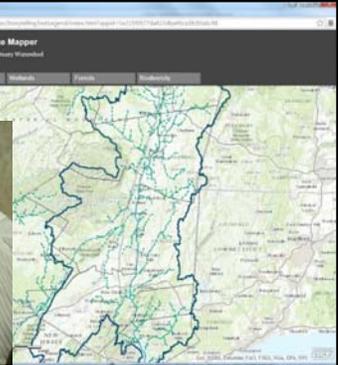




Department of Environmental Conservation



Cornell University



Online Tools for Environmental Review

CDRPC Training – March 31, 2016

Ingrid Haeckel

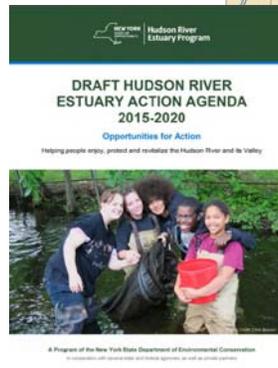
NYSDEC Hudson River Estuary Program and Cornell University

The Hudson River Estuary Program

Working to achieve key benefits:

- clean water
- resilient communities
- vital estuary ecosystem
- fish, wildlife, and habitat
- natural scenery
- education, access, recreation, and inspiration

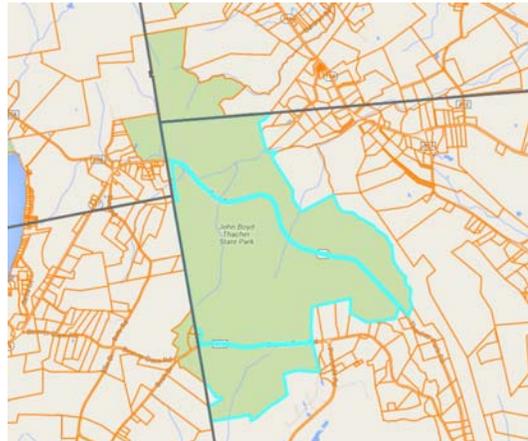
HVCC



The Task:

You're a member of the municipal planning board and are reviewing a proposal for a major residential subdivision.

In the early stages of the planning board's review, you are using available information to understand the natural features and environmental constraints on the site that might be relevant to subdivision design.



Where to find information:

- Aerial imagery, topographic maps, etc.
- Local inventories, plans, and studies
- County or regional inventories, plans, and web maps
- Statewide maps and databases
 - NYSDEC
 - NY Natural Heritage Program



Photo by Laura Heady

Online mapping tools summarized today:

1. NYSDEC EAF Mapper
2. NYSDEC Environmental Resource Mapper
3. NYSDEC Nature Explorer
4. Hudson Valley Natural Resource Mapper
5. USDA Web Soil Survey
6. Scenic Hudson Sea Level Rise Mapper
7. County Web Maps

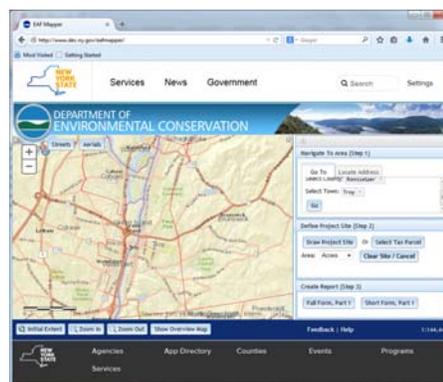


NYSDEC Environmental Assessment Form Mapper

Helps complete Part 1 of EAFs

For short form:

- proximity to Critical Environmental Areas
- State/National Register of Historic Places
- regulated wetlands or waterbodies
- listed species or associated habitats
- floodplains
- hazardous waste remediation sites



Remember that the EAF is a model.

Databases are incomplete. Ask questions!



NYSDEC EAF Mapper

- search by address, municipality, or zoom manually
- draw project site or select tax parcel
- EAF part 1 generated for download (enable pop-ups)
- Summary report of answers provided
- Links to online EAF workbooks

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EAF Mapper

Q 15, Short EAF (Part 1)

www.dec.ny.gov/permits/90545.html

Department of Environmental Conservation

Recreation Nature Prevent & Control Pollution Regulatory News & Learning Search

Home » Permit, License, Registration » SEQR » Environmental Assessment Form (EAF) Workbooks » Part 1 - Project Information (SEAF) » Q. 15, Short EAF (Part 1) Endangered / Threatened Species

Q. 15, Short EAF (Part 1) Endangered / Threatened Species

Short Environmental Assessment Form Workbook

Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?

Background Information

Threatened and endangered species are protected by both State and federal laws. These species, along with the habitats that support them are considered sensitive resources. This question asks the applicant to identify whether any threatened or endangered species (animals) and their associated habitats are present on the project site.

Answering the Question

The answer to this question will be automatically inserted on the pdf generated by the EAF Mapper. If endangered or threatened species or their associated habitats are known to be within the boundaries of the project site, the EAF Mapper will check "yes" on a PDF of the SEAF. If "yes" is returned for Question 15, then applicants should investigate further, guided by the instructions below, to identify what species are known to be present. If the applicant or project sponsor believes the answer filled out by the EAF Mapper is incorrect, supplemental information should be provided to the reviewing agency that explains that discrepancy.

If there are no known endangered or threatened species or associated habitats located within the project boundary, the EAF Mapper will check "no" on the form for you.

If the EAF Mapper is not used to answer this question, it does not mean that answering the question requires completion of a site-specific wildlife or plant inventory. There are many sources of already available information that you can easily access to find out whether any threatened or endangered species and their habitats are found on your project site. In order to answer this question, you will need to access the DEC website to get this information. The following links will be helpful sources of information:

PDF Help
For help with PDFs on this page, please call 518-402-9167.

