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New York State Department of Environmental Conservation

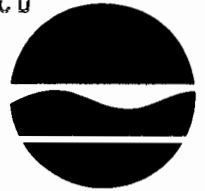
Division of Fish, Wildlife & Marine Resources

New York Natural Heritage Program

625 Broadway, Albany, New York 12233-4757

Phone: (518) 402-8935 • FAX: (518) 402-8925

www.dec.state.ny.us



Alexander B. Grannis
Commissioner

November 3, 2008

Melissa J. McCarthy
Environmental Design & Research
217 Montgomery Street, Suite 1000
Syracuse, NY 13202

Dear Ms. McCarthy:

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 Update, 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: This Project is adjacent to the Tug Hill Wildlife Management Area.

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 project boundary. We also report Indiana Bat Hibernacula that may be located within a 40-mile buffer of the project boundary.

PLEASE NOTE: We refer you to <http://www.dec.ny.gov/energy40899.html> on the DEC Website for guidelines for your proposed project.

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 Salerno
Tara Salerno, Information Services
New York Natural Heritage Program

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

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

~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.
~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.

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

Natural Heritage Report on Rare Species and Ecological Communities



BIRDS

Bartramia longicauda

Upland Sandpiper Breeding	NY Legal Status: Threatened Federal Listing: Last Report: ** County: Lewis Town: Denmark Location:	NYS Rank: S3B - Vulnerable Global Rank: G5 - Demonstrably secure EO Rank: **	Office Use 10946 ESU
General Quality and Habitat: **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.			

Circus cyaneus

Northern Harrier Breeding	NY Legal Status: Threatened Federal Listing: Last Report: ** County: Lewis Town: West Turin Location:	NYS Rank: S3B,S3N - Vulnerable Global Rank: G5 - Demonstrably secure EO Rank: **	Office Use 12704 ESU
General Quality and Habitat: **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.			

Circus cyaneus

Northern Harrier Breeding	NY Legal Status: Threatened Federal Listing: Last Report: ** County: Lewis Town: Harrisburg, Martinsburg, Lowville Location:	NYS Rank: S3B,S3N - Vulnerable Global Rank: G5 - Demonstrably secure EO Rank: **	Office Use 12705 ESU
General Quality and Habitat: **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.			



Dendroica castanea

Bay-breasted
Warbler
Breeding

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

Town: West Turin

Location:

General Quality
and Habitat:

Lanius ludovicianus

Loggerhead Shrike
Breeding

NY Legal Status: Endangered

NYS Rank: S1B - Critically imperiled

Office Use
2228

Federal Listing:

Global Rank: G4 - Apparently secure

Last Report: **

EO Rank: **

County: Lewis

Town: West Turin

Location:

General Quality and Habitat: **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.

Picoides dorsalis

Three-toed
Woodpecker
Breeding

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:

General Quality
and Habitat:

Spizella pallida

Clay-colored
Sparrow
Breeding

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

Town: Martinsburg

Location:

General Quality
and Habitat:

7 Records Processed

More detailed information about many of the rare and listed animals in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at <http://www.natureserve.org/explorer>, and from NYSDEC at <http://www.dec.ny.gov/animals/7494.html>.

Natural Heritage Report on Rare Species



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~Refer to the User's Guide for explanations of codes, ranks and fields.
~We do not provide maps for species most vulnerable to disturbance.

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

Natural Heritage Report on Rare Species and Ecological Communities



MAMMALS

<i>Myotis leibii</i> Eastern Small-footed Myotis Hibernaculum	NY Legal Status: Special Concern Federal Listing: County: St. Lawrence Town: Rossie Location:	NYS Rank: S2 - Imperiled Global Rank: G3 - Vulnerable	Office Use 4294 S
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<i>Myotis leibii</i> Eastern Small-footed Myotis Hibernaculum	NY Legal Status: Special Concern Federal Listing: County: Jefferson Town: Watertown Location:	NYS Rank: S2 - Imperiled Global Rank: G3 - Vulnerable	Office Use 5161 S
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<i>Myotis sodalis</i> Indiana Bat Bachelor colony	NY Legal Status: Endangered Federal Listing: Endangered County: Jefferson Town: Clayton Location:	NYS Rank: S1 - Critically imperiled Global Rank: G2 - Imperiled	Office Use 11646 ESU USFWS
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<i>Myotis sodalis</i> Indiana Bat Bachelor colony	NY Legal Status: Endangered Federal Listing: Endangered County: Jefferson Town: Watertown, Adams Location:	NYS Rank: S1 - Critically imperiled Global Rank: G2 - Imperiled	Office Use 11647 ESU USFWS
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These bat occurrences are within 40 miles of the project site.

