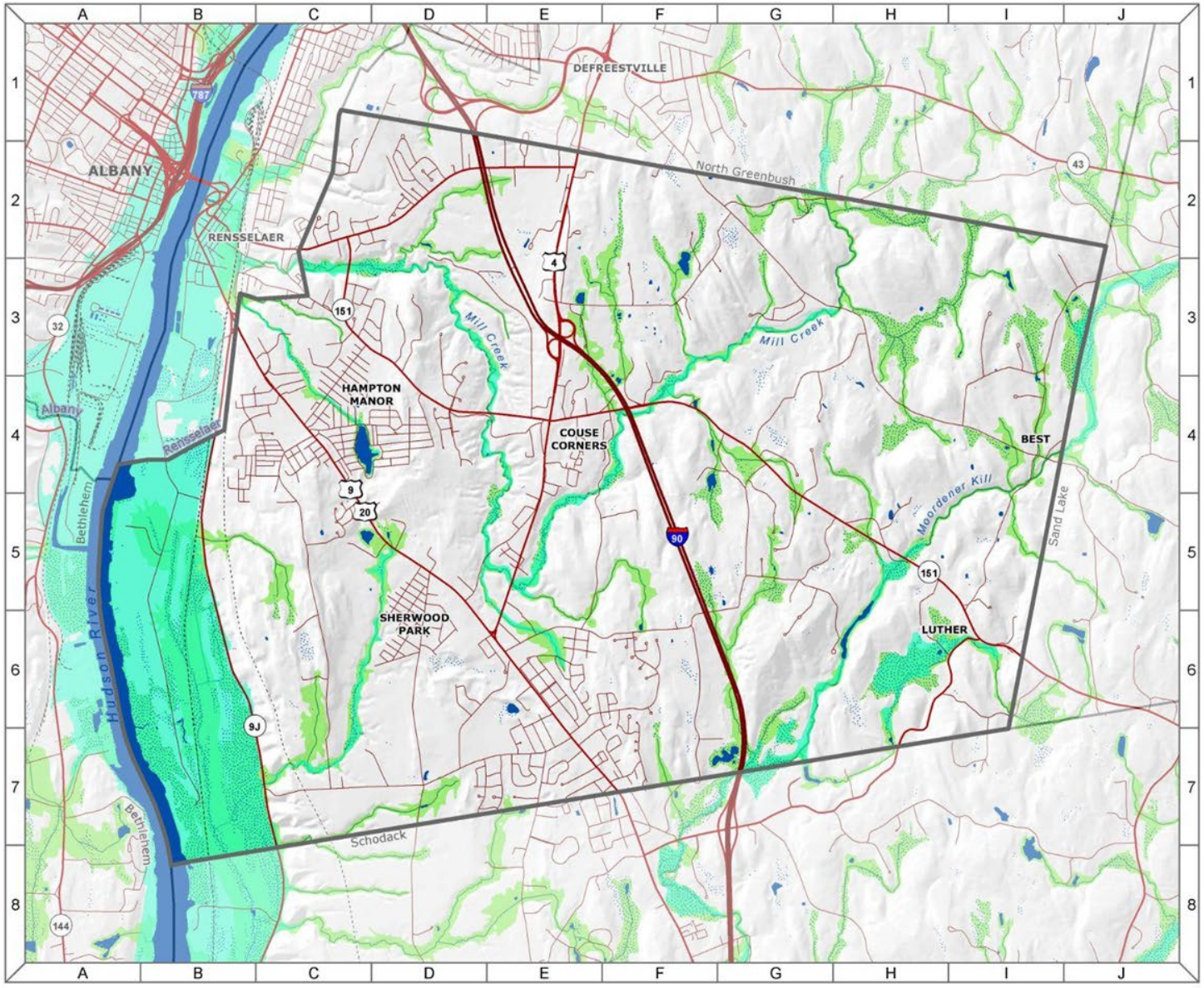
Hudson Valley Natural Resource Mapper



https://www.dec.ny.gov/lands/112137.html

Local Natural Resource Inventories or Plans



Town of East Greenbush
Natural Resources Inventory

11. Floodplains and Riparian Areas

Map Legend

FEMA Flood Hazard Areas
- 1% (100-Year) Flood Zone

Hydrology
- Riparian Areas
- Open Water
- Wetland
- River/Stream

Roads
- Interstate
- State/US Highway
- Local Street
- Railroad
- Municipality

Scale: 1:40,000

0 0.25 0.5 1 Mile

N W E S

Data Sources: *Flood Zones:* Federal Emergency Management Agency (June, 2015). | *Riparian Areas:* NY Natural Heritage Program (2018). | *Roadways:* ESRI North American Detailed Streets (2010). | *Railroads:* NYS DOT (May 2013). | *Towns:* NYS GIS Program Office (January 2017). | *Elevation:* NYS DEC and U.S. Geological Survey (date unknown). | *Rivers/Streams:* National Hydrography Dataset: NYS DEC and US Geological Survey (March 2017). | *Wetlands:* US Fish and Wildlife Service(2012) and NYS DEC (2013). **Note:** This map is intended for general planning and education purposes and is not a substitute for site-level surveys. It relies upon public data sources that may contain errors or omissions. Town of East Greenbush Natural Resources Inventory maps were completed with technical assistance from Cornell University, with funding from the NYS Environmental Protection Fund through the NYS DEC Hudson River Estuary Program. http://hudson.dnr.cals.cornell.edu. Map by Andrew Varuzzo, 2018.

Cornell University | NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION | Department of Environmental Conservation | Hudson River Estuary Program