Contact for this Page
NYSDEC
Division of Environmental Permits
4th Floor
625 Broadway
Albany, NY 12233-1750
518-402-9167
Send us an email

This Page Covers
All of New York State

Initial findings about J.B. Thacher State Park from the EAF Mapper:

- Wetlands present
- Class C stream
- Unique geologic features
- Not within FEMA-mapped floodplain
- On/near a principal aquifer
- Significant natural communities mapped on site
- Federal or NYS threatened/endangered species or habitat
- Archeological sensitive area ... and more



Photo by NYSDEC

Considerations when reviewing automated EAFs ... or, when “no” may really mean “unknown”

- Wetland maps and drainage data can indicate potential wetlands
- Stream maps and topographic maps can indicate potential wetlands
- Floodplain maps and expected flood depths can indicate potential wetlands
- Rare species records, NYNHP, and NYNHP
- There is no...



Photo by Laura Heady



Other Considerations:

- Habitat connectivity on- and off-site
- Riparian and wetland vegetated buffers
- Unlisted rare plants or animals (SGCN, NYNHP-tracked or regionally rare)
- Areas at risk of sea level rise
- Features of local concern/ significance documented in inventories or plans
 - *Don't stop at the automated EAF. Use additional tools and resources to gather information!*



Photo by Ingrid Haeckel



Photo by Laura Heady

NYSDEC Environmental Resource Mapper

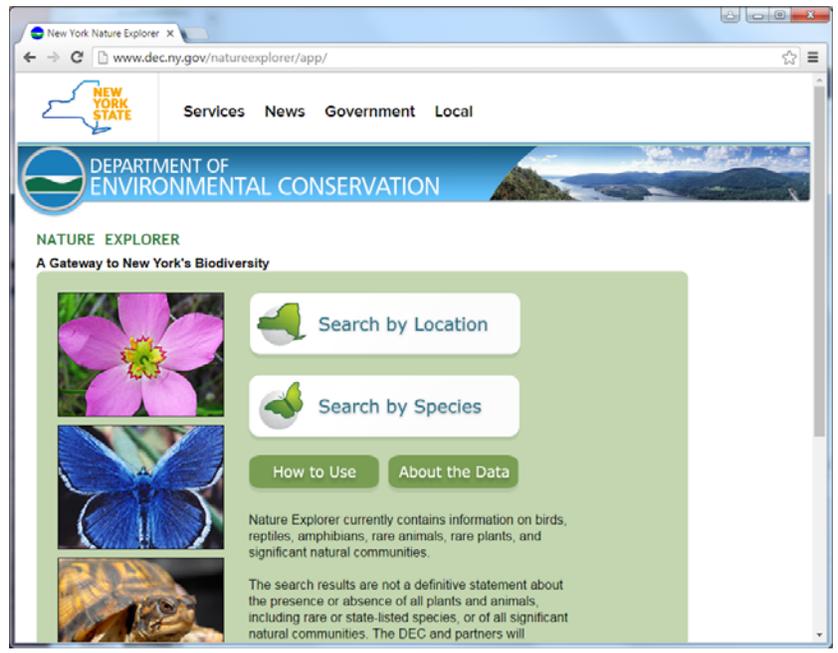
search by address, zip code, municipality, or zoom manually

NYSDEC Environmental Resource Mapper

- classified streams and waterbodies
- NYS regulatory freshwater wetlands and wetland check zones
- unique geological features
- rare plants and rare animals; historical records
- natural communities

NYSDEC Nature Explorer

search by municipality, county, watershed, area of interest, or species



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NYSDEC Nature Explorer

- natural communities
- generalized areas of importance for rare plants and animals
- list of rare species and natural communities with protection status, conservation rank, and links to conservation guidance

**be aware of exclusions

Common Name	Scientific Name	Subgroup	Distribution Status	Year Last Documented	Protection Status	Conservation Rank		
					State	Federal	State	Global
Town: New Scotland								
Plant: Flowering Plants								
<input type="checkbox"/>	Carey's Smartweed (<i>Percnaria careyi</i>)	Other Flowering Plants	Historically Confirmed	1930	Endangered		S1S2	G4
<input type="checkbox"/>	Cloud Sedge (<i>Carex haydenii</i>)	Sedges	Historically Confirmed	1926	Endangered		S1	G5
<input type="checkbox"/>	Northern Stickseed (<i>Hackelia deflexa</i> var. <i>americana</i>)	Other Flowering Plants	Historically Confirmed	1951	Endangered		S1	G5I5
<input type="checkbox"/>	Northern Wild Comfrey (<i>Cynoglossum virginianum</i> var. <i>boreale</i>)	Other Flowering Plants	Historically Confirmed	1907	Endangered		S1S2	G5I4I5
<input type="checkbox"/>	Smooth Tick-trefoil (<i>Desmodium laevigatum</i>)	Other Flowering Plants	Historically Confirmed	1928	Endangered		S1	G5
<input type="checkbox"/>	Sweet Collards (<i>Petasites frigidus</i> var. <i>palmatus</i>)	Asters, Goldenrods and Daisies	Recently Confirmed	2001	Endangered		S1	G5I5
Plant: Ferns and Fern Allies								
<input type="checkbox"/>	Smooth Cliff Brake (<i>Pellaea glabella</i> ssp. <i>glabella</i>)	Ferns	Recently Confirmed	2012	Threatened		S2	G5I5
Plant: Mosses								
<input type="checkbox"/>	Small Mousetail Moss (<i>Myurella julacea</i>)	Other Mosses	Recently Confirmed	2005			S2	G5
Natural Community: Uplands								
<input type="checkbox"/>	Appalachian Oak-Hickory Forest (Appalachian oak-hickory forest)	Forested Uplands	Recently Confirmed	2001			S4	G4G5
<input type="checkbox"/>	Calcareous Cliff Community (Calcareous cliff community)	Open Uplands	Recently Confirmed	1999			S3	G4

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NYNHP Conservation Guides



The NY Natural Heritage Program enables and enhances conservation of the state's biodiversity by delivering high-quality information from field inventories, expert interpretation, and the most comprehensive database on New York's distinctive biodiversity. The following conservation guides are designed to help land managers, decision-makers, planners, scientists, consultants, and the interested public better understand the rare species and natural communities that characterize New York. Funding from the Hudson River Estuary Program made the initial development of these guides possible.