Natural Heritage Report on Rare Species and Ecological Communities



Myotis sodalis
Indiana Bat

Maternity colony

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Brownville, Rodman, Pamelaia, Orleans, Ellisburg, Adams, Hounsfield, Watertown, Clayton, Le
Location:

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

Office Use
11657
ESU
USFWS

Myotis sodalis
Indiana Bat

Bachelor colony

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Le Ray
Location:

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

Office Use
12377
ESU
USFWS

Myotis sodalis
Indiana Bat

Hibernaculum

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Watertown
Location:

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

Office Use
12614
ESU
USFWS

Myotis sodalis
Indiana Bat

Hibernaculum

NY Legal Status: Endangered
Federal Listing: Endangered
County: Jefferson
Town: Watertown
Location:

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

Office Use
3122
ESU
USFWS

OTHER

Bat Colony

Hibernaculum

NY Legal Status: Unlisted
Federal Listing:
County: St. Lawrence
Town: Rossie
Location:

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

Office Use
6438
S

Bat Colony

Hibernaculum

NY Legal Status: Unlisted
Federal Listing:
County: Jefferson
Town: Watertown
Location:

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

Office Use
6103

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

Natural Heritage Report on Rare Species and Ecological Communities



Office Use

Bat Colony
Hibernaculum

NY Legal Status: Unlisted

Federal Listing:

County: Jefferson

Town: Watertown

Location:

NYS Rank: SNR - Rank not assigned

Global Rank: GNR - Not ranked

12615

11 Records Processed

More detailed information about many of the rare and listed animals in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at <http://www.natureserve.org/explorer>, and from NYSDEC at <http://www.dec.ny.gov/animals/7494.html>.

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

Natural Heritage Report on Rare Species and Ecological Communities



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Natural Heritage Report on Rare Species and Ecological Communities



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: Unlisted

NYS Rank: S5

7043

Federal Listing:

Global Rank: G5

Last Report: 1997-08-28

EO Rank:

County: Lewis

S

Town: Martinsburg, Montague, West Turin

Location:

Directions:

General Quality and Habitat: A very large, undisturbed community in intact landscape with selective logging.

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: Unlisted

NYS Rank: S5

7525

Federal Listing:

Global Rank: G5

Last Report: 1999-07-22

EO Rank:

County: Lewis

Town: Martinsburg, Montague, Osceola, West Turin

Location:

Directions:

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 populations including beaver, deer, bear, fisher, racoon, coyote, etc. 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: Unlisted

NYS Rank: S4

11016

Federal Listing:

Global Rank: G4

Last Report: 2001-09-17

EO Rank:

County: Lewis

Town: Martinsburg, West Turin

Location:

Directions:

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 only few minor road crossings. This occurrence consists of the marshy portions of a large, low gradient stream complex. 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. Those wetlands are typically surrounded by spruce flats on low terraces, then hills of logged beech-maple mesic forest. The headwater stream complex consists of about 75% marsh headwater stream (this occurrence and at least 2 others) and 25% rocky headwater stream, and totals about 40 miles long.

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: Unlisted

NYS Rank: S4

2030

Federal Listing:

Global Rank: G4

Last Report: 2001-09-18

EO Rank:

County: Lewis

Town: Osceola, West Turin, Montague, Martinsburg

Location:

Directions:

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. 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.



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

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: Unlisted

NYS Rank: S4

8599

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:

Directions:

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 and fairly good regeneration of canopy species. It features characteristic species diversity for its forest type, lacks both invasive exotic plants, and notable impacts from deer browse. It forms a substantial part of a very large forest matrix landscape with little or no paved or publicly accessible roads, but continues to undergo intensive logging. This is the predominant forest type within a large relatively remote area representing approximately 121,000 acres of forest matrix

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. Also embedded in the upland matrix are linear drainages which form a spectacular series of beaver impounded wetlands dominated by sedge meadow, shallow emergent marsh, shrub swamp, and spruce-fir swamp.

5 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at <http://www.natureserve.org/explorer>, from NYSDEC at <http://www.dec.ny.gov/animals/7494.html> (for animals), and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

More detailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org. For descriptions of all community types, go to <http://www.dec.ny.gov/animals/29384.html> and click on DRAFT--Ecological Communities of New York State.

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.