

Species Dossier

State of New York
Endangered Species Working Group
Date compiled:

Common Name: Queen Snake
Scientific Name: *Regina septemvittata*
Family: Colubridae

I. General Status

Current New York Status: Unlisted
Current Federal Status: Unlisted
Recommended New York Status:

Current status in surrounding states/provinces:

Connecticut: Out of range
Massachusetts: Out of range
New Jersey: Out of range
Ohio:
Ontario:
Pennsylvania:
Quebec: Out of range
Vermont: Out of range

Current Natural Heritage rank (TNC):
global state

Global and North American Ranges:

Southern Ontario, southwestern New York and southeastern Pennsylvania south to the Gulf Coast at the Florida/Alabama border; west to southeastern Wisconsin and eastern Mississippi. A disjunct area in Arkansas and southwestern Missouri (may be extinct in the latter state). An isolated colony exists in northern Michigan and an isolated record from extreme southwestern Mississippi.

New York's position within global range:
central **peripheral** disjunct

- II. Historic New York Status and Distribution (>25 years ago)
Provide numbers and/or percent of state occupied and/or number of regions occupied (and basis for estimates), narratives, maps (if available and appropriate), and references/documentation:

Historic specimens exist in the New York State Museum from Livingston, Erie, Chautauqua, Cattaraugus, Wyoming and Genesee Counties.

- III. Current New York Status and Distribution
Provide numbers and/or percent of state occupied and/or number of regions occupied (and basis for estimates), narratives, maps (if available and appropriate), and references/documentation:

Presently there exists only two recent queen snake records from New York State, Bergen swamp in Genesee County and Buffalo Creek in Erie County. Although appropriate habitat and food seem stable, it appears that numbers of queen snakes have seriously declined within the state.

- IV. Author's Current Estimate of Population/Habitat Trends

Population Trend _____ Essential Habitat Trend

Declining
Stable
Increasing
Unknown

Declining
Stable
Increasing
Unknown

- V. Biological Description

1. Reproductive information:

Breeds in New York: yes
Confirmed in last 2 years yes
Confirmed in last 10 years yes
Confirmed in last 25 years yes
Confirmed prior to 25 years ago yes
Unconfirmed

OR

2. Does not breed in New York; is migrating or seasonal?

OR

3. Species periodically expands or contracts into or out of New York?

Age to sexual maturity Male 375-692mm at approx. 2 yrs; Female 375-787mm at approx. 3 years.

Number of breeding attempts per year Possibly 2 attempts (majority in spring, maybe a small fall season).

Average number of young per breeding attempt 5-31 young (typically 10-12).

Estimated number of reproductive years per female Wild caught male kept in Wisconsin Zoo - 19yrs, 3mo.

Other narrative on species biology:

Regina septemvittata is a highly aquatic, diurnal reptile of western New York's creeks and streams. Queen snakes emerge from their winter sites sometime during late March to early April and courtship/breeding ensue shortly after emergence but may extend into June (it's been reported that mating may occur in the fall as well).

The queen snake is viviparous and the young snakelings are born sometime during late July to late September. Young queen snakes range in total length from 175-208mm and resemble the adults in coloration and markings. Growth of neonates is initially rapid with average increases of 75% and 79% in length for yearlings and about a 50% growth increase for second year animals (growth rate diminishes with subsequent years).

Adults feed primarily on crayfish (especially newly molted crayfish) found while foraging among the rocks and bottoms of small streams. Other prey items reported include small fish, toads, dragonfly nymphs, snails, froglets and newts.

Population information for New York queen snakes is lacking. Other states (Kentucky and Ohio) report high densities of snakes in locations of suitable habitat and abundant numbers of crayfish (Kentucky - 35 snakes per 192m of stream & 62 per 237m for two sites/Ohio - 125 snakes per 92m of stream). Sex ratios for the above mentioned sites were approximately a 1:1 male to female ratio.

Most foraging typically occurs during the morning followed by a period of mid-day basking on stream banks or overhanging branches. Extremely hot days cause individuals to

retreat under logs, stones or other debris.

