

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925
Website: www.dec.state.ny.us

S.S.



Alexander B. Grannis
Commissioner

April 24, 2007

Sara R. Stebbins
Environmental Design & Research
238 West Division Street
Syracuse, NY 13204

MAY 10 REC'D
EDR, P.O.

Dear Ms. Stebbins:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Roaring Brook Wind Power Project #07025, area as indicated on the map you provided, located in the Town of Martinsburg, Lewis County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and should not be released to the public without permission from the New York Natural Heritage Program.

PLEASE NOTE: For Windpower Projects, we report all records found within the project boundary, and any avian records that may be located within a 10-mile buffer of the project boundary. We also report Indiana bat hibernaculum that may be located within a 40-mile buffer of the project boundary.

PLEASE NOTE: The Tug Hill Wildlife Management Area is adjacent to the Western edge of the project boundary.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environment impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,
Tara Seoane
Tara Seoane, Information Services
NY Natural Heritage Program

Encs.

cc: Reg. 6, Wildlife Mgr.
Mark Wothal, Bureau of Habitat, Albany
Rudyard Edick, Environmental Permits, Albany

Natural Heritage Report on Rare Species

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor, Albany, NY
12233-4757
(518) 402-8935

-This report contains SENSITIVE information that should not be released to the public without permission from the NY Natural Heritage Program.
-Refer to the User's Guide for explanations of codes, ranks and fields.
-We do not provide maps for species most vulnerable to disturbance.

Natural Heritage Report on Rare Species and Ecological Communities

MAMMALS

Myotis leibii
Eastern Small-footed Myotis

NY Legal Status: Special Concern

NYS Rank: S2 - Imperiled

Office Use
5161

Federal Listing:

Global Rank: G3 - Vulnerable

County: Jefferson

Town: Watertown

Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

S

Myotis leibii
Eastern Small-footed Myotis

NY Legal Status: Special Concern

NYS Rank: S2 - Imperiled

Office Use
4294

Federal Listing:

Global Rank: G3 - Vulnerable

County: St. Lawrence

Town: Rossie

Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

S

Myotis sodalis
Indiana Bat

NY Legal Status: Endangered

NYS Rank: S1 - Critically imperiled

Office Use
3122

Federal Listing: Endangered

Global Rank: G2 - Imperiled

County: Jefferson

Town: Watertown

Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

ESU
USFWS
S

Myotis sodalis
Indiana Bat

NY Legal Status: Endangered

NYS Rank: S1 - Critically imperiled

Office Use
12377

Federal Listing: Endangered

Global Rank: G2 - Imperiled

County: Jefferson

Town: Le Ray

Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

ESU
USFWS

These bat occurrences are within 40 miles of the project site.

Natural Heritage Report on Rare Species and Ecological Communities

Myotis sodalis
Indiana Bat

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Watertown, Adams
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

NYS Rank: S1 - Critically imperiled
Global Rank: G2 - Imperiled

Office Use
11647
ESU
USFWS

Myotis sodalis
Indiana Bat

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Brownville, Rodman, Pamela, Orleans, Ellisburg, Adams, Hounsfield, Watertown, Clayton
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

NYS Rank: S1 - Critically imperiled
Global Rank: G2 - Imperiled

Office Use
11657
ESU
USFWS

Myotis sodalis
Indiana Bat

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Le Ray
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

NYS Rank: S1 - Critically imperiled
Global Rank: G2 - Imperiled

Office Use
12378
ESU
USFWS

OTHER

Bat Colony

NY Legal Status: Unprotected
Federal Listing:
County: Jefferson
Town: Watertown
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

NYS Rank: SNR - Rank not assigned
Global Rank: GNR - Not ranked

Office Use
6103
S

Bat Colony

NY Legal Status: Unprotected
Federal Listing:
County: St. Lawrence
Town: Rossie
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

NYS Rank: SNR - Rank not assigned
Global Rank: GNR - Not ranked

Office Use
6438
S

These bat occurrences are within 40 miles of the project site.

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor, Albany, NY
12233-4757
(518) 402-8935

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-Refer to the User's Guide for explanations of codes, ranks and fields.
-Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

BIRDS

Dendroica castanea

Bay-breasted Warbler	NY Legal Status:	Protected	NYS Rank:	S2 - Imperiled	Office Use	2157
	Federal Listing:		Global Rank:	G5 - Demonstrably secure		
	Last Report:	1985-07-19	EO Rank:	Extant		
	County:	Lewis				M
	Town:	West Turin				
	Location:	High Market				
	General Quality and Habitat:	Natural spruce-fir stand.				

