

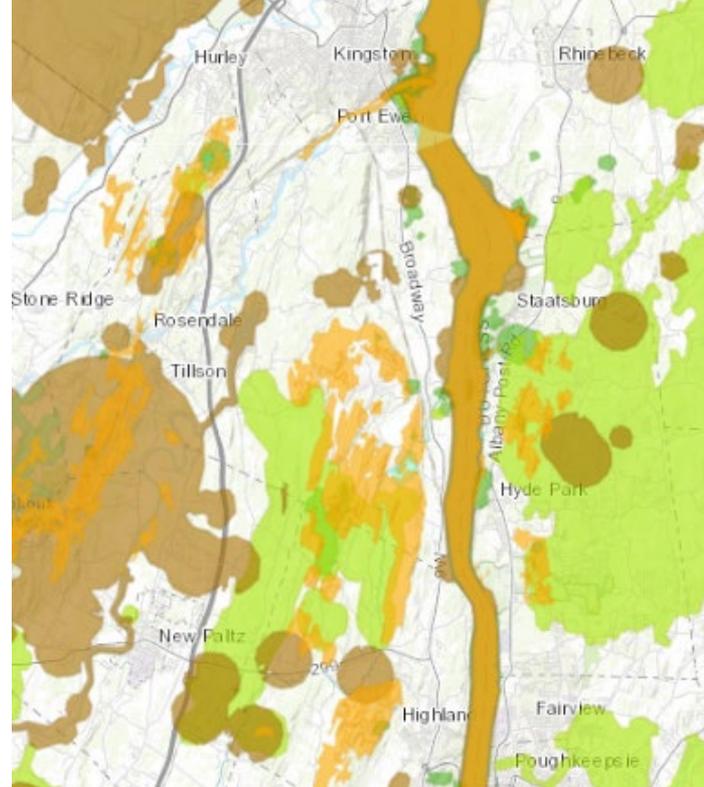


Department of
Environmental
Conservation

Natural Heritage Important Areas

Conservation and Land Use Webinar Series
April 15, 2020, 12:00-1:00pm

The webinar will begin shortly.



Audio: connect by computer
OR Call in: 1-844-633-8697
Access code: 644 360 782
Enter unique Attendee ID



Hudson River
Estuary Program

A Program of the New York State Department of Environmental Conservation



Cornell University

April 3, 2020 | 6:15 am

Information on Novel Coronavirus

Governor Cuomo has put NY State on PAUSE: All non-essential workers are directed to work from home, and everyone is required to maintain a 6-foot distance from others in public.



Services News Government Local

Q Search

Translate

Novel Coronavirus

Symptoms & Prevention

Testing

Get Involved

Know Your Rights

Providers

Latest News

Department of Health

Call the Hotline: [1-888-364-3065](tel:1-888-364-3065) or [Ask a Question](#)

[We're Stronger If We All Work Together. Get Involved: How You Can Help](#)

NYS on PAUSE Extended

All non-essential workers must continue to work from home, and everyone is required to maintain a 6-foot distance in public.

10 POINT POLICY

ESSENTIAL BUSINESS...

Conservation

Upcoming Programs

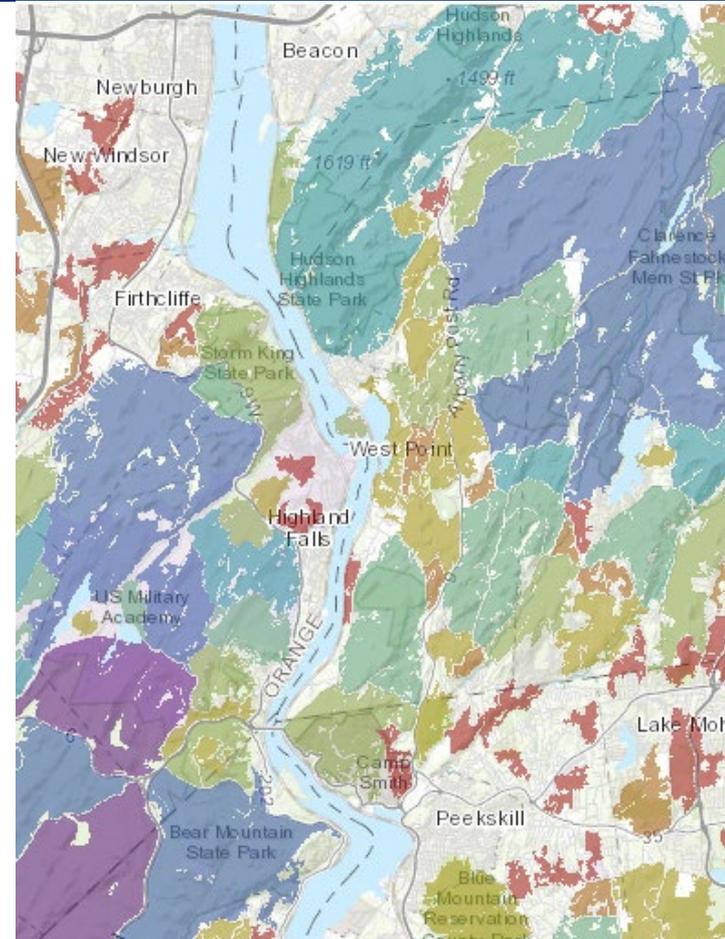
Webinars:

May 20th: Hudson Valley Forest Condition Index

- Tim Howard and Amy Conley
NY Natural Heritage Program

June 17th: Project Review

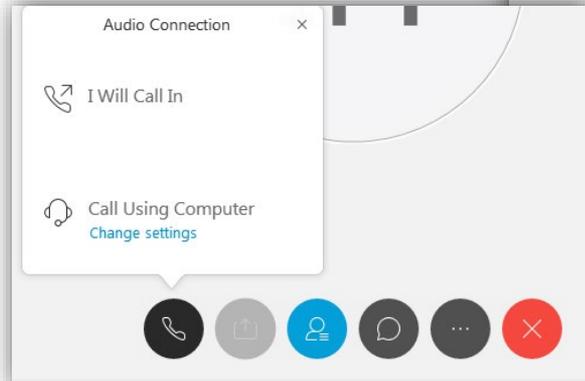
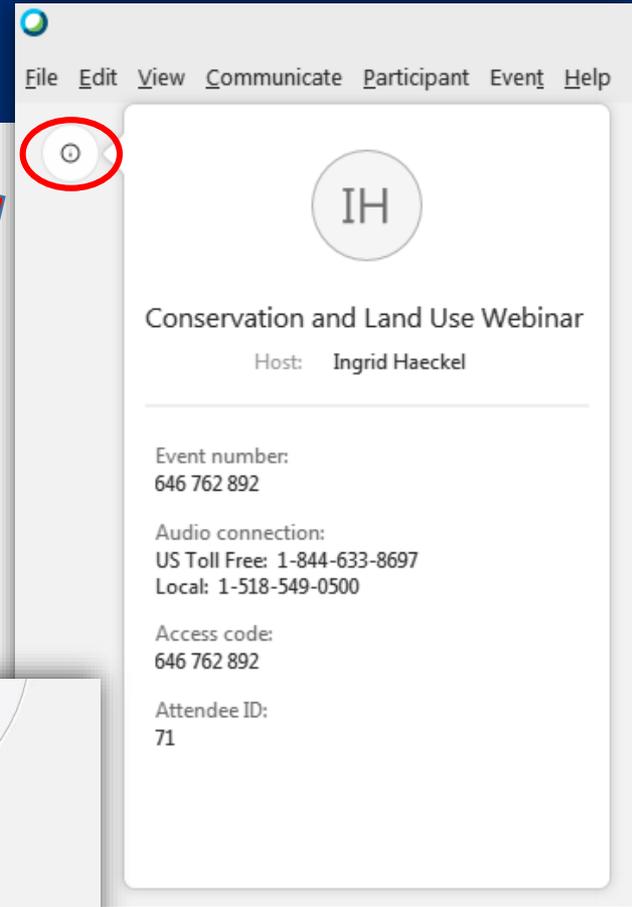
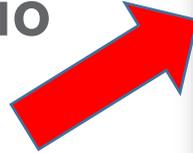
- Gretchen Stevens
Hudsonia Ltd.



Welcome!

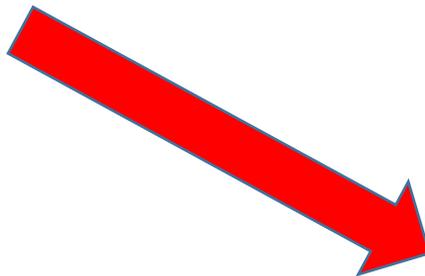
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2. Enter your unique attendee ID when prompted.
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Problems or technical issues?
Questions for the presenter?

Use WebEx Q&A
(Ask All Panelists)



Other Notes:

- Participants are muted.
- The webinar is being recorded.
- Please take the survey at the end!