Search Guides Search
Advanced Search

- Additional Links**
 Rarity Rank Definitions
 Community System Descriptions
 Key to Systems and Subsystems
 Acknowledgements
 About Us



Animal Guides



Plant Guides



Community Guides

www.guides.nynhp.org

The screenshot shows the 'Calcareous Cliff Community' guide page. It includes a navigation menu with options like HOME, ANIMAL GUIDES, PLANT GUIDES, COMMUNITY GUIDES, and ADVANCED SEARCH. The page content includes:

- System:** Terrestrial
- Subsystem:** Open Uplands
- State Protection:** Not Listed
- Federal Protection:** Not Listed
- State Rarity Rank:** S3
- Global Rarity Rank:** G4
- Did you know?:** Cliff communities can harbor some of the oldest trees in the state. Because of their inaccessibility, the vegetation at these sites is often left undisturbed. In addition, the trees that reside on cliffs grow under stressful conditions, including drought, high wind, and low nutrient availability, often making them stunted, knobby, and undesirable for commercial lumber. The small size of these trees can be deceiving. Studies of the Niagara Escarpment, which extends from New York into Ontario, Canada, have found northern white cedar trees (Thuja occidentalis) that are 500 to 1000 years old!
- State Ranking Justification:** There are several hundred occurrences statewide. Some documented occurrences have good viability and many are protected on public land or private conservation land. This community is limited to the calcareous regions of the state, and there are several large, high quality examples. The current trend of this community is probably stable for occurrences on public land, or declining slightly elsewhere due to moderate threats that include mineral extraction, recreational overuse, and invasive species.
- Short-term Trends:** The number and acreage of calcareous cliffs in New York have probably declined slightly in recent decades as a result of mineral extraction and other development.

Request Natural Heritage Program Data: NaturalHeritage@dec.ny.gov

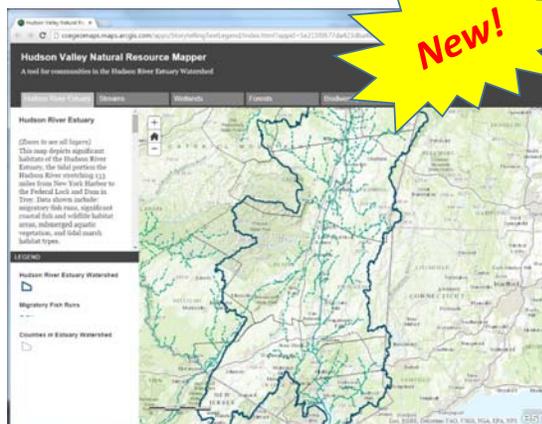
The screenshot shows the 'Request Natural Heritage Data' page on the NYS DEC website. The page includes:

- Navigation:** Home, Animals, Plants, Aquatic Life, Biodiversity & Species Conservation, New York Natural Heritage Program, Request Natural Heritage Data.
- Section Header:** Request Natural Heritage Data
- Main Text:** New York Natural Heritage makes its data available to inform biodiversity conservation, natural resource management, land protection, land use decisions, and environmental assessment. If you need information on whether a specific proposed development, project, or activity may potentially impact rare or listed species or significant natural communities, see How to Request Information for a Project Site below. If you are engaged in regional or municipal planning, natural resource inventory or management, open space inventory or protection, environmental or biodiversity conservation, or scientific research, please contact NY Natural Heritage at NaturalHeritage@dec.ny.gov or (518) 402-8944.
- Note:** Note that information regarding the locations of rare species is considered sensitive. The distribution of information which identifies the locations of rare species or their habitats may lead to the collection or disturbance of the animals and plants at those locations. NYSDEC has the legal authority, under New York State Environmental Conservation Law, to restrict access to such information, and has adopted a policy regarding the release of information compiled by the New York Natural Heritage Program. Under this policy, information on the locations and identities of rare species is provided at the level of detail necessary to enable fully informed decision-making while protecting the sensitive resources. Information may be provided to the requesting party for its internal use, with restrictions on the public display and distribution of the data or products derived from it.
- Contact Information:** NYSECC-DVW/R, NY Natural Heritage Program, 625 Broadway, 5th Floor, Albany, NY 12233-4757, 518-402-8935.
- Map:** A map of New York State showing the distribution of calcareous cliffs.

Hudson Valley Natural Resource Mapper

Interactive thematic maps:

- Estuary
- Streams
- Wetlands
- Forests
- Biodiversity



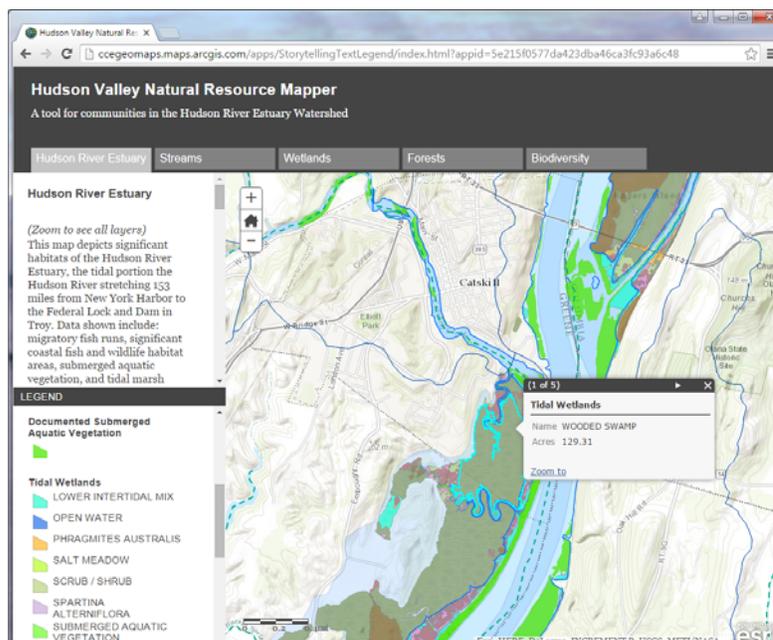
www.hudson.dnr.cals.cornell.edu/mapper



Estuary Map

Includes:

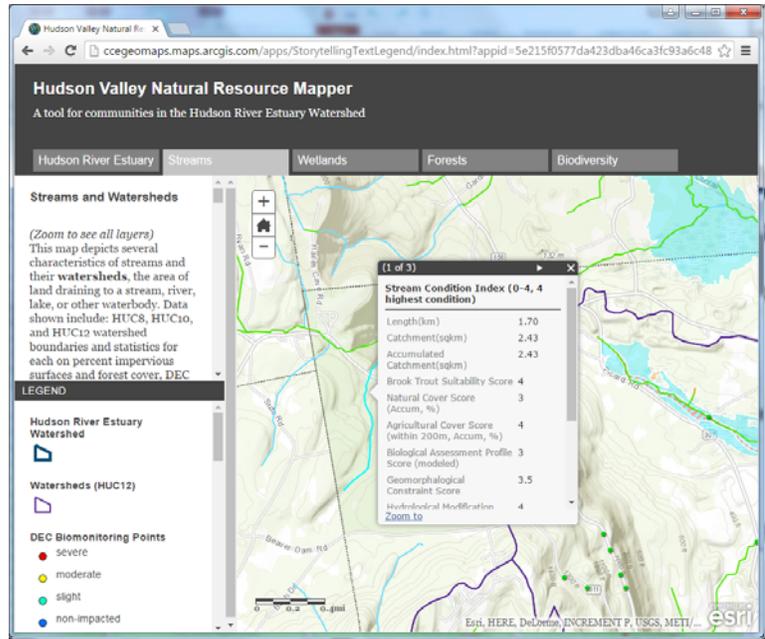
- Migratory fish habitat
- Submerged aquatic vegetation (SAV)
- Tidal wetlands
- Significant Coastal Fish and Wildlife Habitat Areas



Streams Map

Includes:

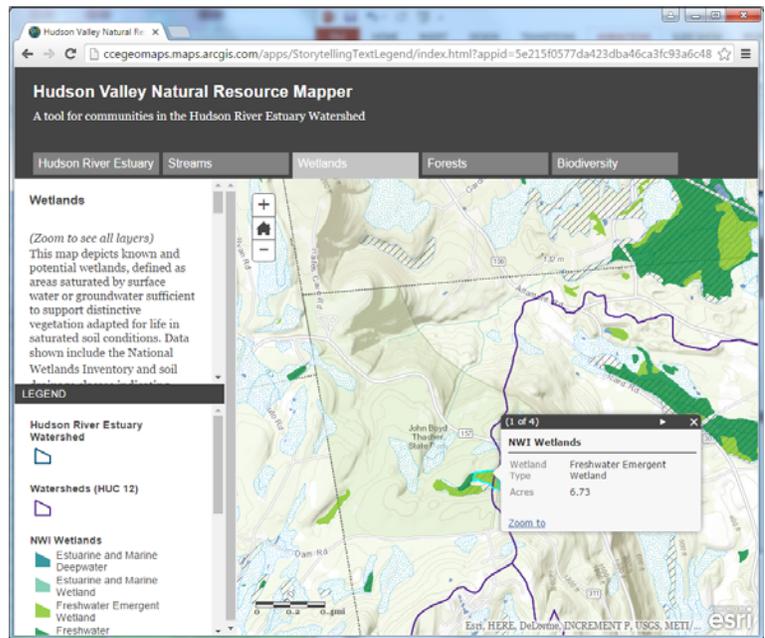
- Watersheds
- Forest & impervious cover
- Stream Condition Index
- Dams and culverts
- Biologically important barriers
- Water quality monitoring
- FEMA flood zones



Wetlands Map

Includes:

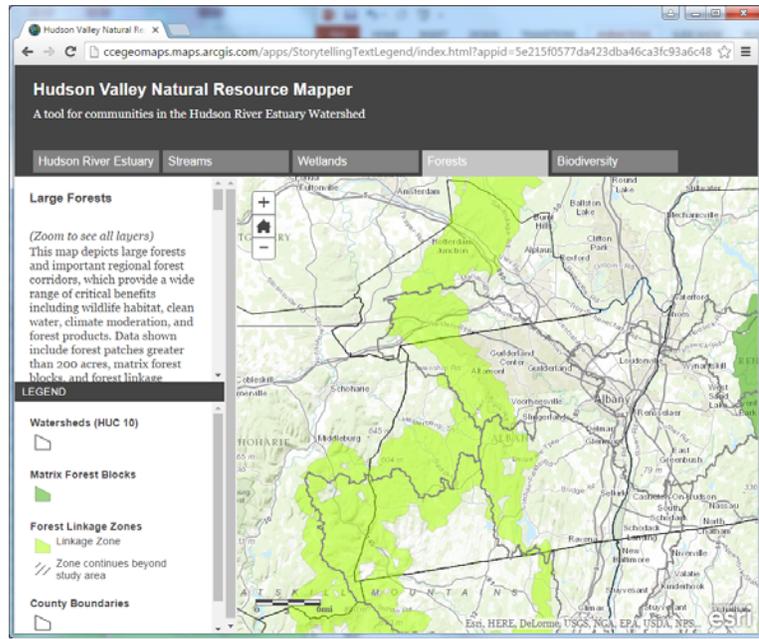
- National Wetlands Inventory (NWI)
- Wetland soils:
 - *Probable wetlands:* poorly and very poorly drained
 - *Possible wetlands:* somewhat poorly drained



Forest Map

Includes:

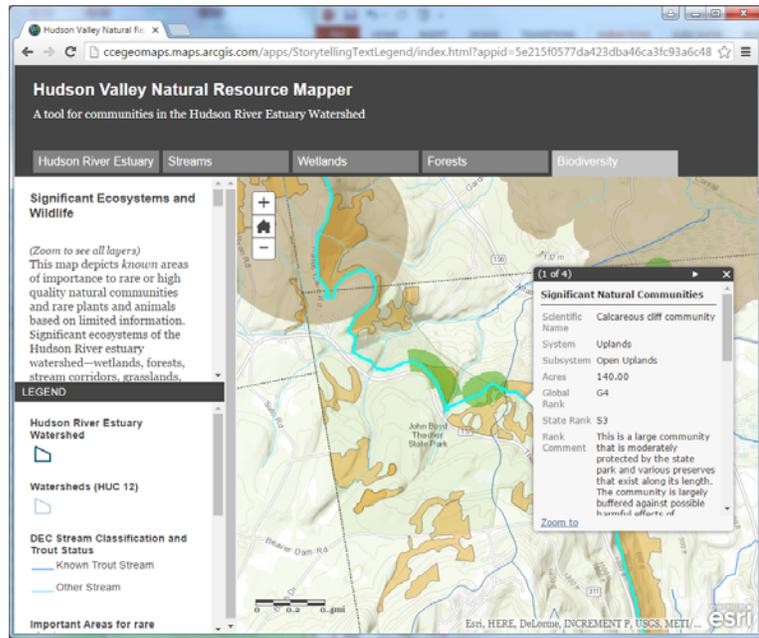
- Large forest patches >200 ac
- Matrix forest blocks
- Forest linkage zones



Biodiversity Map

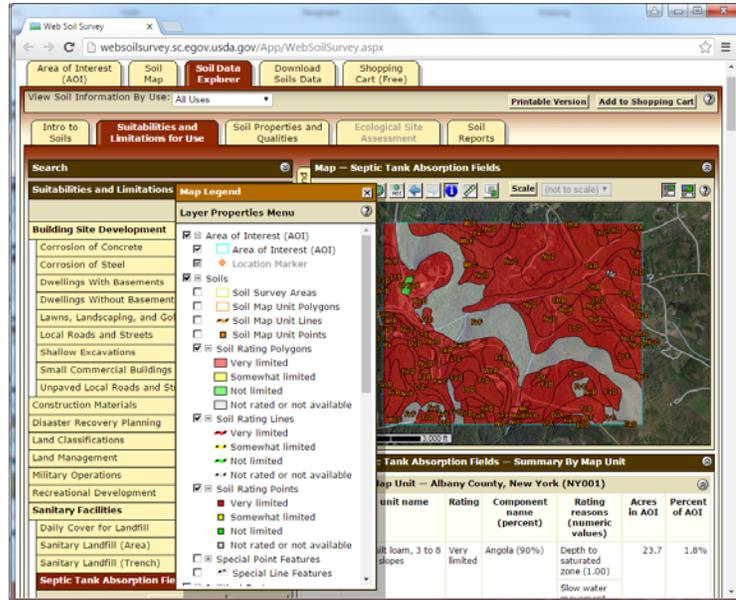
Includes:

- Significant natural communities
- Important areas for:
 - Rare plants
 - Rare animals
- Significant Biodiversity Areas (SBAs)
- Stream class, trout status