Picoides dorsalis

Three-toed Woodpecker	NY Legal Status:	Protected	NYS Rank:	S2 - Imperiled	Office Use	6423
	Federal Listing:		Global Rank:	G5 - Demonstrably secure		
	Last Report:	1999-09-10	EO Rank:	Extant		
	County:	Lewis				
	Town:	Montague				
	Location:	Mad River Swamp				
	General Quality and Habitat:					

Spizella pallida

Clay-colored Sparrow	NY Legal Status:	Protected	NYS Rank:	S2 - Imperiled	Office Use	359
	Federal Listing:		Global Rank:	G5 - Demonstrably secure		
	Last Report:	1985-07-05	EO Rank:	Extant		
	County:	Lewis				M
	Town:	Martinsburg				
	Location:	Flat Rock Road				
	General Quality and Habitat:	An old field with scattered young apple trees, hawthorns and white pine, most no more than 15 feet tall. The ground cover is mostly grasses.				

3 Records Processed

These bird occurrences are within 10 miles of the project site.

Natural Heritage Report on Rare Species and Ecological Communities

4

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Natural Heritage Report on Rare Species and Ecological Communities

4

COMMUNITIES

Shallow emergent marsh

This occurrence of Shallow Emergent Marsh is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status:	Unprotected	NYS Rank:	S5	704:
Federal Listing:		Global Rank:	G5	
Last Report:	1997-08-28	EO Rank:		
County:	Lewis			S
Town:	Martinsburg, Montague, West Turin			
Location:	East Branch Fish Creek			
Directions:	There are two access points to this community: 1) from Tabolt's Corners, go west on the old railroad bed. This is a gated road requiring a key and permission. The east branch of Fish Creek crosses about 7.85 mi west of the gate, 2) from Route 26 at Martinsburg, go west on Keener Hill Road to Graves Road and then to French Road. Go as far down the French Road "extension" as possible (about 1.25 mi), then walk west to the community, about 0.8-1.0 mi.			
General Quality and Habitat:	A very large, undisturbed community in intact landscape with selective logging. This natural community occurs in the center of the Tug Hill Plateau. The site includes a creek with a sandy to rocky bottom running through generally northern successional hardwoods. The borders of the creek widen in places to sedge meadow/shrub swamp/shallow emergent marsh. This is a remote area with sparse and well hidden camps in a largely logged landscape.			

Shrub swamp

This occurrence of Shrub Swamp is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status:	Unprotected	NYS Rank:	S5	752:
Federal Listing:		Global Rank:	G5	
Last Report:	1999-07-22	EO Rank:		
County:	Lewis			
Town:	Martinsburg, Montague, Osceola, West Turin			
Location:	East Branch Fish Creek			
Directions:	From Tabolt's Corners, go west on an old railroad bed. This is a gated road requiring a key and permission. The east branch of Fish Creek crosses at about 7.85 mi west of the gate. An additional access point is from French Road west of Martinsburg. Go as far down (west) the French Road "extension" as possible (about 1.25 mi), then walk west to the swamp (about 0.8-1.0 mi).			
General Quality and Habitat:	The swamp is an outstanding wetland complex within a stream corridor that has escaped logging. The community is large, undisturbed, and diverse in an intact landscape with selective logging. Stream dynamics are excellent with many intact mega fauna popul This natural community occurs in the center of the Tug Hill Plateau. The site includes a creek with a sandy to rocky bottom running through generally northern successional hardwoods. The borders of the creek widen in places to sedge meadow/shrub swamp/shallow emergent marsh. This is a remote area with sparse and well hidden camps in a largely logged landscape.			

These occurrences are within the project site or in close proximity.

Marsh headwater stream

This occurrence of Marsh Headwater Stream is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unprotected

NYS Rank: S4

1101

Federal Listing:

Global Rank: G4

Last Report: 2001-09-17

EO Rank:

County: Lewis

Town: Martinsburg, West Turin

Location: East Branch Fish Creek

Directions: This stream occurs along the upper portions of East Branch Fish Creek and its associated tributaries (Sixmile Creek, Sevenmile Creek, and Deep Creek). From Tabolt Corners, go west on the old railroad bed. This is a gated road requiring a key and permission to access. The East Branch Fish Creek crosses approximately 7.85 mi west of the gate. The creek is accessible from logging roads on timber company land with owner permission.