Participants

Panelist: 1

Ing... (Host)

Attendee:

Nate Nardi-Cyrus (me)

Q&A

All (0)

Ask: All Panelists

Select a panelist in the Ask menu first and then type your question

Send





Natural Heritage Important Areas

Nick Conrad

Information Resources Coordinator

New York Natural Heritage Program

SUNY College of Environmental Science and

Forestry in partnership with

NYS Department of Environmental Conservation



Department of
Environmental
Conservation



Natural Heritage Important Areas Data for Conservation in Your Community

April 15, 2020

Conservation and Land Use 101 Webinar Series, HREP

Nick Conrad

Information Resources Coordinator
New York Natural Heritage Program



STATE UNIVERSITY OF NEW YORK
College of Environmental Science and Forestry

Outline

- Overview of NY Natural Heritage Program
- What's in the Natural Heritage Database –
 - Rare species
 - Significant Natural Communities
 - Element Occurrences – EOs
- Important Areas
 - What they are
 - How they're developed
 - How to interpret them
 - How to get them



New York Natural Heritage Program



STATE UNIVERSITY OF NEW YORK
College of Environmental Science and Forestry



NEW YORK
STATE OF
OPPORTUNITY

**Department of
Environmental
Conservation**

New York Natural Heritage Program

Our mission is to facilitate conservation of New York's biodiversity by providing comprehensive information and scientific expertise on rare species and natural ecosystems to resource managers and other conservation partners.



Most comprehensive database on

New York State's imperiled biodiversity

Biodiversity in the Natural Heritage database



What biodiversity do we collect data on?

- Rare/Imperiled Species

How do we decide what's imperiled?

Assess the conservation status of species



Global and State Conservation Status

Ranked 1-5, most imperiled to most secure

GLOBAL RANK, G1 - G5 Risk of extinction

STATE RANK, S1 – S5 Risk of extirpation in NYS

1 = Critically imperiled (5 or fewer locations).

2 = Imperiled (6 - 20 locations).

3 = Vulnerable (uncommon).

4 = Apparently secure (common).

5 = Demonstrably secure (abundant).

H = Historically known, but not seen in the past 35 years.

X = Apparently extinct/extirpated from New York State.

Conservation Status can change over time.



Small Whorled Pogonia
G2 S1

Indiana Bat
G2 S1



Document every location
of S1 and S2
Plants and Animals



New England Cottontail
G3 SIS2

Blanding's Turtle
G4 S2S3

What species are included in the Natural Heritage data?

- Listed Animals (E, T, some SC)
- Unlisted Rare Animals
- Rare Plants
- Animal Assemblages



481
animals

864
plants

Biodiversity in the Natural Heritage database

What biodiversity do we collect data on?

- Rare/Imperiled Species
- **Natural Communities**



Natural Ecological Communities

- Assemblages of plants and animals
- Forest, wetland, or other habitat or ecosystem
- Classified by vegetation, physical setting
- Examples:

maple-basswood rich mesic forest

red maple-hardwood swamp

dwarf shrub bog

deep emergent marsh

182 natural community types

96 State Rare

28 Globally Rare



Maple-basswood rich mesic forest

Natural Communities – conservation value

- Natural communities serve as habitat for a wide range of plants and animals, both **rare** and **common**
- Conserving high quality examples of natural community types in an area will also conserve the species that are living in those communities.
- Natural communities in good condition provide ecological value and services.



Hemlock northern-hardwood forest

Significant Natural Communities

NY Natural Heritage documents locations of

- **Rare** community types (all locations)
- Locations of **common** community types which are significant for New York State in terms of size, undisturbed and intact condition, and landscape context.



Clay Pit Ponds Preserve State Park

Post oak –blackjack oak barrens S1

*Low salt marsh
S3S4*

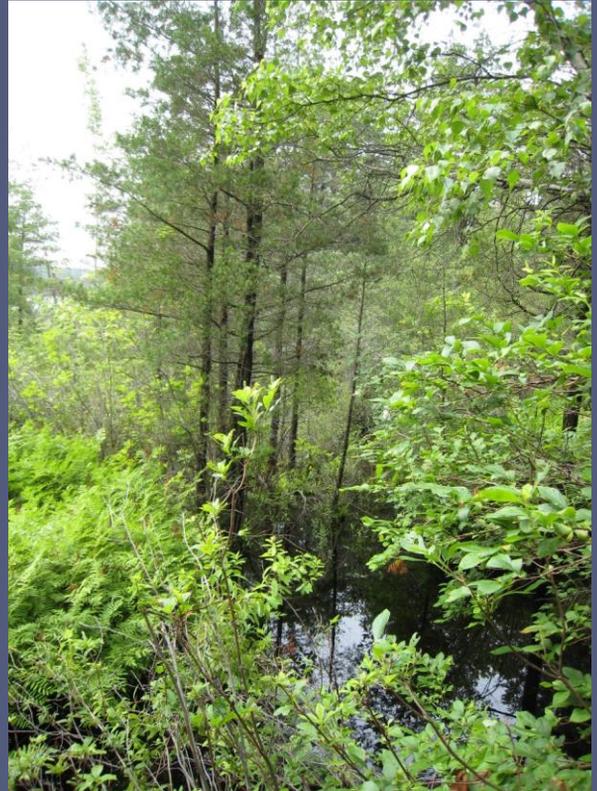
Rare Natural Communities



Sam's Point, Minnewaska State Park

Dwarf Pine Ridges G1G2 S1

Inland Atlantic white cedar swamp
G2G3 S1



Sterling Forest State Park

New York Natural Heritage Program

Most comprehensive database on
New York State's imperiled biodiversity

What biodiversity do we collect data on?

- Imperiled/rare Species
- Significant Natural Communities

Where do we get our observation data?





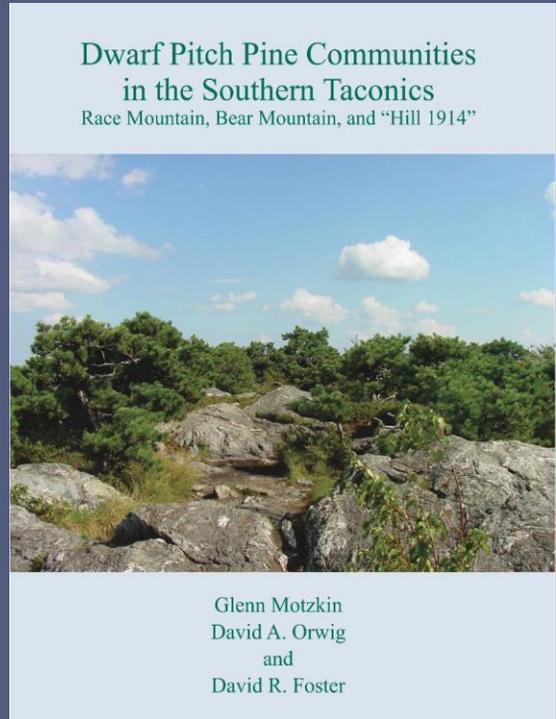
Sources of Information – Field Surveys

Sources of Information



Museum and
Herbarium
Collections

Citizen Observations
e.g. eBird, iNaturalist



Reports, Publications,
Articles

New York Natural Heritage Program

Most comprehensive database on
New York State's imperiled biodiversity

What biodiversity do we collect data on?

- Imperiled/rare Species
- Natural Communities

Where do we get our observation data?

How do we organize our observations?



Element Occurrences

An Element Occurrence (EO) is an area of land and/or water in which a species or natural community is, or was, present.

- one or more observations at the same location
- evidence of continued/regular presence or recurrence
- mapped to best available information



