

Eastern Ribbonsnake

Thamnophis sauritus

Federal Listing	N/A
State Listing	
Global Rank	
State Rank	S5
Regional Status	Very High



Photo by Michael Marchand

Justification (Reason for Concern in NH)

The eastern ribbon snake was listed as a species of conservation concern in the northeastern United States due to a lack of data and a suspected decline (Therres 1999). Ribbon snakes were listed as a species of 'Very High' concern in the northeast United States (NEPARC 2011, Northeast RSGCN list 2014). The species is near the northern limit of its range in New England and is listed as a species of special concern in Maine, Vermont, Connecticut and Rhode Island because of uncommon and localized populations that appear to have declined (Klemens 1993). Ribbon snakes could be used as indicator species (e.g., for contaminants) because of their dependence on amphibians as prey and use of both aquatic and upland habitats (Smith 2002). Also, ribbon snake occupation may indicate high quality wetland habitat that could support other species of conservation concern such as spotted turtle (*Clemmys guttata*), leopard frog (*Rana pipiens*), and blue-spotted (*Ambystoma laterale*) and four-toed salamanders (*Hemidactylium scutatum*) (Klemens 1993). In a study from Nova Scotia, the authors concluded that the Eastern Ribbon Snake is relatively sedentary and therefore may be vulnerable to local extinction (Bell et al. 2007).

Distribution

Ribbon snakes occur east of the Mississippi River from southern Ontario and southern Maine to southeastern Louisiana and the Florida Keys, with isolated records from Nova Scotia (Ernst and Ernst 2003). Two subspecies, the eastern ribbon snake (*T. sauritus sauritus*) and the northern ribbon snake (*T. sauritus septentrionalis*) may occur in New England (Conant and Collins 1998). The range of the northern ribbon snake includes Nova Scotia and extends from southern Maine westward through New Hampshire, Vermont, and New York. The northern limit of the eastern ribbon snake includes the southern parts of Vermont, New Hampshire, and Maine (Conant and Collins 1998). Most Maine records are from York County, and no distinction was made between the two ribbon snake subspecies (Hunter et al. 1999). Most Vermont records are from the western part of the state (Champlain valley).

The NH Fish & Game Department has not made any distinction between the two sub-species of ribbon snake in NH. In New Hampshire, county records of ribbon snakes include Belknap, Carroll, Cheshire, Grafton, Hillsborough, Merrimack, Rockingham, Strafford, and Sullivan (Oliver and Bailey 1939, RAARP 2015). There are no confirmed records of the ribbon snake in Coos County. A 1920 record from Sanbornton (Museum of Comparative Zoology Herpetology Collection at Harvard) is the only documented record for Belknap County. Sullivan County also only has one town record which is historic (Newport). Carroll (1 current town, 2 historic towns) and Cheshire (2 current towns, 1 historic town) counties have limited town records. The largest number of recent observations has been

Appendix A: Reptiles

recorded in Hillsborough, Rockingham, Merrimack, and Strafford Counties. No systematic surveys have been conducted for ribbon snakes in New Hampshire. However, from 2005-2015, ribbon snakes were periodically observed during field surveys targeting other reptiles and amphibians (Blanding's turtles, black racer) in southeastern New Hampshire and because ribbon snakes were listed as SGCN in the NHWAP, observations were prioritized for reporting.

Habitat

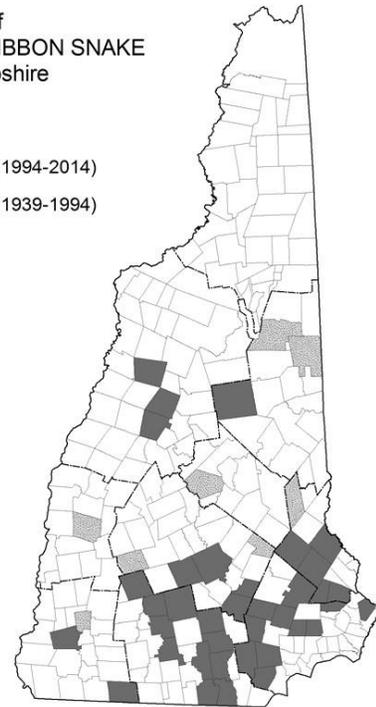
The eastern ribbon snake is a slender, semi-aquatic snake often observed near the edges of emergent marshes, wet meadows, scrub-shrub wetlands, beaver impoundments, bogs, river and stream floodplains, and vegetated shorelines of ponds and lakes (Ernst and Ernst 2003, M. Marchand personal observation). Ribbon snakes generally avoid deep water but will swim readily along the surface. Juveniles and gravid females may use uplands (Smith 2002), but the extent of use is not well established. In Nova Scotia where the species is threatened, ribbon snakes were always found within 5 m of water during May to September. From September to mid-October, snakes moved up to 173 m away from the shoreline (Bell et al. 2007). Most ribbon snakes documented in New England have been found below 305 m (1,000 ft) elevation (Oliver and Bailey 1939, Klemens 1993). Possible hibernacula include muskrat (*Ondatra zibethica*) bank burrows and lodges (Ernst and Ernst 2003), ant mounds, mammal tunnels, and rock crevices (Carpenter 1953, Hansknecht et al. 1999). Though ribbon snakes eat primarily amphibians (Carpenter 1952), they will also consume lesser amounts of mice, spiders, small fish, and insects.