General Quality and Habitat: This is a moderately large network of stream segments with few localized disturbances, very good habitat and species diversity. It occurs in a large natural landscape with intact forest buffer and somewhat intensively logged distant terraces and with onl This occurrence consists of the marshy portions of a large, low gradient stream complex in the center of the Tug Hill Plateau. The streambanks are natural, primarily short and of anaerobic silt in upper reaches (and often bordering pools), taller and rockier in the lower reaches (often bordering runs). The stream is primarily bordered by shallow emergent marsh, which in turn is usually fringed by alder-dominated shrub swamp in wide to linear wetlands.

Beech-maple mesic forest

This occurrence of Beech-Maple Mesic Forest is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unprotected

NYS Rank: S4

859

Federal Listing:

Global Rank: G4

Last Report: 2001-05-30

EO Rank:

County: Lewis, Oswego, Jefferson

Town: Martinsburg, Montague, Osceola, West Turin, Redfield, Worth

Location: Central Tug Hill Forest

Directions: The community is the entire central core of the Tug Hill. Perimeter roads include Route 26 to the east, Route 177 to the north, Route 17 to the west, and Route 46 to the south.

General Quality and Habitat: This is a very large example of primarily second and third growth with a few scattered small patches of relatively mature forest, forming a substantial part of a very large forest matrix landscape with little or no paved or publicly accessible roads, but This is the predominant forest type within a large relatively remote area representing approximately 121,000 acres of forest matrix on the central part of the Tug Hill Plateau. Beech-maple mesic forest co-occurs in the upland forest matrix with successional northern hardwoods and embedded small patches of spruce-northern hardwood forest that have recovered from past logging, spruce flats surrounding wetlands, and brushy cleared land in recently logged areas.

These occurrences are within the project site or in close proximity.

Natural Heritage Report on Rare Species and Ecological Communities

4

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor, Albany, NY
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Natural Heritage Report on Rare Species and Ecological Communities

4

COMMUNITIES

Rocky headwater stream

This occurrence of Rocky Headwater Stream is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unprotected

NYS Rank: S4

2030

Federal Listing:

Global Rank: G4

Last Report: 2001-09-18

EO Rank:

County: Lewis

S

Town: Osceola, West Turin, Montague, Martinsburg

Location: East Branch Fish Creek

Directions: This stream occurs along the upper portions of East Branch Fish Creek and its associated tributaries (Sixmile Creek, Sevenmile Creek, and Deep Creek). From Tabolt Corners, go west on the old railroad bed. This is a gated road requiring a key and permission to access. The East Branch Fish Creek crosses approximately 7.85 mi west of the gate. The creek is accessible from logging roads on timber company land with owner permission.

General Quality and Habitat: This moderately large network of stream reaches has a few localized disturbances, a low gradient, and good species diversity. It is located in a large, natural landscape with an intact forest buffer and somewhat intensively logged upper slopes of the watershed and with only few minor road crossings. This occurrence describes the rocky portion of a low gradient, large headwater stream complex in the center of the Tug Hill Plateau. Associated riverside communities include small channel islands, often with cobble shore, and narrow strips of shallow emergent marsh and shrub swamp. Banks are natural, primarily moist upland forests with intact canopy including spruce flats on low terraces and scattered, small high terrace floodplains. The stream is buffered by a mosaic of beech-maple mesic forest and spruce-northern hardwood forest on low hills. The stream complex consists of about 75% marsh headwater stream segments interspersed with 25% rocky headwater stream segments totaling about 40 miles of stream length. Nutrient loading is primarily from upland runoff and from marshes bordering marsh headwater segments. The stream complex contains four associated major branches with numerous tributaries. Very small intermittent streams may feed into the stream. The headwater portion flows into a midreach stream below the confluence of East Branch Fish Creek and Sixmile Creek. The watershed is large and flat, totaling about 14,500 acres and primarily with historically to heavily logged forests. There are no obvious cultural displacements. Three small dirt logging roads (fords and one bridge) cross the community. Ditches and impoundments occur along associated marsh headwater stream segments bordering the largest logging road ("GW Road"). The site is centered in an area of about 121,000 acres and about 85% forested, unbisected by paved and publicly accessible roads but with numerous dirt logging road intrusions.