Element Occurrences

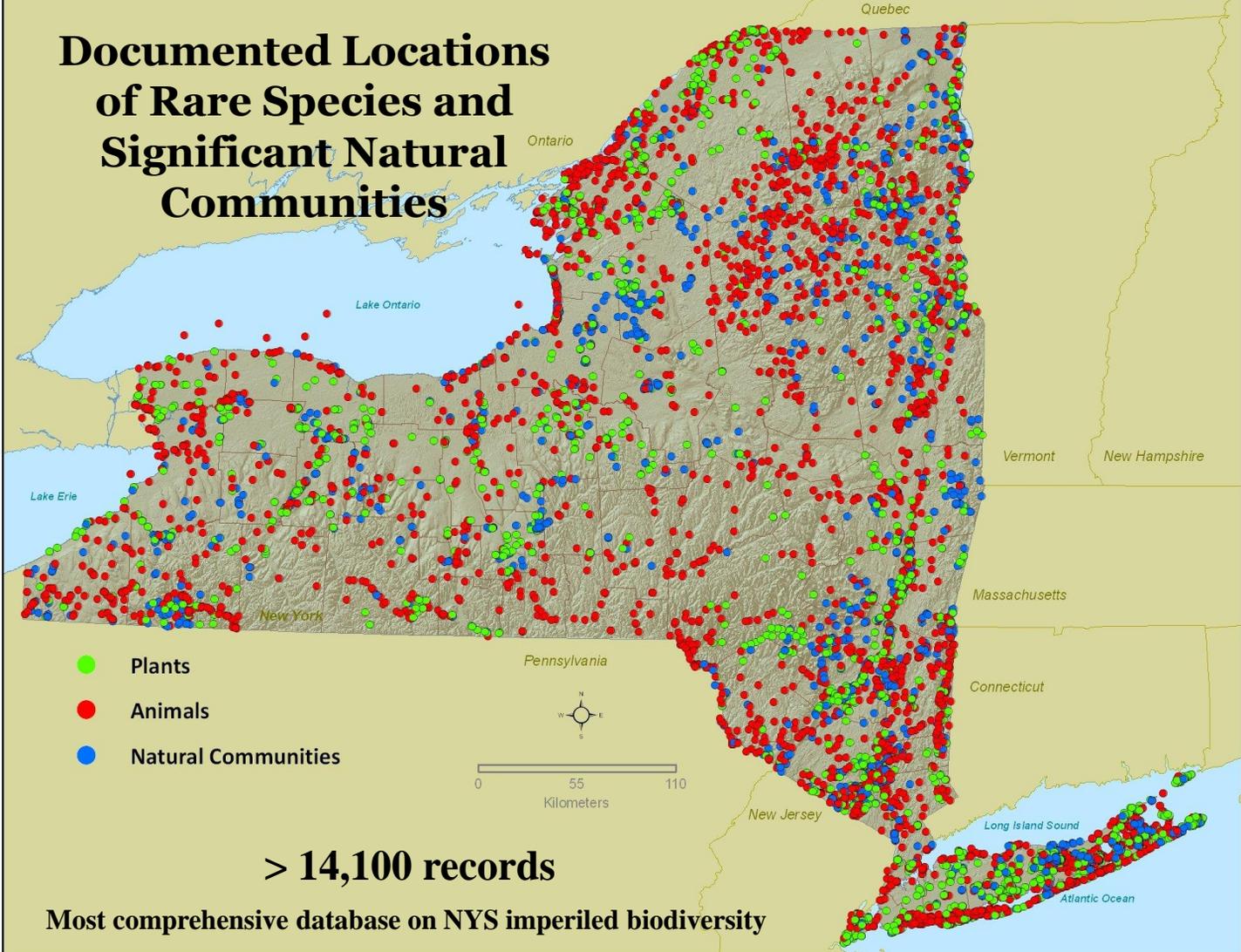
Represent

- Actual, confirmed, documented observations (not just potential habitat)
- Observations known to NY Natural Heritage

Absence of data doesn't mean nothing is there



Documented Locations of Rare Species and Significant Natural Communities



> 14,100 records

Most comprehensive database on NYS imperiled biodiversity

Natural Heritage Conservation Guides

www.guides.nynhp.org



New York Natural Heritage Program



Guides ▾

About

NYNHP Online Conservation Guides

The New York Natural Heritage Program facilitates the conservation of New York State's biodiversity by providing comprehensive information and scientific expertise on rare species and natural ecosystems to resource managers and other conservation partners. 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.

For more information about the guides, including how to contribute data, see [About](#).

Additional Information

[Conservation Status Definitions](#)

[Ecological Community System Descriptions](#)

[Key to Ecological Community Systems and Subsystems](#)

Lists of Guides

Count

[Animal Guides](#)

228

[Community Guides](#)

149

[Plant Guides](#)

410

[All Guides](#)

787

Search



Names searched include family, scientific, common, and synonyms.

[Advanced Search](#)



New York
Natural Heritage
Program

Welcome to the new mobile-friendly
Conservation Guides!

Please update your bookmarks.

Natural Heritage Conservation Guides



New York Natural Heritage Program

www.guides.nynhp.org



Search...

Purple Milkweed *Asclepias purpurascens* L.



Asclepias purpurascens flowers
Stephen M. Young

Class

Dicotyledoneae (Dicots)

Family

Asclepiadaceae (Milkweed Family)

State Protection

Threatened ⓘ

Federal Protection

Not Listed

State Conservation Status Ra

S2S3 ⓘ

Global Conservation Status F

G5? ⓘ

Contents

1. Summary
2. Conservation and Mana

Species conservation status

Habitat

Identification

Range

Best Places to See

Conservation Issues

Threats

Management Considerations

Summary

Did you know?

Purple milkweed almost always occurs in small populations with fewer than one hundred

SENSITIVE DATA

Most vulnerable to illegal collection – turtles, snakes, orchids, wildflowers

Ways to present data in public document – generalize location, remove species names



Beyond Occurrences

Knowing locations of biological resources is essential for Conservation Planning – but ...

- Occurrences reflect only where observed – but animals are mobile
- Condition and nature of surrounding landscape important
- Persistence and health of population influenced by direct and indirect impacts



Beyond Occurrences

Need Data that is useful for local planning, and in an accessible format

- More than just location of observed occurrence
- Don't need biological or ecological expertise
- Not data-sensitive

Important Areas



Natural Heritage Important Areas

- Developed for Conservation Planning
- Areas Important to Continued Presence and Quality of
 - Known Populations of Rare Plants and Animals
 - Known Significant Natural Communities
- The area to consider if our goal is to conserve the population at that location.
- Include areas beyond where rare species have been observed.

Natural Heritage Important Areas

- Use GIS models based on habitat requirements and movements of species
- Include occurrence locations, but also:
 - additional habitat, including for breeding, feeding, roosting, or wintering.
 - areas that support natural ecological processes.
 - areas where activities could impact species.



Important Areas GIS Models

- Occurrence footprint gets buffer based on
 - Movement patterns and life history
 - Land Cover Types
- Occurrence habitat gets buffer based on
 - Wetland vs. upland habitat
 - Land Cover (proportion forested)
 - Slope, Aspect, Soil Erodibility
- Aquatic model pulls in upstream and downstream, plus riparian area



Important Areas GIS Model (simplified)

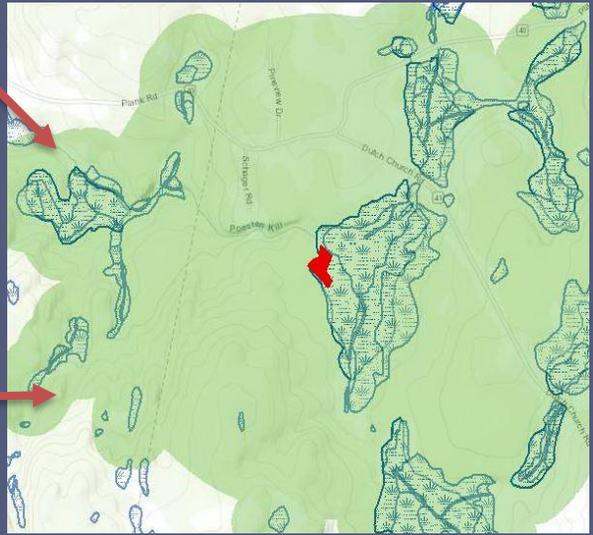
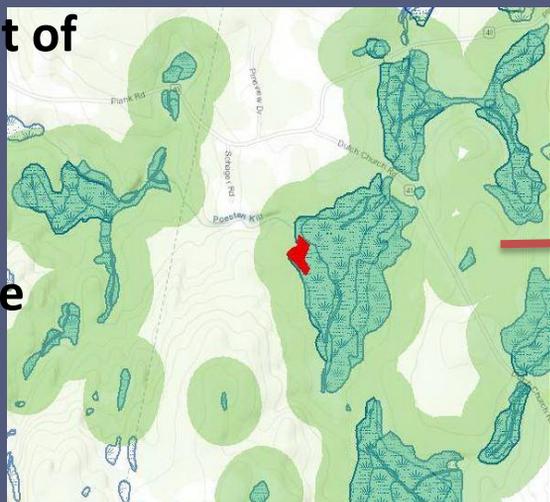
Known Occurrence (red)



Areas around occurrences important to their conservation

Select nearby wetlands and uplands

Full extent of wetlands (darker). Add protective buffers



Merge all areas into final Important Area

Important Areas GIS Models

- Plants – one model
- Communities – model by system
e.g. Wetland, Terrestrial, Estuarine
- Animals – many models

Bog Turtle

Blanding's Turtle

Timber Rattlesnake

Wetland Birds

Floodplain Forest Lepidoptera

Indiana Bat hibernacula

Indiana Bat foraging areas

Bald Eagle nesting areas

Bald Eagle foraging areas



GIS Model Documentation

Methodology and Justifications for Important Area Animal Models Hudson River Valley Important Areas 2018

Part I – Methodologies

Numbers listed for Justifications under each Methodology refer to a section in Part II -- Justifications

Methodology_Ref: I.A.1. **Basic Riverine**

Species

Alasmidonta heterodon, Alasmidonta varicosa, Anodonta implicata, Argia translata, Cordulegaster erronea, Cordulegaster obliqua, Gomphurus fraternus, Gomphus abbreviatus, Gomphus quadricolor, Gomphus rogersi, Gomphus vastus, Gomphus viridifrons, Lampsilis cariosa, Lanthus vernalis, Leptodea ochracea, Ligumia nasuta, Margaritifera margaritifera, Nasiaeschna pentacantha, Neurocordulia

Priority Conservation Mapping for Rare Plants

Methodology for creating “important habitat zones”

1. The maps for this project will only include extant populations that are relatively well mapped. This will exclude all extirpated sites, failed to find populations, historical records, and known sites with poor location information.

Important Areas – Hudson Valley
2008 – Original delineations
2013, 2018 -- Updates

2018 Update of Important Areas

- 1901 rare species and community occurrences
- 114 animal species, 146 plant species,
71 community types
- 306 occurrences entered since 2013
- 2263 locations of wild brook trout
(coldwater stream habitat)



Cornell University



Hudson River
Estuary Program

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Caveats:

Important Areas ...