VI. Habitat
(describe type, vulnerability, distribution and trend in amount overtime, also estimate future trends - - do you expect habitat to be lost in future? Amount, location, type?)

Queen snakes prefer clean, unpolluted, shallow creeks and meandering streams of alternating pools and riffles with gravel and rubble bottoms. The streams consist of mud or shaley banks and are usually lined with willows and some emergent aquatic plants. Individuals may take shelter under logs, large flat stones and other debris near the edge of the stream both in and out of water. Individuals will also retreat into muskrat burrows. Queen snakes forage among stones and detritus in shallow swift moving water. Basking sites include rocks along the stream edge, on the stream banks, on overhanging logs and branches (providing a quick escape route into the water). Queen snakes spend a lot of time in the water motionless with only their heads exposed above the surface. Queen snakes have been found hibernating in muskrat burrows, crayfish burrows or within the cracks and crevices of earth or stone dams.

VII. Discussion of Problems/Threats/Limiting/Overall Vulnerability
(of both individuals and essential habitat):

1. Habitat loss via human activities.
2. Overcollecting for illegal pet trade.
3. Herbicide/pesticide (and other pollutant) contamination of aquatic habitat destroying major food source, crayfish.
4. Water manipulation (drying/flooding of aquatic habitat) and habitat alteration via dams.
5. Senseless killing of individuals.

VIII. Additional Study, Documentation, Research or Management Needed:

1. New York State occurrence and distribution is of primary importance before any sort of management plan can be implemented. Surveys into historic and potential queen snake sites should be regularly undertaken.
2. There exists almost no information concerning many life history aspects of this species (courtship/reproduction, individual movements/home range size, age specific survivorship and age/sex ratio of New York State populations).

XI. Prognosis for Recovery:

X. Documentation/References:

(also list or attach pertinent references, survey documents, studies, etc.)

1. Behler, J.L., F.W. King 1979. The Audubon Society Field Guide to North American Reptiles and Amphibians. Alfred A. Knopf, New York.

2. Collins, J.T. 1990. Standard Common and Current Scientific Names for North American Amphibians and Reptiles. Society for the Study of Amphibians and Reptiles, Herp. Circular No. 19.

3. Conant, R.C., J.T. Collins 1991. Peterson Field Guide to Reptiles and Amphibians of Eastern/Central North America. Houghton Mifflin Co., Boston. Page 168, Map No. 128.

4. DeGraaf R.M., D.D. Rudis 1981. Forest Habitat for Reptiles and Amphibians of the Northeast. U.S. Government Printing Office, Forest Service and U.S. Dept. of Agriculture Eastern, Region.

5. Ernst, C.H., R.W. Barbour 1989. Snakes of Eastern North America. George Mason University Press.

6. French, T., D. Pence 1991. Legal Categories of Rare Species in the Northeastern States. Northeast Nongame Technical Committee.

7. Green, N.B., T.K. Pauley 1987. Amphibians and Reptiles in West Virginia. University of Pittsburgh Press/West Virginia Department of Natural Resources Nongame Wildlife Program.

8. Pleuthner, R. 1981. Summation of Natural Heritage Ranks (for Amphibians and Reptiles).

9. Raney, E.C., R.M. Roecker 1947. Food and Growth of Two Species of Watersnakes from Western New York. Copeia No. 3: 171-174.

10. Shaffer, L.L. 1991. Pennsylvania Amphibians and Reptiles. Pennsylvania Fish Commission.

11. Wright, A.H., A.A. Wright 1970. Handbook of Snakes of the United States and Canada Vol. II. Comstock Publishing Associates, Division of Cornell University Press. Pages 814-816.

12. Checklist of the Amphibians, Reptiles, Birds and Mammals of New York State, Including Their Protective Status 1987. N.Y.S. Department of Environmental Conservation Division of Fish and Wildlife Nongame Unit.

XI. Experts Consulted/Reviewers of Dossier:

Prepared By: Denis P. Blais

Preparer's Status Recommendation:

Endangered
Threatened
Special Concern
Status Unknown
Status Secure
(no listing)