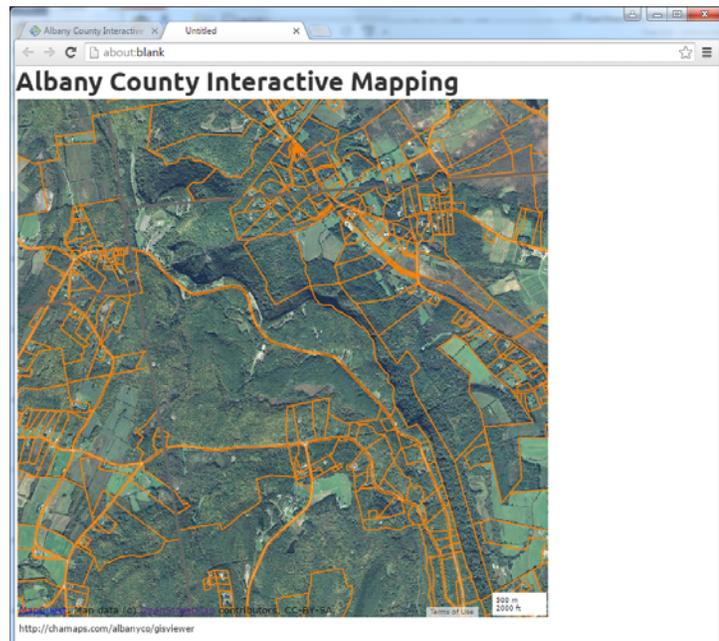
USDA Web Soil Survey

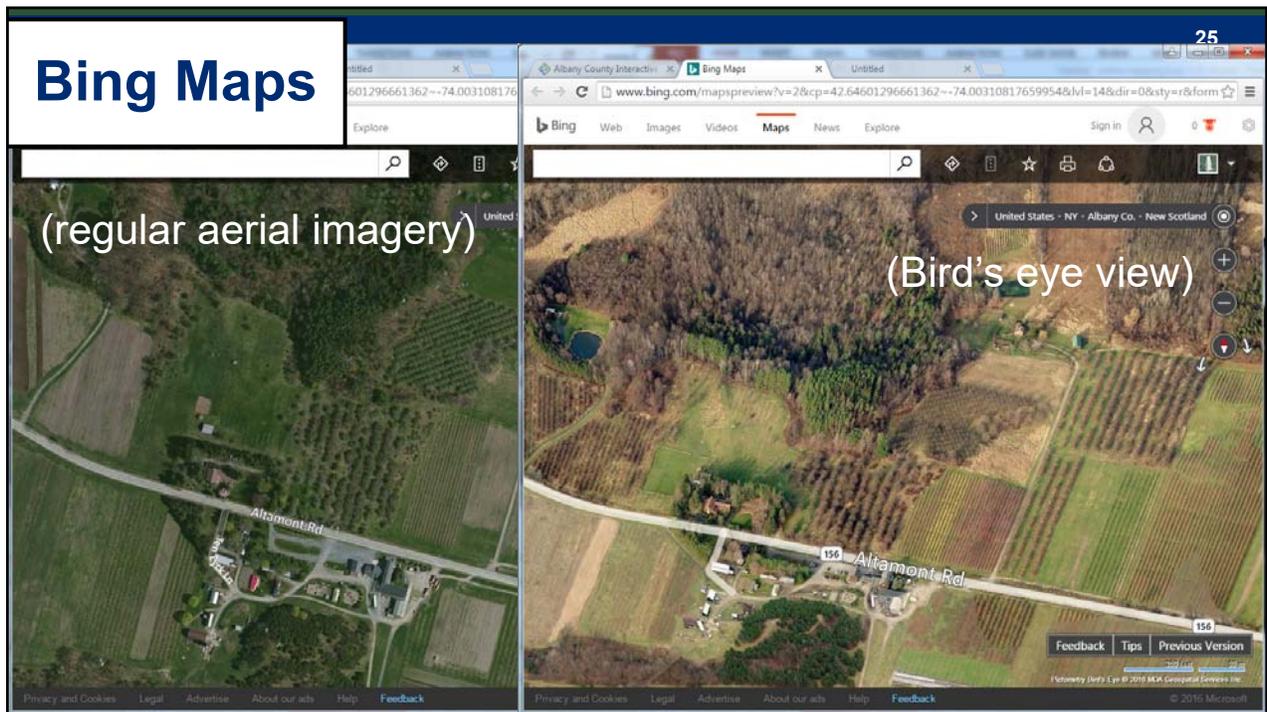
- Search by address or zoom
- Define “Area of Interest” by selecting rectangle or drawing polygon
- Switch tabs to view Soil Map
- Soil Data Explorer provides detailed soil properties and analysis of suitability for construction, stormwater management, etc. – example: septic tank absorption fields



Albany County GIS

- Tax parcel data
- Parks, preserves, and trails
- DEC and NWI wetlands
- FEMA flood zones
- Soils (unit, slope, drainage, farmland value)
- Contours (2 ft, 10 ft, 50 ft)
- Aerial imagery 1994-2014
- Bing, Google, and Open Street basemaps and imagery
- StreetView and Bird’s Eye links
- Print or share map link





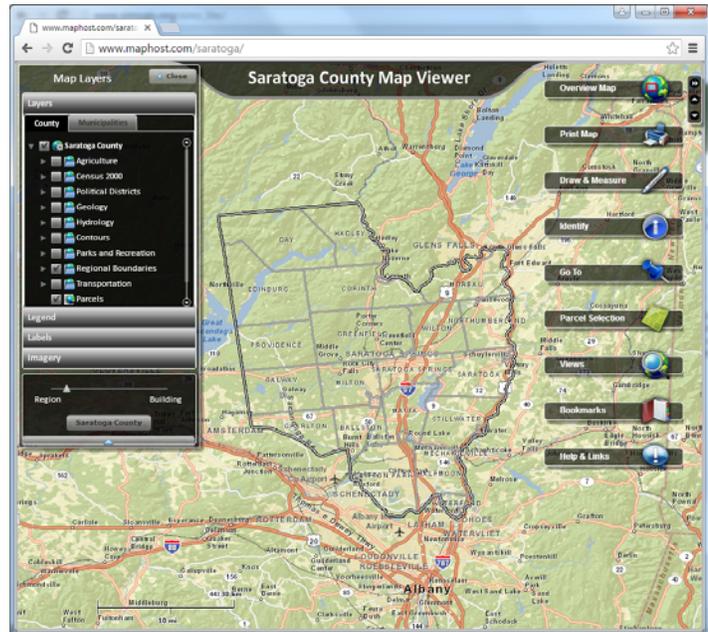
Bing Maps

(regular aerial imagery)

(Bird's eye view)

Saratoga County Map Viewer

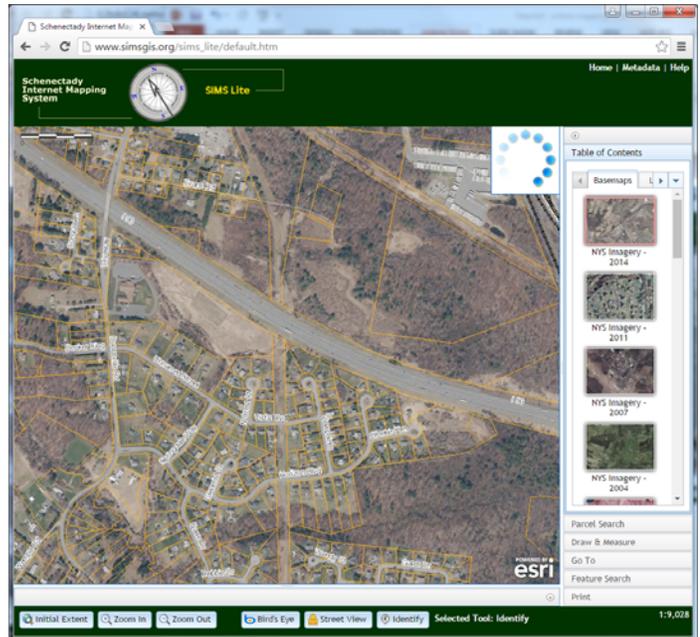
- Tax parcel data, some zoning
- DEC wetlands + buffer zones
- NWI wetlands
- NHD streams and waterbodies
- FEMA flood zones
- Soils (unit, slope)
- Contours (2, 10, 20, 50, 100 ft)
- Trails
- Aerial imagery 2004-2014
- StreetView and Bird's Eye links
- Print map



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Schenectady Internet Mapping System