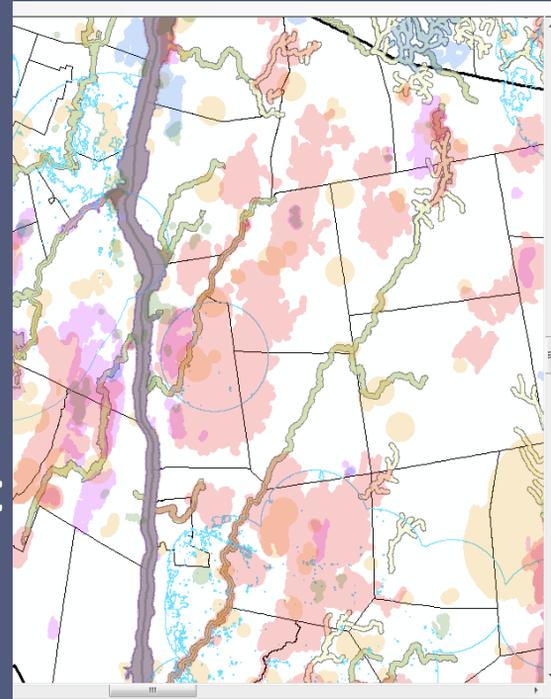
- Include areas where rare species have not been observed.
- Do not include all potential habitat
- Do not include all ecologically significant resources in an area
- Do not have crisp boundaries
- Do not mean “no human activities”
- Are not regulatory

Important Areas GIS Layers

Feature Classes Available for Download

www.nynhp.org/important-areas

- Plants
- Natural Communities
- Aquatic Animals
- Wetland Animals
- Terrestrial Animals
- Bats Foraging
- Coldwater Stream Habitat
- Diadromous Fishes



Hudson River Resource Mapper -- live

<https://gisservices.dec.ny.gov/gis/hvnrm/> Biodiversity Layers

Hudson Valley Natural Resource Mapper

A Tool for Communities in the Hudson River Estuary Watershed



Base Map:

Search

Tools

Hudson River Estuary Layers

Stream and Watershed Layers

Wetland Layers

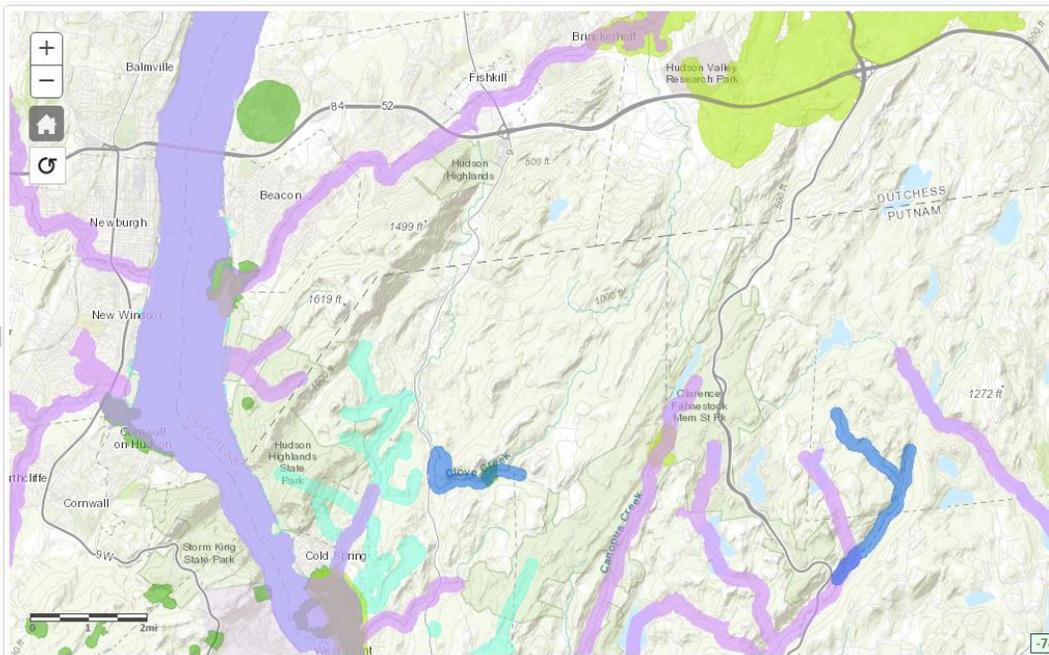
Forest Layers

Biodiversity Layers

- Known Important Areas for Rare Aquatic Animals [I](#)
- Known Important Areas for Rare Plants [I](#)
- Known Important Areas for Rare Wetland Animals [I](#)
- Known Important Areas for Rare Terrestrial Animals [I](#)
- Important Bat Foraging Areas [I](#)
- Known Important Areas for Migratory Fish [I](#)

Scenic and Recreation Layers

Reference Layers



Hudson River Resource Mapper -- live

<https://gisservices.dec.ny.gov/gis/hvnrm/> Biodiversity Layers

Hudson Valley Natural Resource Mapper

A Tool for Communities in the Hudson River Estuary Watershed



Base Map: Topographical

Search

Tools

Hudson River Estuary Layers

Stream and Watershed Layers

Wetland Layers

Forest Layers

Biodiversity Layers

- Known Important Areas for Rare Wetland Animals [I](#)
- Known Important Areas for Rare Terrestrial Animals [I](#)
- Important Bat Foraging Areas [I](#)
- Known Important Areas for Migratory Fish [I](#)
- Known Important Coldwater Stream Habitats [I](#)
- Significant Natural Communities [I](#)
- Significant Biodiversity Areas in the Hudson River Valley [I](#)

Scenic and Recreation Layers

Reference Layers



Natural Heritage Important Areas

[www.nynhp.org/
important-areas](http://www.nynhp.org/important-areas)

NATURAL HERITAGE IMPORTANT AREAS

Conservation Data for the Hudson Valley



Nature in the Hudson Valley supports diverse plants, animals, and habitats, and also provide numerous vital benefits to people – from clean water and flood control to recreation opportunities and scenic beauty. Conservation of this rich natural heritage depends in large part on proactive planning by communities, land trusts, and other agencies, and access to current biological data is essential.

The New York Natural Heritage Program (NYNHP) maintains the most comprehensive database on rare animals, rare plants, and significant ecological communities in the state. The Hudson River Estuary Program partnered with NYNHP to ensure these biodiversity data were accessible and useful to Hudson Valley communities. The resulting "Important Areas" represent zones that are important to the health of rare species and significant ecological communities, and can be incorporated into land-use and conservation plans.

What are Important Areas?

Important Areas include the lands and waters needed to support the continued presence and quality of:

- known populations of **rare animals and rare plants**,
- known locations of **rare ecological communities**, and/or
- high-quality examples of **common ecological communities**.

Important Areas include the specific locations where the animals, plants, or ecological communities have been observed, as well as:

- habitat to support rare animal and plant populations, including areas which may be used by rare animals for breeding, nesting, feeding, roosting, or over-wintering;
- areas that support the natural processes critical to maintaining these plant and animal habitats, or critical to maintaining significant ecological communities (e.g., stream buffers).

Conserving habitat for rare species also benefits many common plants and animals found within the Important Areas.

How are Important Areas mapped?

Important Areas for rare animal and plant populations are delineated around documented locations based on the species' habitats and life history. They also include lands that provide a buffer against disturbance to the core habitat area. For example, the Important Area for a Blanding's turtle would include wetlands it may use during different seasons and adjacent uplands it may use for nesting, plus a buffer around the wetlands.



NYS-Threatened Blanding's turtle
Photo: Ryan von Linden



Known location (red) and
adjacent area (green area)



All nearby wetlands (blue) with
protective buffers (green area)



All areas combined into
final Important Area



Globally-rare dwarf pine ridge at Sam's Point
Preserve. Photo: Ingrid Heckerl

Which species are included?

- NY State-listed animals (Endangered, Threatened, some Special Concern)
- Unlisted rare animals (~20 locations statewide)
- Rare plants (~20 locations statewide)
- Migratory fish (diadromous species)

Which ecological communities?