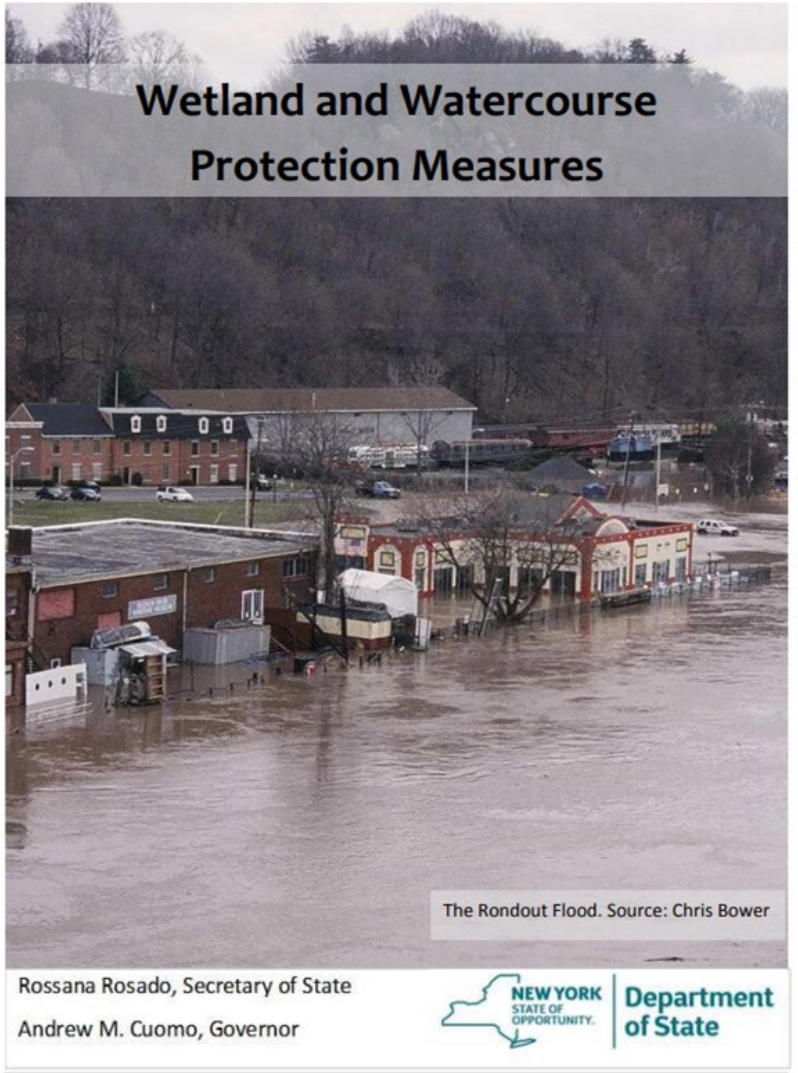
Model Laws

Department of State

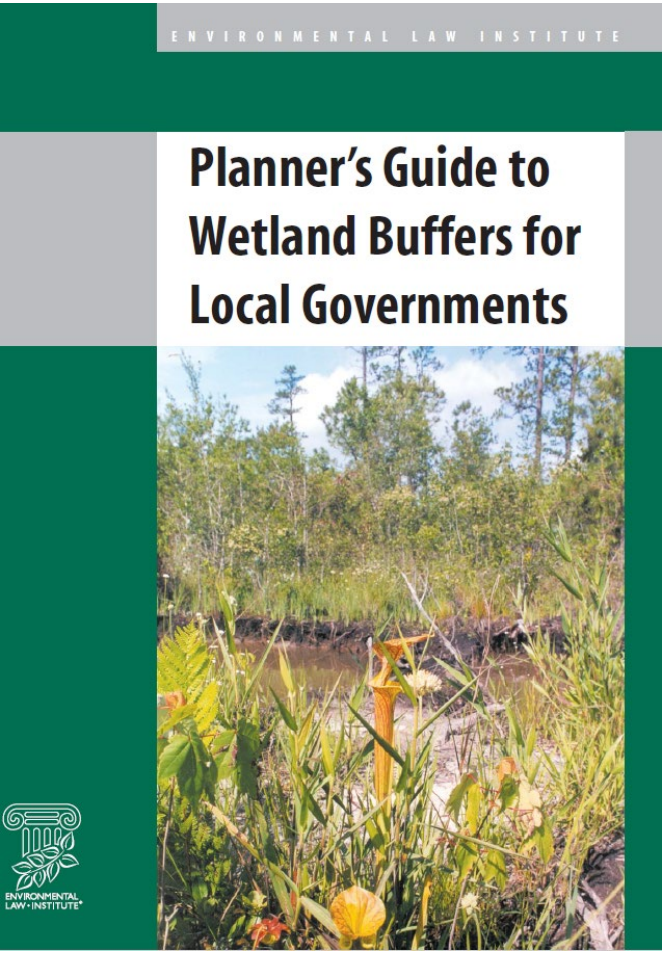
Licensing & Business | Local Government | Community Infrastructure | New Americans | Consumers | About Us