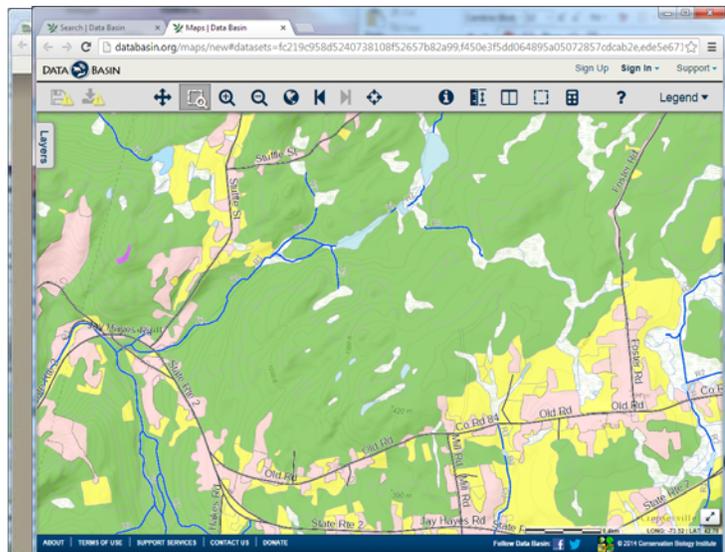
- Tax parcel data and zoning
- DEC classified wetlands, streams, and waterbodies
- FEMA flood zones
- Watersheds, subwatersheds
- Soils (unit code, hydric)
- Aquifers
- Aerial imagery 1941-2014
- Topographic base maps
- StreetView and Bird's Eye links
- Print map

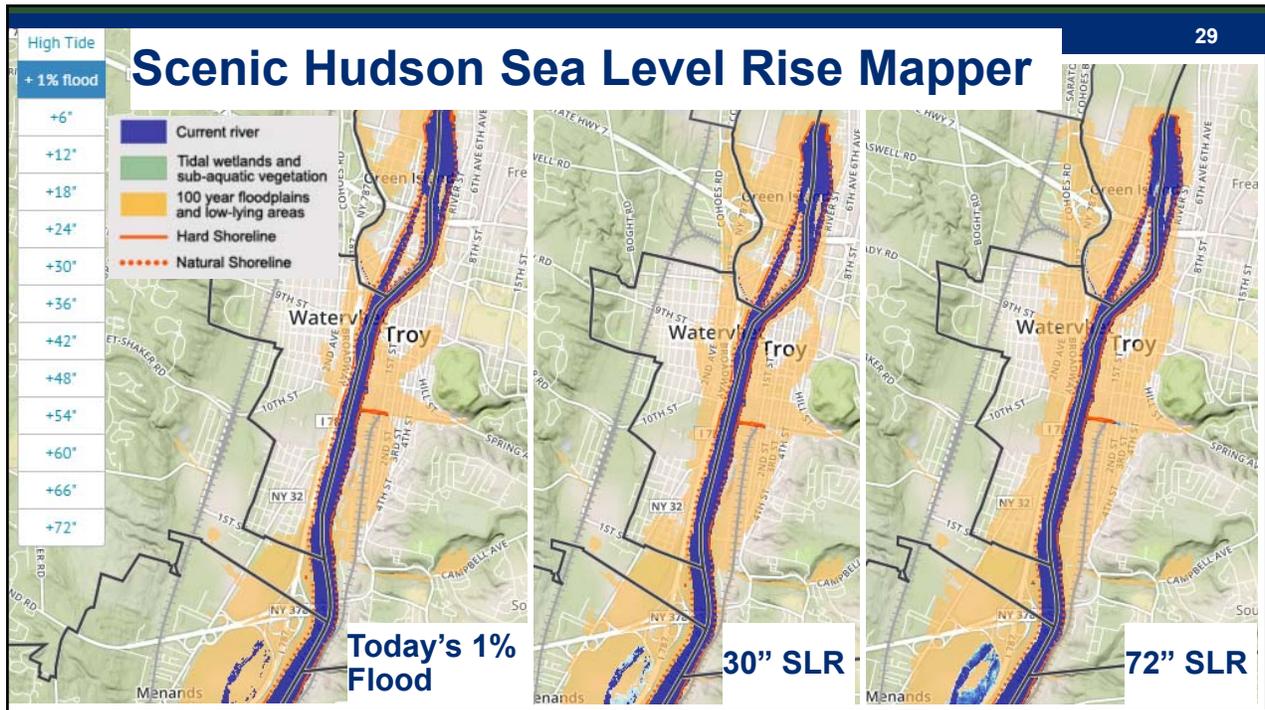


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Local Studies: Rensselaer Plateau Ecological Maps

- Available on databasin.org
- Address search or manual zoom
- Ecological communities
- Forest blocks, interior areas, and corridors
- Aquatic communities
- Ecosystem complexes
- Use with NYNHP conservation guides





NYS has adopted sea level rise projections for permitting and regulatory processes

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Table 1. New York State Sea-level Rise Projections, 6 NYCRR Part 490

Region	Long Island					NYC/Lower Hudson					Mid-Hudson				
	L	L-M	M	H-M	H	L	L-M	M	H-M	H	L	L-M	M	H-M	H
2020s	2	4	6	8	10	2	4	6	8	10	1	3	5	7	9
2050s	8	11	16	21	30	8	11	16	21	30	5	9	14	19	27
2080s	13	18	29	39	58	13	18	29	39	58	10	14	25	36	54
2100	15	21	34	47	72	15	22	36	50	75	11	18	32	46	71

Values represent inches of rise over baseline level, which is defined as the average level of the surface of marine or tidal water over the years 2000 through 2004.

- Albany is in the Mid-Hudson region
- Projections are in inches and by time horizon
- We are currently on the High (H) track due to rapid ice melt

Hudson River Sea Level 1856-2009
(in mm, observed at Manhattan)
average = 2.73mm/yr
source: NOAA

Additional findings about J.B. Thacher State Park

- Steep slopes and soil properties
- Stream condition index values
- NWI wetlands and somewhat poorly drained soil locations
- Locally significant forest block in regional forest linkage zone
- Significant Biodiversity Area; more specific areas of importance to rare plants and animals
- Conservation guidance for natural communities



Photo by NYSDEC

Some final tips for using online maps...

- Check browser requirements and recommendations
- Enable pop-ups in your web browser
- Read the instructions and use tutorials!

... and remember – maps are oftentimes imperfect and incomplete! They are no substitute for site visits and field delineation.