Important Areas are mapped for significant examples of different types of forests, wetlands, grasslands, lakes, etc. that are notable in New York because they are rare types (such as dwarf shrub bog) or exceptional examples of common types (such as very large or very old patches of chestnut oak forest).

www.nynhp.org/important-areas

Nick Conrad

Information Resources Coordinator

New York Natural Heritage Program

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(518) 402-8944

Thank You





Department of
Environmental
Conservation

Using Important Areas for Conservation and Land Use Planning



Photo by Laura Heady

Ingrid Haeckel

Conservation and Land Use Specialist
Hudson River Estuary Program and Cornell University



A Program of the New York State Department of Environmental Conservation

Hudson River
Estuary Program



Cornell University

Recommended Conservation Framework:

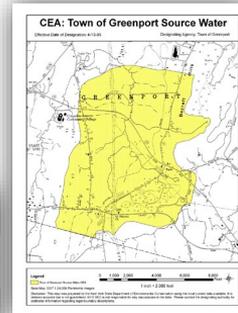
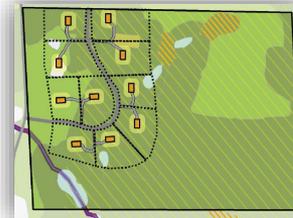
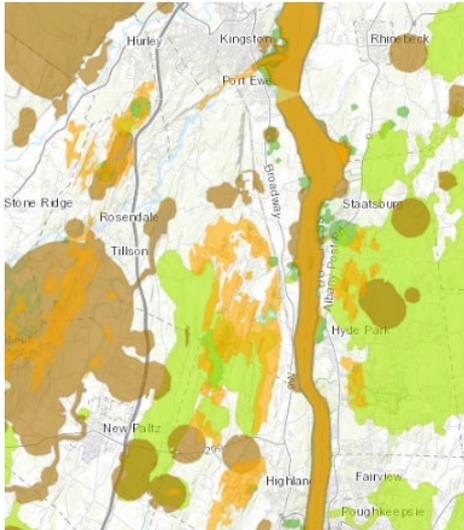
identify what you have



prioritize



plan, protect, manage



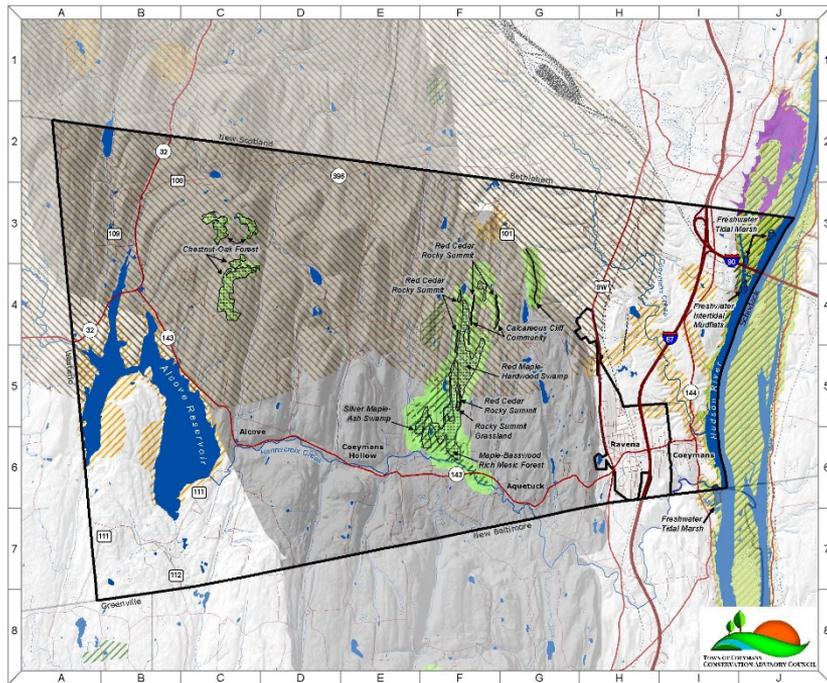
Department of
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Using Important Areas: Overview

- *Important Areas* (IAs) are intended for conservation planning, especially at municipal, watershed, and regional scales.
- IAs should be considered with other biological data sets, when available.
- Companion *Conservation Guides* provide management information for IAs.
- IAs can inform project review, but should not be used to make decisions about projects.



Town of Coeymans Albany County, NY



Columbia County, NY

26 Areas of Known Importance

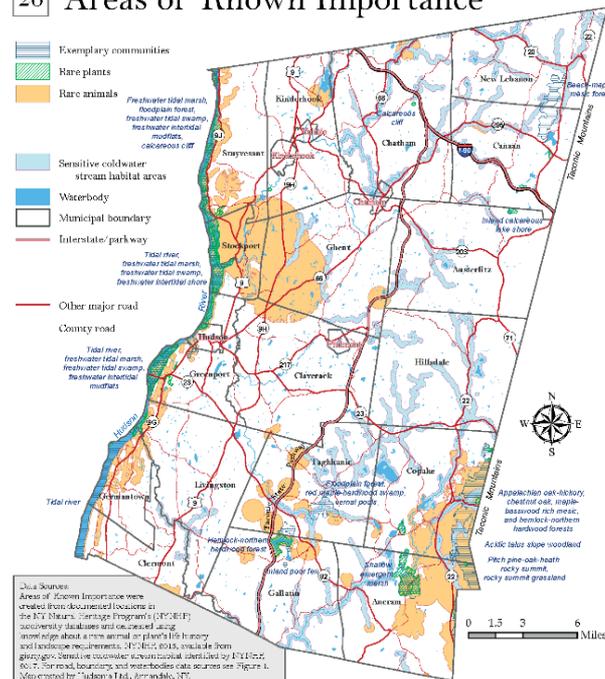
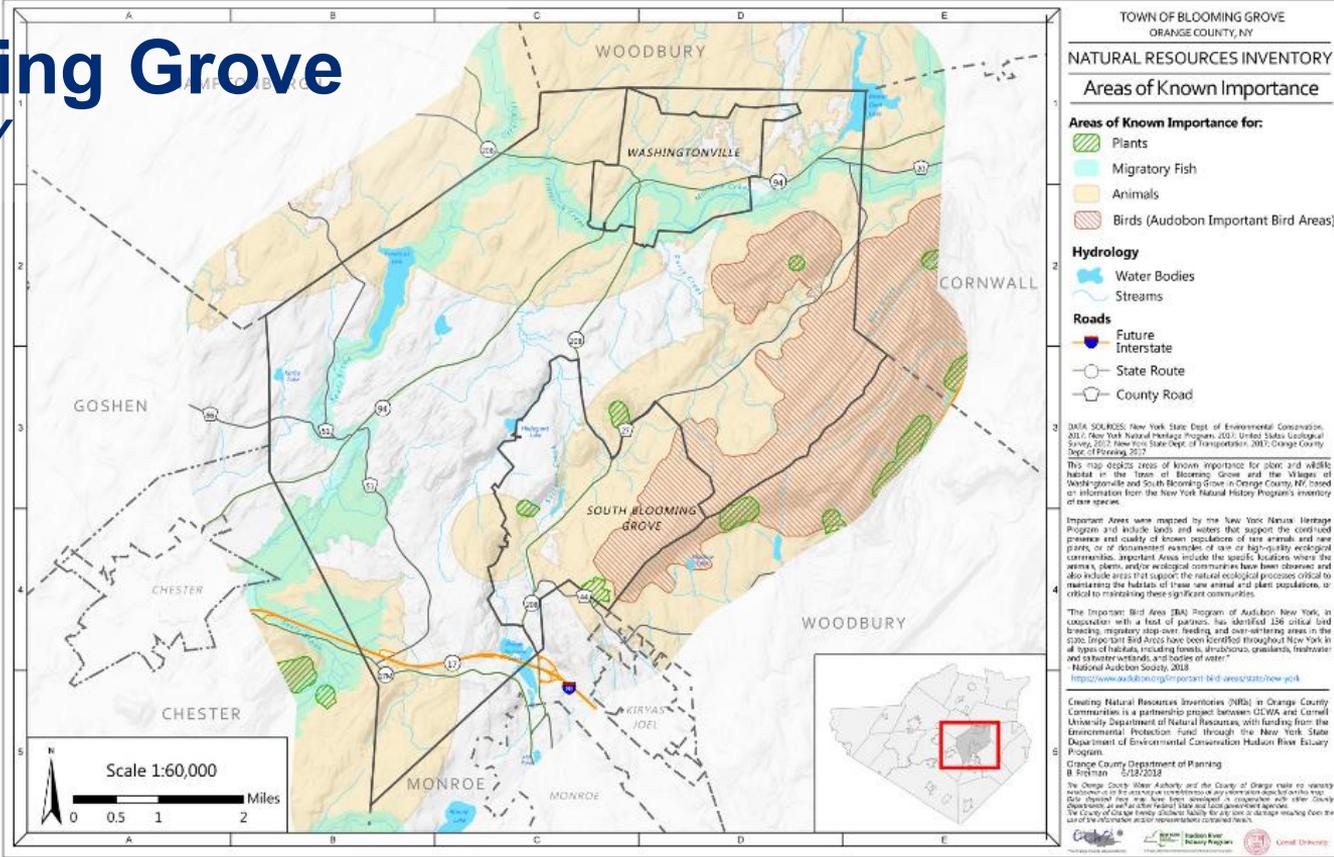


Figure 26. Areas of Known Importance for exemplary ecological communities and rare plants and animals, delineated by the New York Natural Heritage Program. Many other areas of the county are also important for plants, animals, and communities of conservation concern. Columbia County Natural Resources Inventory, 2018.