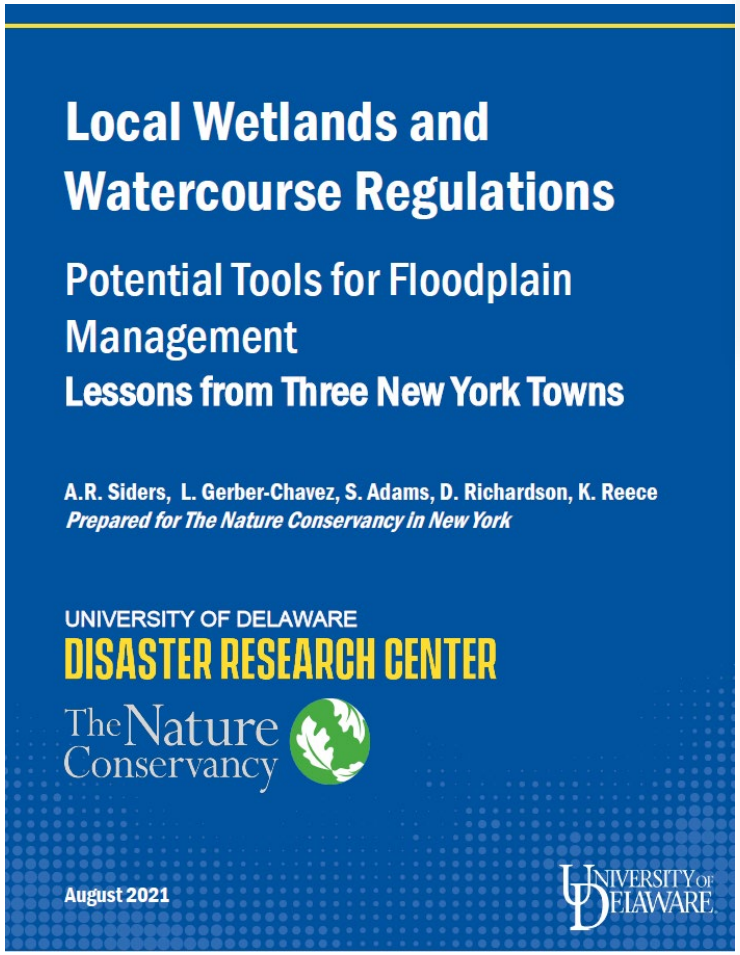
Model Local Laws to Increase Resilience