Photo by Laura Heady

Standardizing Review Procedures: Developing a Site Resource Assessment Checklist

Town of Rhinebeck Site Resource Analysis Assessment

Name of subdivision: _____
 Address: _____

	Yes	No	Not Sure
Are there streams, wetlands, waterbodies or watercourses that require protective buffer areas?			
Are there areas zoned for agriculture?			
Will the action be performed by the applicant?			
Is there active farmland contiguous to or within 500 feet of the subject parcel?			
Is there an Agricultural Zoning parcel?			
Are there riparian areas that the Town desires to be kept clear of development?			
Could development alter the stream character from other areas identified?			
Could development alter riparian connectivity within the project?			
Have riparian mitigation measures been discussed?			
Are there high quality areas and significant groups of trees that should be preserved?			
Is there the potential for significant wildlife, fisheries or wildlife migration areas?			
Do any of these significant natural areas extend into adjoining properties?			
Have mitigation measures been discussed?			
Are there areas with rare tree ecotopes on the site?			
Is the parcel adjacent to a public recreational area?			
Are there possibilities for adjacency, linkage or trail connections?			
Are there special cultural, archaeological or other historic features that should be preserved?			
Is the parcel adjacent to a wetland, floodplain, State or locally designated historic site or district?			
Is the parcel adjacent to or within an officially designated State or Federal Historic District?			
Is the parcel adjacent to or within an officially designated Critical Environmental Area (CEA)?			
Is the parcel within the town's Riparian Buffer Zone?			
Can the development be connected to a community water supply system?			
Can the development be connected to a community sewage disposal system?			
Are there other housing to be addressed by the subdivision?			

Priority resources that should be preserved on the site: _____

Recommendations: _____

Date of Planning Board site visit: _____

Example from the Town of Rhinebeck

- stream and waterbody buffers?
- significant habitats or wildlife corridors?
- active farmland?
- scenic and historic resources?
- possible trail connections?



Conduct site visits to evaluate the parcel



Photo: Laura Heady

- Verify constraints identified in the preliminary resource analysis
- Identify other features of concern that might not have been mapped



Habitat Assessment Guidelines



Photo: Laura Heady

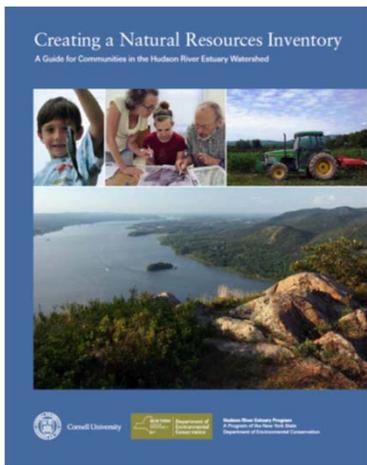
Guidelines provide clear instructions for a qualified professional to visit the site prior to beginning the SEQR process and:

- identify significant habitats,
- evaluate habitat quality,
- prepare and submit report,

and enable the planning board, town board, and applicant to work together to conserve natural assets.



Estuary Program Publications & Grants



Conserving Natural Areas and Wildlife in Your Community:

Smart Growth Strategies for Protecting the Biological Diversity of New York's Hudson River Valley



New York State Department of Environmental Conservation



CONSERVING NATURE IN YOUR COMMUNITY



Tools and Resources from the Estuary Program and Partners

The New York State Department of Environmental Conservation's (NYSDC) Hudson River Estuary Program and Cornell University are partnering with communities to encourage better conservation of the land that supports the health and resiliency of the entire estuary watershed by providing critical knowledge, information, and training. The Conservation and Land Use Program offers strategies for "smart planning" that support economic growth and quality of the land being kept in mind. Visit www.dec.ny.gov/lands/5091.html for more information.

STEPS FOR CONSERVING HABITAT AND NATURAL AREAS

- identify resources (What do you have?)
- evaluate resources (What's most important?)
- plan, protect, manage (How are you going to preserve it?)

CONNECTIONS TO WATERSHED STRATEGIES

- consider habitat conservation early in the planning process
- use form of regional conservation plan to guide future decisions
- take a broad perspective to preserve habitat connections and ecological services



Members of community have been invited to identify potential habitat resources and other smart conservation practices for the estuary watershed through public open houses, online surveys, webinars, and workshops. Photo: Laura Heady

Publications

Hudson River Estuary Wildlife and Habitat Conservation Framework
The Framework provides a regional overview of biologically resource in the Hudson River estuary corridor, describes key data and animal species, identifies a map and descriptions of Significant Ecological Areas and proposed Smart Growth Strategies for their conservation. Available in print and on the NYSDC website at www.dec.ny.gov/lands/5091.html and on CD-ROM upon request.

Conserving Natural Areas and Wildlife in Your Community
This handbook offers conservation guidance and smart growth strategies to local governments in the Hudson River Valley. Available in print and on the NYSDC website at www.dec.ny.gov/lands/5091.html

Creating a Natural Resources Inventory
This guidebook outlines how to inventory, value and cultural assets and presents case studies and strategies for using an NRI in local planning. Available in print and on the NYSDC website at www.dec.ny.gov/lands/5091.html

Biologically Assessed: Manual for the Hudson River Estuary Corridor
The Manual was written to inform and guide the NYSDC in the guidance in identification, assessment, and protection of wetlands, ponds, and animals of conservation importance. See www.dec.ny.gov/lands/5091.html

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

Estuary Grants: www.dec.ny.gov/lands/5091.html



Questions?

Ingrid Haeckel

Conservation & Land Use Specialist

Hudson River Estuary Program
and Cornell University

(845) 256-3829

ingrid.haeckel@dec.ny.gov



Photo by Ingrid Haeckel

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Twitter: twitter.com/NYSDEC

Flickr: www.flickr.com/photos/nysdec



Cornell University



Department of
Environmental
Conservation

Putting it all together: A Natural Resources Inventory (NRI)

- a compilation and description of physical and biological resources within a particular area (municipality, watershed, region)
- primary focus is naturally-occurring resources, but can also include scenic, historic, or recreational resources