Conservation Planning and Protection

Town of Blooming Grove Orange County, NY

NRI maps
+
Public input
=
Conservation
priority areas
(adopted 2019)



Conservation Planning and Protection

Town of Blooming Grove Orange County, NY

NRI maps

+

Public input

=

Conservation
priority areas
(adopted 2019)

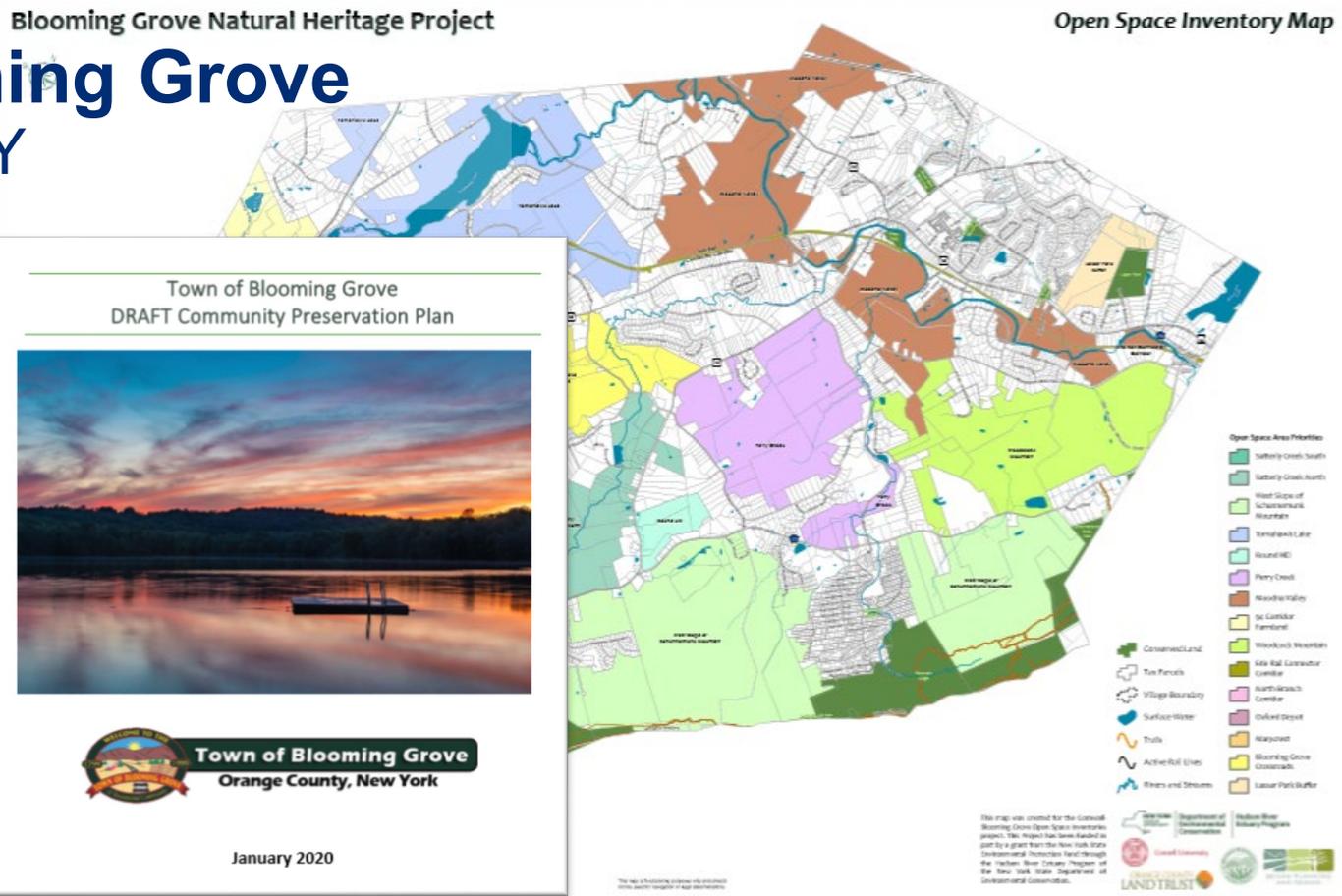


Table 1 Open Space Inventory GIS Criteria	
AQUIFERS AND WATER SUPPLY	SATTERLY CREEK/MOODNA CREEK CORRIDOR
Unconfined aquifers	Riparian areas as defined by NYNHP
Proximity to existing public well source	Satterly & Moodna Creek corridor (100'-200' buffer of centerline)
NYSDEC wetlands & buffers	Area known for migratory fish
NYSDEC wetland 100' buffer zones	
NWI/probable wetlands	
MOUNTAIN LANDSCAPES	FLOODPLAINS AND FLOODWAYS
Elevation ≥500'	Floodplains and floodways (100 year)
Important bird area	Floodplains and floodways (500 year)
Steep slopes > 25%	100-year sea level inundation
Steep slopes 15-25%	LAKES AND PONDS
WORKING FARMLANDS	Lakes and ponds
Classified as active farmland	Lakes and ponds buffer (500')
Classified as vacant farmland	SCENIC / CULTURAL & HISTORIC LANDSCAPES
Non-ag classified parcel receiving ag tax exemption	Scenic byways (Town-identified) (100' Buffer)
Important farmland soils (prime, black dirt, etc.)	Scenic areas of county-wide significance
Within county ag district	Historic sites and areas
TRAIL AND SHARED-USE PATH CORRIDORS	Adjacent to historic sites and areas (500' buffer)
Trail and shared-use path corridors (100' buffer of centerline)	Frontage on state or county highway (100' buffer)
WILDLIFE HABITAT CORRIDORS	PASSIVE RECREATION AREAS
Terrestrial habitat	Adjacent to protected open space (500' buffer)
NYNHP important area	Adjacent to protected open space (1000' buffer)
NYNHP significant natural community	ACTIVE RECREATION AREAS
Hudson River Estuary significant biodiversity areas	Active recreation areas
Meadows/grassland habitat	Adjacent to active recreation areas (500' buffer)
Terrestrial habitat (undeveloped land)	Adjacent to active recreation areas (1000' buffer)
Forested area/size of regional/local importance	OTHER STREAM CORRIDORS
Regional forest linkage zone/matrix forest block	Riparian areas as defined by NYNHP

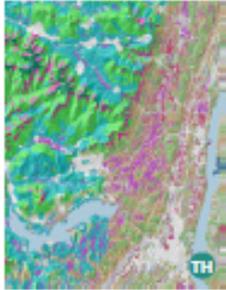
Conservation Planning and Protection

Town of Blooming Grove Orange County, NY

NRI maps
 +
 Public input
 =
 Conservation
 priority areas
 (adopted 2019)



Biodiversity Conservation Network



Objectives:

- Conserve representatives of all current terrestrial habitats
- Conserve rare and vulnerable species occurrences
- Conserve rare and vulnerable species habitats

Data Layers:

TH Terrestrial Habitats (Target)

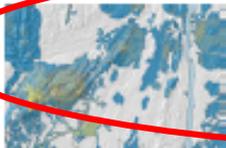
The Nature Conservancy's terrestrial habitats map provides a common, consistent map of habitats for the Northeast region. It guides conservation efforts by allowing users to assess the distribution and condition of habitats.¹⁸ Data is assembled from spatially comprehensive datasets of 71 ecological variables and the compilation of over 70,000 ecological community samples.

RS Rare and Vulnerable Species (Target)

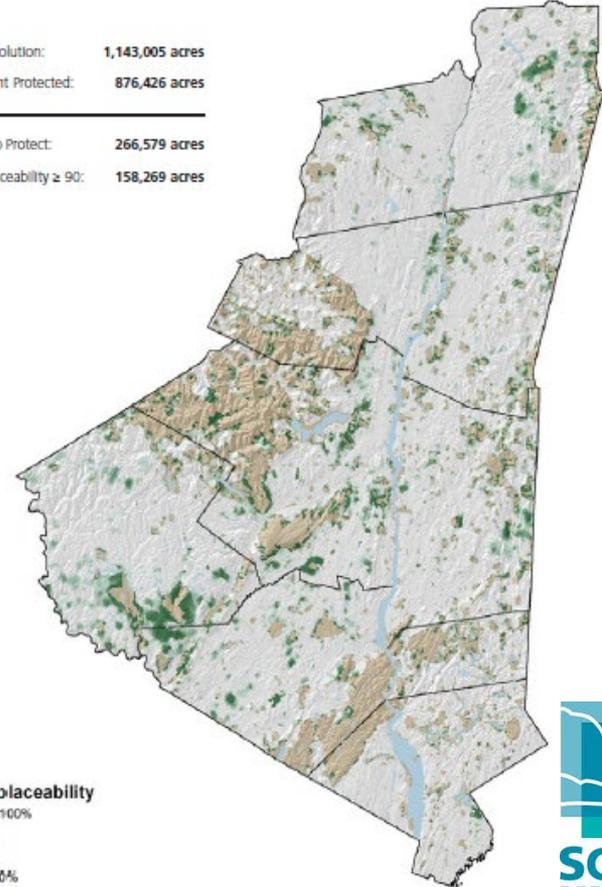
New York Natural Heritage Program (NYNHP) maintains New York's most comprehensive database on the status and location of rare species and natural communities.¹⁹ NYNHP presently monitors 181 natural community types, 803 rare plant species, and 476 rare animal species across the state, keeping track of more than 13,700 locations where these species and communities are found. NYNHP data is essential for prioritizing those species and communities in need of protection and for guiding land use and management decisions where these species and communities exist.