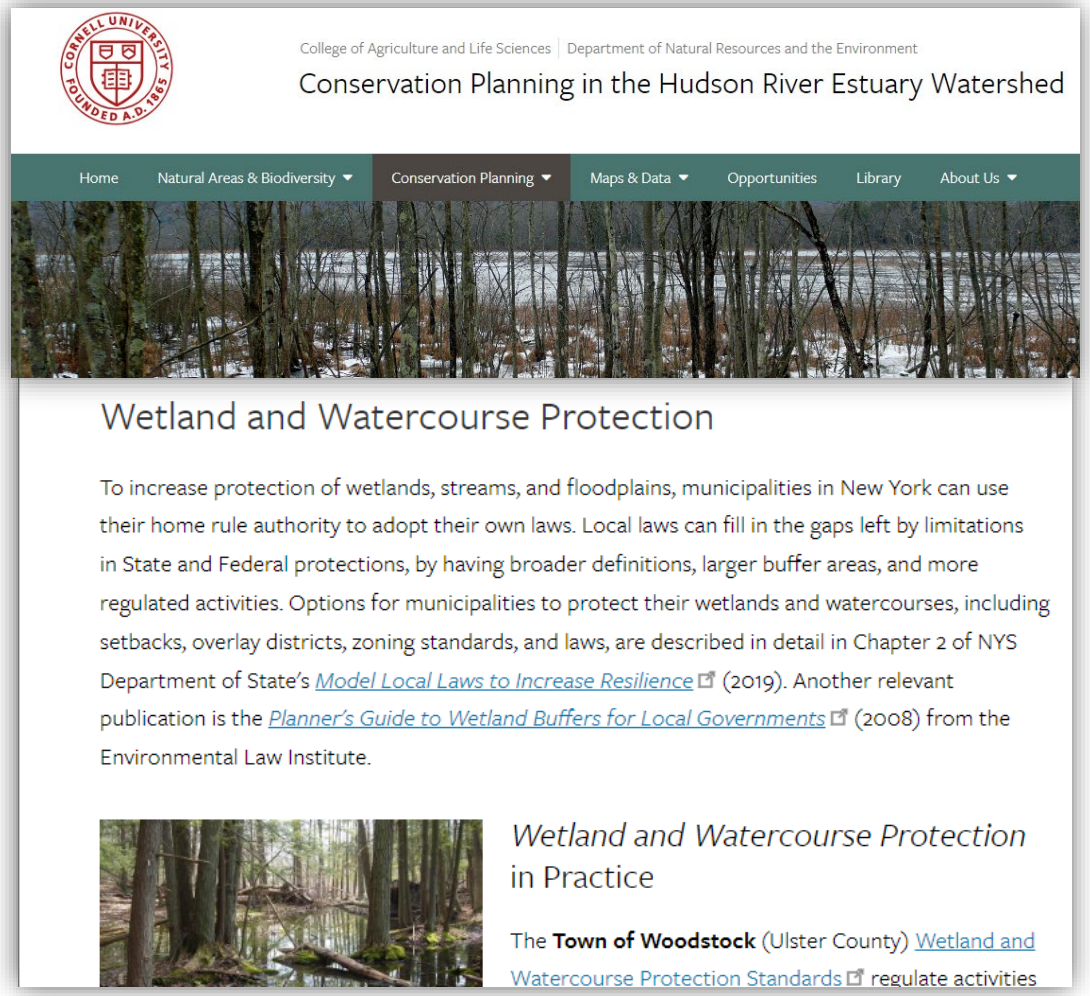
https://dos.ny.gov/model-local-laws-increase-resilience