1 Record Processed

This occurrence is within the project site or in close proximity.

April 19, 2007

Page 1 of 7

USERS GUIDE TO NY NATURAL HERITAGE DATA

New York Natural Heritage Program, 625 Broadway, 5th Floor, Albany, NY 12233-4757 phone: (518) 402-8935



NATURAL HERITAGE PROGRAM: The NY Natural Heritage Program is a partnership between the NYS Department of Environmental Conservation (NYS DEC) and The Nature Conservancy. Our mission is to enable and enhance conservation of rare animals, rare plants, and significant communities. We accomplish this mission by combining thorough field inventories, scientific analyses, expert interpretation, and the most comprehensive database on New York's distinctive biodiversity to deliver the highest quality information for natural resource planning, protection, and management.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should not be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

EO RANK: A letter code for the quality of the occurrence of the rare species or significant natural community, based on population size or area, condition, and landscape context.

- A-E = Extant: A=Excellent, B=Good, C=Fair, D=Poor, E=Extant but with insufficient data to assign a rank of A-D.
- F = Failed to find. Did not locate species during a limited search, but habitat is still there and further field work is justified.
- H = Historical. Historical occurrence without any recent field information.
- X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.
- U = Extant/Historical status uncertain.
- Blank = Not assigned.

LAST REPORT: The date that the rare species or significant natural community was last observed at this location, as documented in the Natural Heritage databases. The format is most often YYYY-MM-DD.

NY LEGAL STATUS – Animals:

Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E - Endangered Species: any species which meet one of the following criteria:

- Any native species in imminent danger of extirpation or extinction in New York.
- Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T - Threatened Species: any species which meet one of the following criteria:

- Any native species likely to become an endangered species within the foreseeable future in NY.
- Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.

SC - Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).

P - Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.

U - Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.

G - Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NY LEGAL STATUS – Plants:

The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.

E - Endangered Species: listed species are those with:

- 5 or fewer extant sites, or
- fewer than 1,000 individuals, or
- restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or
- species listed as endangered by U.S. Dept. of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

T - Threatened: listed species are those with:

- 6 to fewer than 20 extant sites, or
- 1,000 to fewer than 3,000 individuals, or
- restricted to not less than 4 or more than 7 U.S.G.S. 7 and ½ minute topographical maps, or
- listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

R - Rare: listed species have:

- 20 to 35 extant sites, or
- 3,000 to 5,000 individuals statewide.

V - Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significant portion of their range within the state if causal factors continue unchecked.

U - Unprotected; no state status.

FEDERAL STATUS (PLANTS and ANIMALS): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527. The codes below without parentheses are those used in the Federal Register. The codes below in parentheses are created by Heritage to deal with species which have different listings in different parts of their range, and/or different listings for different subspecies or varieties.

(blank) = No Federal Endangered Species Act status.

LE = Formally listed as endangered.

LT = Formally listed as threatened.

C = Candidate for listing.

LE,LT = Formally listed as endangered in part of its range, and as threatened in the other part; or, one or more subspecies or varieties is listed as endangered, and the others are listed as threatened.

LT,PDL = Populations of the species in New York are formally listed as threatened, and proposed for delisting.

GLOBAL AND STATE RANKS (animals, plants, ecological communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Intraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world. ? = Indicates a question exists about the rank. Range ranks, e.g. S1S2, indicate not enough information is available to distinguish between two ranks.

GLOBAL RANK:

G1 - Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.

G2 - Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.

G3 - Vulnerable: Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.

G4 - Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 - Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH - Historically known, with the expectation that it might be rediscovered.

GX - Species believed to be extinct.

NYS RANK:

S1 - Critically imperiled: Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.

S2 - Imperiled: Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.

S3 - Vulnerable: Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.

S4 - Apparently secure in New York State.

S5 - Demonstrably secure in New York State.

SH - Historically known from New York State, but not seen in the past 15 years.

SX - Apparently extirpated from New York State.

SxB and SxN, where Sx is one of the codes above, are used for migratory animals, and refer to the rarity within New York State of the breeding (B)populations and the non-breeding populations (N), respectively, of the species.

TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way as the Global ranks (G1 - G5), but the T-rank refers only to the rarity of the subspecific taxon.

T1 through T5 - See Global Rank definitions above.

Q - Indicates a question exists whether or not the taxon is a good taxonomic entity.

Revised April,