RH Rare and Vulnerable Species Habitats (Weighting Factor)

NYNHP Important Areas are lands and waters that support the continued presence and quality of known populations of rare animals and plants, and documented examples of rare or high-quality ecological communities.²⁰



Best Solution:	1,143,005 acres
Current Protected:	876,426 acres
<hr/>	
Left to Protect:	266,579 acres
Irreplaceability \geq 90:	158,269 acres



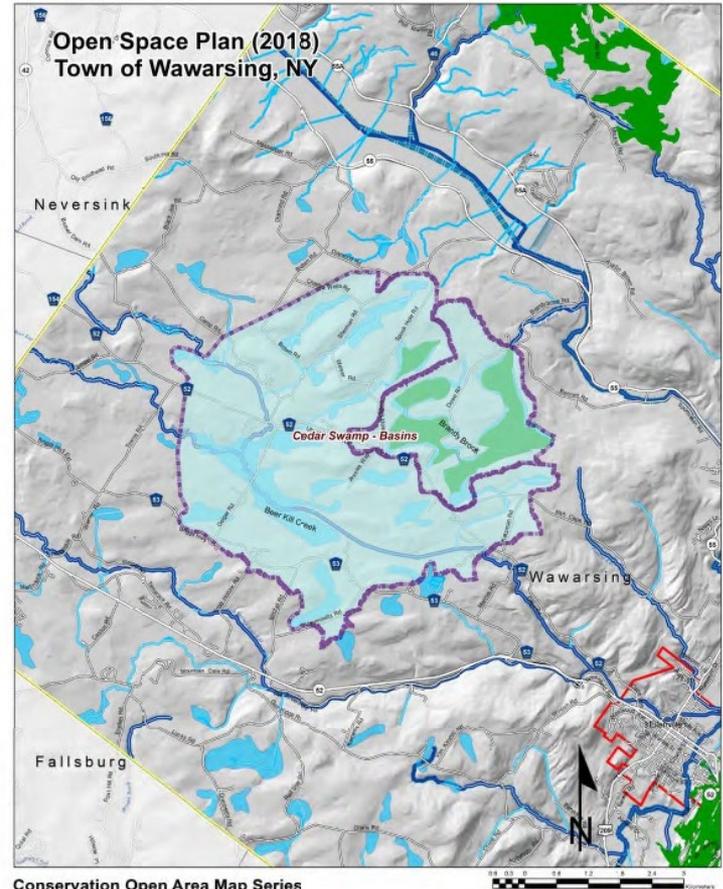
Critical Environmental Areas

Town of Wawarsing Ulster County, NY

Cedar Swamp CEA (2019):

“[The Cedar Swamp area] is recognized in both the NYS Open Space Conservation Plan and by the **NYS Natural Heritage Program as a location with unique and rare habitat and species of statewide significance...**

...actions requiring Town or other public agency reviews and approvals should include assessment that mitigates or avoids adverse impacts to these wetland habitats...”



Conservation Open Area Map Series
Critical Environmental Areas - (CEA)

- Cedar Swamp - Combined Wetland Basins
- NYSNHP Important Area - Plant Communities
- NYS Wetlands
- NHD Unnamed Streams
- NHD Named Streams
- Rondout/Sandburg Creeks
- Ellenville Boundary

Data Sources:
- NYS Natural Heritage Program
- NYS Dept. Environmental Conservation
- USGS National Hydrography Dataset

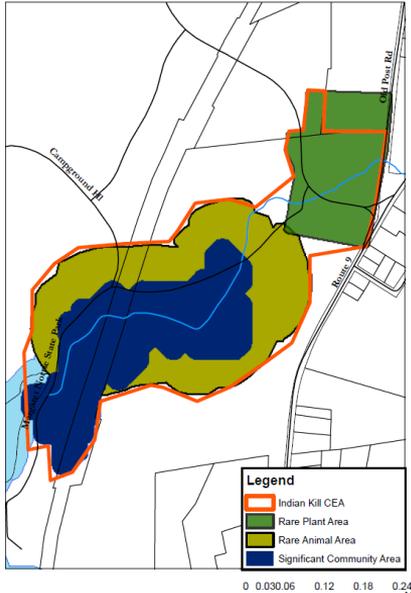
This project has been funded in part by a grant from the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation.

This map, the data and information contained within draw from wide-ranging, multi-scale sources and are intended only for very general, planning purposes. The Town, its agents, representatives, or consultants make no claims and assume no liability as to the completeness, accuracy, or precision of any of the content and is not responsible for the misuse or misapplication thereof. There are no substitutions for detailed, onsite field inspections and surveys.

Critical Environmental Areas

Town of Hyde Park CEAs (2005) Dutchess County, NY

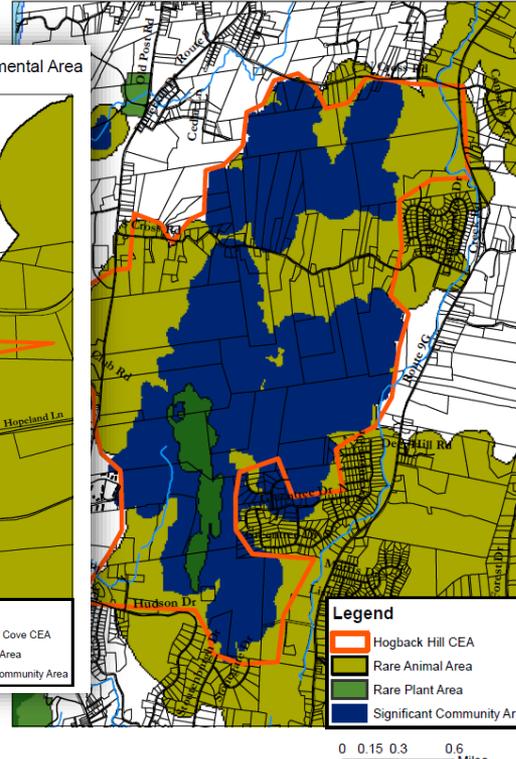
Indian Kill Candidate Critical Environmental Area



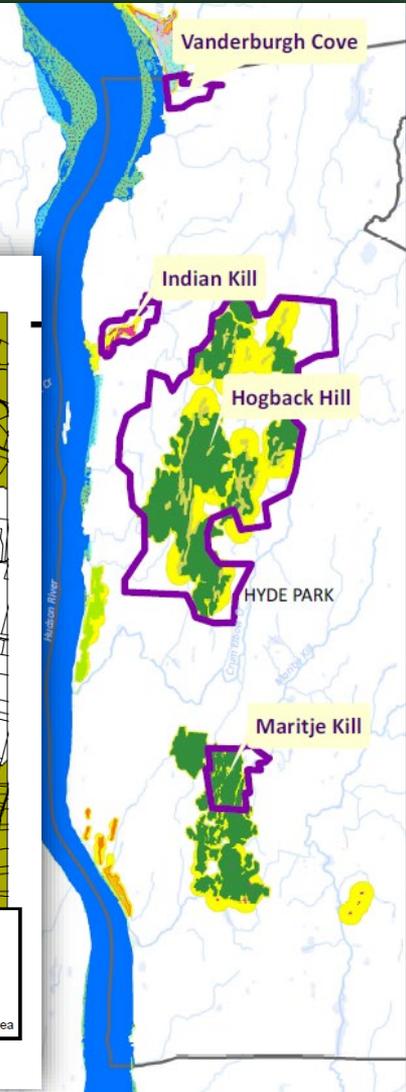
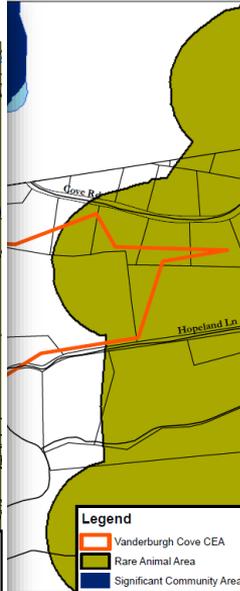
Maritje Kill Critical Environmental Area



Hogback Hill Critical Environmental Area

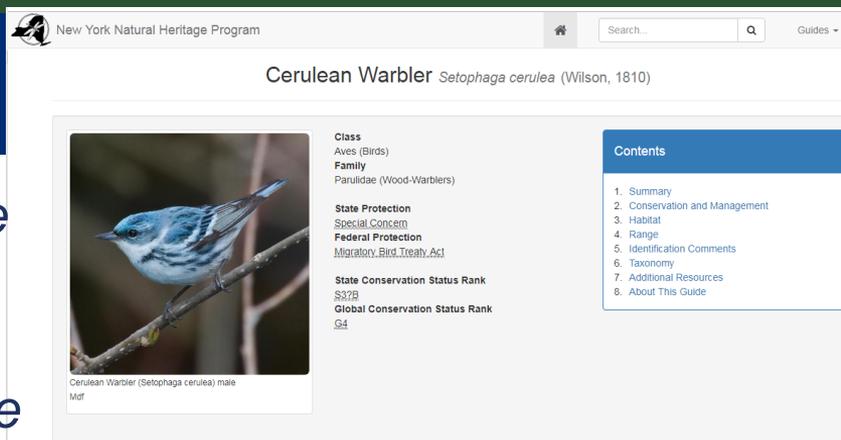


Vanderburgh Cove Candidate Critical Environmental Area



Finding out more

- Species lists or heritage data are available by request for municipalities and conservation organizations.
 - Companion **Conservation Guides** provide management information for IAs.
- <https://guides.nynhp.org>



New York Natural Heritage Program

Cerulean Warbler *Setophaga cerulea* (Wilson, 1810)



Cerulean Warbler (*Setophaga cerulea*) male
Mdf

Class
Aves (Birds)
Family
Parulidae (Wood-Warblers)

State Protection
Special Concern
Federal Protection
Migratory Bird Treaty Act

State Conservation Status Rank
S37B
Global Conservation Status Rank
G4

Contents

1. Summary
2. Conservation and Management
3. Habitat
4. Range
5. Identification Comments
6. Taxonomy
7. Additional Resources
8. About This Guide

Summary

Did you know?