Other Resources







https://www.eli.org/research-report/planners-guide-wetland-buffers-local-governments
https://udspace.udel.edu/items/325e4769-4716-47e6-9204-1c8e2ed12097
https://www.dec.ny.gov/lands/5094.html
https://hudson.dnr.cals.cornell.edu/

Fact Sheets

Stream and Wetland Conservation: State and Federal Jurisdiction and Opportunities for Local Action
September 2023

GORDON & SVENSON LLP
ATTORNEYS AT LAW

State and Federal Wetland Jurisdiction

New York State and the federal government have jurisdiction over certain streams and wetlands. The table below summarizes some of the state and federal laws that restrict physical disturbance of streams and wetlands. New York State is in the process of extending its jurisdiction to more wetlands. Federal regulations recently changed to restrict jurisdiction.

	Resource	*Statute*	*Protected Resources*	*Area Covered*	*Status*
New York State	Streams	Protection of Waters ECL Art. 15	• Class AA, A, B, C(T) and C(TS) streams • Mapped streams + perennial tributaries	• Bed and banks • No additional buffer	• No change
	Wetlands	Freshwater Wetlands ECL Art. 24	• Mapped wetlands >12.4 ac • Smaller wetlands of "unusual local importance"	• Wetland • 100-foot adjacent area	• Law was amended 2022 to cover more wetlands; new regulations are being developed • 2025 changes: ○ Jurisdiction no longer based on maps ○ New criteria for smaller wetlands of "unusual importance" • 2028 change: ○ Size threshold reduces to 7.4 ac
Federal	Streams & Wetlands	Clean Water Act § 404	• Waters of the United States ○ Navigable waters ○ Tributaries ○ Adjacent wetlands	• Stream (to high water mark) • Wetland • No buffer	• New regulation in August 2023 to change definition of Waters of the US ○ Streams that are "relatively permanent" ○ Adjacent wetlands with "continuous surface connection" to stream

State stream and wetland programs are administered by the NYS Department of Environmental Conservation. Federal Clean Water Act Section 404 regulations are administered by the US Army Corps of Engineers.

This training is offered through a partnership with Cornell University and the New York State Department of Environmental Conservation Hudson River Estuary Program with funding from the New York State Environmental Protection Fund.

NEW YORK STATE Department of Environmental Conservation | Hudson River Estuary Program

Cornell University

WETLAND CONSERVATION

NEW YORK STATE | Hudson River Estuary Program

What does the Hudson Valley have to lose?

Wetlands are important components of the Hudson River estuary watershed, providing habitat for wildlife and plants, improving water quality and storing floodwater, and offering unique opportunities for people to experience nature.

Wetland diversity

The estuary watershed supports a diversity of tidal and non-tidal wetland types, from freshwater intertidal mudflats along the Hudson's shores, to floodplain forests along creeks, to inland wetlands such as woodland pools. At least half of the 57 wetland community types that occur in New York have been documented in the estuary watershed. Each of these different wetlands has unique conditions, and in turn supports different plants, wildlife, and fish, contributing significantly to the region's rich biodiversity.

Plants like blue vervain (above) can tolerate prolonged wet soil conditions. Photo: L. Heady

What is a wetland?

Wetlands are typically defined by vegetation, soils, and hydrology. More specifically, wetlands are areas saturated by surface or groundwater enough to support a community of plants that are adapted to life in saturated soil conditions. Water is not always present; in fact, some kinds of wetlands often appear dry. If water is present long enough during the year to influence the kinds of plants that grow, an area can be a wetland.

Benefits of wetlands

Wetlands provide many functions and benefits that are valuable to people and the environment, including:

- **water quality improvement:** Wetlands cleanse water by filtering out pollutants, which are then broken down or immobilized. They also filter sediment and reduce turbidity.
- **flood and storm water control:** Wetlands absorb, store, and slow the flow of rain and snow melt, helping to minimize flooding and related damage. An acre of wetland can store one million gallons of water.
- **surface and groundwater protection:** Wetlands often serve as groundwater discharge sites, maintaining base flow and water levels in streams, rivers, ponds, and lakes. In some places, wetlands help to recharge groundwater.
- **fish, wildlife, and plant habitat:** Wetlands are one of the most productive habitats for feeding, nesting, spawning, resting, and cover for fish and wildlife, including many rare and endangered species. They are home to a large diversity of plants, as well.
- **carbon sequestration:** Wetlands contribute to climate change mitigation by storing carbon in soils and plants.
- **public enjoyment:** Wetlands provide areas for recreation, education, and research. They are popular destinations for wildlife watching and larger wetlands offer hunting and fishing opportunities.

Some wetlands, like this hardwood swamp, may appear dry during certain times of year. Photo: L. Heady

A Program of the New York State Department of Environmental Conservation | www.dec.ny.gov

STREAM CONSERVATION

NEW YORK STATE | Hudson River Estuary Program

Benefits and Protection Status

From headwater creeks, to meandering lowland streams, to tidal tributary mouths, the Hudson Valley is home to diverse streams providing valuable functions and benefits to communities. There are over XX miles of mapped streams in the Hudson River Estuary watershed, and countless additional small, unmapped streams that are critical to the health of the entire network.

What is a stream?

The word "**stream**" refers to a natural waterway flowing in a visible channel with a defined bed and banks. Streams may go by other names in New York such as creek, brook, or kill. A "river" typically refers to a large stream.

Streams are dynamic and interact in many ways with lands beyond the channel. Adjacent **riparian** areas are lands bordering streams and are transition zones between aquatic and upland habitats. **Floodplains** are low-lying areas adjacent to a stream channel that are periodically inundated after heavy rainfall or snowmelt. Riparian areas and floodplains are closely connected to stream processes and are functional components of the stream, even though they are usually dry. The condition of these adjacent areas contributes to the overall function and health of the stream. If left vegetated and undeveloped, riparian areas and floodplains can improve water quality and habitat, as well as serve as valuable buffers between human activities and flood risk areas.

Components of stream systems include parts of the channel as well as adjacent upland areas. *Graphic credit: Missouri Department of Conservation, Texas Parks and Wildlife Department, The Meadows Center for Water and the Environment, Rudolph Rosen*

Types of streams

Stream flow can fluctuate considerably depending on stream size, precipitation, time of the year, and land cover in the **watershed**, the area draining to the stream. The largest streams with continuous flow are **perennial**, flowing year-round. Perennial streams are primarily fed by groundwater and water from smaller **intermittent** streams, which only flow seasonally and are fed by groundwater and runoff from rainfall and snowmelt. Even smaller **ephemeral** streams only flow after rainfall. Intermittent and ephemeral streams are often inconspicuous and unmapped, but account for approximately 60% of total length of continental U.S. streams and rivers. The vast network of intermittent and ephemeral streams contribute important ecological functions and are vital to the health and functioning of downstream perennial waters.

An intermittent stream flows seasonally or after rain. *Photo: I. Haeckel*

Benefits of streams and riparian areas

Streams are essential parts of freshwater systems performing invaluable functions contributing to a healthy environment:

- **Clean water:** Streams support drinking water supplies, boating, fishing, and swimming. Intermittent streams and riparian areas are vital to downstream water quantity and quality.
- **Nutrient processing:** Intermittent streams transform large quantities of nitrogen (N) and other nutrients that would otherwise increase nutrient pollution downstream. This reduces potential for harmful algal blooms.