Cerulean Warblers use two distinct habitats in New York. One type is dry oak-hickory dominated ridgtops and side-slopes. The other is riparian forests or forested swamps with maple, ash, and sycamore trees.

State Ranking Justification

Although Cerulean Warblers have expanded their distribution in New York since the early 1900s (Lindsay 1998), they have exhibited widespread population declines (Sauer et al. 2013) and the trend in increasing distribution for New York has recently ceased (McGowan and Corwin 2008). Many populations in New York occur on protected land where management can be tailored to this warbler's needs; however, maintaining landscapes with a high composition of forest remains a challenge. Management of forests on private lands can impact populations and requires landowner cooperation to limit fragmentation of mature forests.

Short-term Trends

Cerulean Warblers exhibited a 13% decline in breeding distribution throughout New York State between the first (1980-85) and second (2000-2005) Breeding Bird Atlas surveys (McGowan and Corwin 2008). The largest declines were in the Great Lakes Plains and the Appalachian Plateau, both strongholds for the species in the state (McGowan and Corwin 2008). Data from the Breeding Bird Survey are not sufficient to assess population trends for New York (Sauer et al. 2013); however, trends from the northeastern region showed stability or patchy local declines and increases from 1990-1999 (Bled et al. 2013).

The rangewide breeding distribution of the Cerulean Warbler exhibited a shift to the north in the later part of the 20th century (Bled et al. 2013; Sauer et al. 2013) and concurrently, the distribution in New York increased (Lindsay 1998). It appears that this trend has ceased (McGowan and Corwin 2008) and in fact, some seemingly robust northeastern populations may be sinks (Jones et al. 2004) where nesting success does not compensate for mortality.

Long-term Trends

Long-term population trends of Cerulean Warblers in New York are unclear. Data from the Breeding Bird Survey are not sufficient to assess trends for New York State; however, region-wide this species has suffered dramatic declines, averaging 3.2% per year from 1966-2011 (Sauer et al. 2013). This equates to a 70% reduction in population numbers (Sauer et al. 2013). This decline has been most profound in the mid-western and core Appalachian parts of the breeding range (Bled et al. 2013; Sauer et al. 2013). The

Conservation and Management

Conservation Overview

Cerulean Warblers face numerous threats on their breeding and wintering grounds including conversion of forest for coffee and cocoa production, forest fragmentation, incompatible forest management practices, and high predation rates (Buehler et al. 2013). Conservation in New York, where Cerulean Warblers breed, focuses on maintaining heavily forested landscapes. Populations in New York largely occur on protected lands where conversion of mature forest is limited. However, forest management on private lands and maintaining heavily forested landscapes surrounding known breeding populations are still of concern (McGowan and Corwin 2008). Wood et al. (2013) developed guidelines for forest management practices that promote habitat for this species within heavily forested landscapes that are available to public land managers and private landowners.

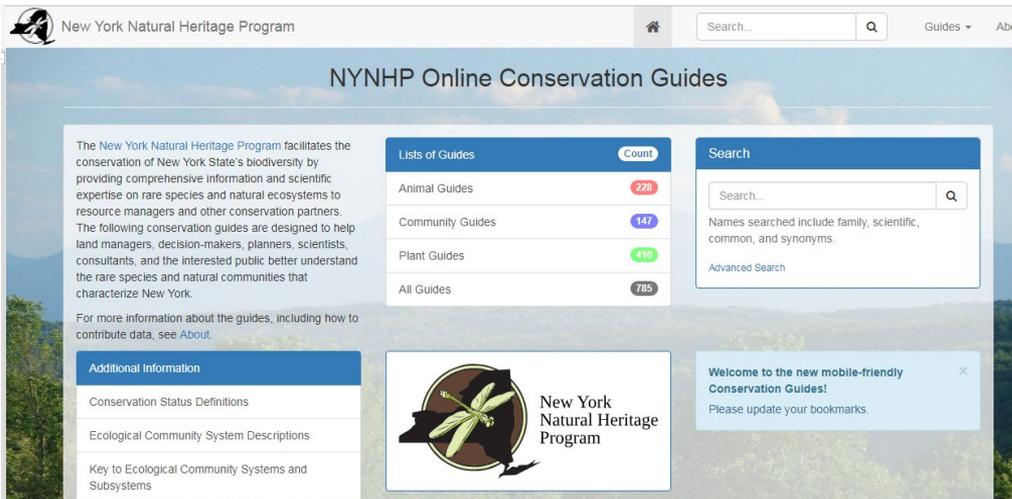
Threats

Threats to the persistence of Cerulean Warblers exist in their winter and breeding habitat, as well as during migration (Buehler et al. 2013). Habitat loss is a primary concern. On wintering grounds in the tropics, the clearing of land for coffee and particularly cocoa production are significant threats. In the core of the breeding range in the central Appalachians, threats include mountaintop removal coal mining and hydraulic fracturing. During migration, Cerulean Warblers suffer high mortality from collisions with human structures (Klem 2008). In New York, the largest populations occur on protected lands; however, habitat loss, including incompatible forest management practices and conversion and fragmentation of mature forest, may still pose a threat on private lands (McGowan and Corwin 2008). High nest predation rates are limiting population growth in the Midwest, and even in the Northeast and Appalachian Mountains where nest success is higher, recruitment may not be adequate to compensate for mortality (Buehler et al. 2008). Known nest predators include chipmunks, snakes, and birds, particularly blue jays (*Cyanocitta cristata*) (Boves and Buehler 2012; Buehler et al. 2013).

Conservation Strategies and Management Practices

Maintaining large blocks of unfragmented mature forest is the primary management considerations for this species, particularly in riparian areas and on uplands and ridgetops with oak-hickory or mixed mesophytic forest. Maintaining heavily forested landscapes surrounding known breeding populations is also a concern (Buehler et al. 2008).

Forest management strategies were recently developed to maintain and enhance habitat



New York Natural Heritage Program

NYNHHP Online Conservation Guides

The New York Natural Heritage Program facilitates the conservation of New York State's biodiversity by providing comprehensive information and scientific expertise on rare species and natural ecosystems to resource managers and other conservation partners. 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.

For more information about the guides, including how to contribute data, see [About](#).

Additional Information

- Conservation Status Definitions
- Ecological Community System Descriptions
- Key to Ecological Community Systems and Subsystems

Lists of Guides **Count**

- Animal Guides **228**
- Community Guides **147**
- Plant Guides **416**
- All Guides **785**

Search

Search...

Names searched include family, scientific, common, and synonyms.

Advanced Search

Welcome to the new mobile-friendly Conservation Guides! Please update your bookmarks.

New York Natural Heritage Program

Project Review

- *IAs can inform project review, but should not be used to make decisions about specific projects.*

IAs may be used during project review as a starting point, to learn:

- what is known by NYNHP* on or near a site (*can be used to direct site visit or habitat assessment, ask questions*);
- where activities may have impacts on biological resources (*Conservation Guides provide general guidance*).



- *IAs are not meant to be “no development” zones – rather, they are a planning tool for more informed conservation and land-use decisions.*

Project Review

If setting priorities for project design, IAs can:

- provide “bigger picture” than parcel view (*what’s happening beyond the boundary?*)
- illustrate concentrations of biological priorities (*especially when viewed with other data sets*).



Photo by Laura Heady

➤ *Decisions should always be made based on site-specific information.*

Regulatory Questions?

- IAs differ in places from DEC's screening areas for threatened and endangered species habitat.
- The [DEC EAF mapper](#) will indicate whether a site is within a screening area for T/E species.
- **Contact your DEC Regional Permits Administrator for more information about state regulatory requirements.**
- Municipalities can establish their own environmental review standards and regulations to increase protection of biological resources.

The screenshot shows a web application interface with three main sections:

- Navigate To Area (Step 1):** Contains a "Go To" button, a "Locate Address" input field, a "Select County: [SELECT]" dropdown menu, and a "Select Town:" dropdown menu.
- Define Project Site (Step 2):** Contains a "Draw Project Site" button, an "Or" separator, a "Select Tax Parcel" button, an "Area: Acres" dropdown menu, and a "Clear Site / Cancel" button.
- Create Report (Step 3):** Contains two buttons: "Full Form, Part 1" and "Short Form, Part 1".

Links to Important Areas Resources

- [Hudson Valley Natural Resource Mapper](#) (Biodiversity layers)
- [Important Areas Project Page](#) – download data, fact sheet
- [NYNHP Conservation Guides](#)
- Municipal species lists for IAs available upon request from Hudson River Estuary Program staff



Questions?



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NYS-Endangered
Northern cricket frog

Photo by Mike Adamovic