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https://www.dec.ny.gov/lands/5094.html
https://hudson.dnr.cals.cornell.edu/

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Funding

Hudson River Estuary Grants

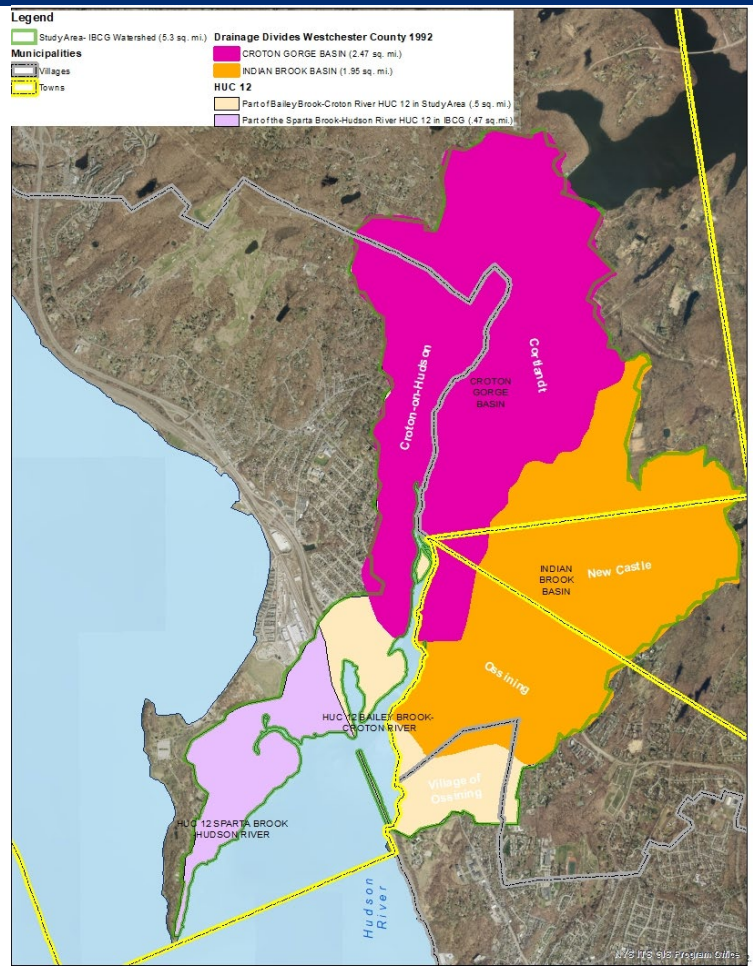
https://www.dec.ny.gov/lands/5091.html

Hudson River Valley Greenway Grants

https://hudsongreenway.ny.gov/grants-funding

Project examples:

- Zoning code revisions
- Wetland and watercourse law drafting
- Conservation overlay zoning



Indian Brook-Croton Gorge Watershed Overlay Project, Westchester

DWSP2

Drinking Water Source Protection Program

NEW YORK STATE | Department of Environmental Conservation | Department of Health | Department of State | Department of Agriculture and Markets

COORDINATE STAKEHOLDER GROUP

GUIDE PLAN DEVELOPMENT

INTERPRET DATA

DEVELOP MAPS

IDENTIFY STRATEGIES

PROVIDE GUIDANCE ON FUNDING

SUPPORT PLAN IMPLEMENTATION

Take-Home

1. Wetland and stream protection (including buffers) is vital to clean water and other benefits.
2. Existing maps are incomplete.
3. State and federal regulations are changing and leave big gaps.
4. Municipalities can do more.
5. One way I will make a difference is _____.

Photo: Ingrid Haeckel

Photo: Laura Heady

Thank you! Questions?

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https://hudson.dnr.cals.cornell.edu/

NEW YORK STATE | Hudson River Estuary Program

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Photo: Ingrid Haeckel