NH Wildlife Action Plan Habitats

- Marsh and Shrub Wetlands
- Peatlands
- Floodplain Habitats
- Vernal Pools

Distribution of
EASTERN RIBBON SNAKE
in New Hampshire

■ Current (1994-2014)
■ Historic (1939-1994)



Distribution Map

Appendix A: Reptiles

Current Species and Habitat Condition in New Hampshire

Not assessed because of insufficient information.

Population Management Status

Not assessed because of insufficient information.

Regulatory Protection (for explanations, see Appendix I)

- NHFG Rule FIS 803.02. Importation.
- NHFG Rule FIS 804.02. Possession.
- NHFG Rule FIS 811.01 Sale of Reptiles.
- NHFG FIS 1400 Nongame special rules

Quality of Habitat

Not assessed because of insufficient information.

Habitat Protection Status

Not assessed because of insufficient information.

Habitat Management Status

Not assessed because of insufficient information.

Threats to this Species or Habitat in NH

Threat rankings were calculated by groups of taxonomic or habitat experts using a multistep process (details in Chapter 4). Each threat was ranked for these factors: Spatial Extent, Severity, Immediacy, Certainty, and Reversibility (ability to address the threat). These combined scores produced one overall threat score. Only threats that received a “medium” or “high” score have accompanying text in this profile. Threats that have a low spatial extent, are unlikely to occur in the next ten years, or there is uncertainty in the data will be ranked lower due to these factors.

Mortality of individuals from vehicles on roadways (Threat Rank: Medium)

Ribbon snakes are associated with wetland habitats. Ribbon snakes are vulnerable to mortality on roadways near wetland habitats.

Ribbon snakes are periodically reported as roadkill but information to evaluate threat is minimal.

Mortality and species impacts (decreased fitness) of individuals from various diseases (snake fungal disease) (Threat Rank: Medium)

Snake fungal disease has been detected on a number of snake species in the northeast. Research is underway to determine prevalence and severity of disease on different snake populations.

There is minimal information on snake fungal disease and its impacts on ribbon snakes.

Appendix A: Reptiles

List of Lower Ranking Threats:

Habitat conversion due to development (in and near wetlands)

Actions to benefit this Species or Habitat in NH

Evaluate health of ribbon snakes

Primary Threat Addressed: Mortality and species impacts (decreased fitness) of individuals from various diseases (snake fungal disease)

Specific Threat (IUCN Threat Levels): Invasive & other problematic species, genes & diseases

Objective:

Evaluate health of ribbon snakes

General Strategy:

Ribbon snakes observed with signs of disease will be evaluated and considered for testing.

Political Location:

Statewide

Watershed Location:

Statewide

Collect, compile and evaluate distribution information

Objective:

Collect, compile, and evaluate distribution information on ribbon snakes in NH.

General Strategy:

NHFG will encourage volunteers of the reptile and amphibian reporting program to report observations of the species. Researchers conducting work in ribbon snake habitat will be encouraged to submit observations of species.

Political Location:

Statewide

Watershed Location:

Statewide

Use as indicator species

Objective:

Evaluate species suitability for inclusion in wetland condition assessments.

General Strategy:

Ribbon snakes are associated with freshwater wetlands and could be an appropriate indicator to include within wetland assessments.

Political Location:

Statewide

Watershed Location:

Statewide

References, Data Sources and Authors

Data Sources

Status and ranking information was taken from NatureServe (2015). New Hampshire RAARP and NH Wildlife Sightings records and Taylor (1993) were the primary source of locality records. Online museum collection databases (Museum of Comparative Zoology, Harvard and Yale Peabody Museum) were searched for historical records. Habitat and life history information was taken from published literature.

No data available to assess condition of ribbon snake populations. Threat assessments were conducted by a group of NHFG biologists (Michael Marchand, Brendan Clifford, Loren Valliere, Josh Megysey).

Data Quality

The distribution, habitat use, and condition of ribbon snake populations in New Hampshire are not well understood. This assessment was limited to those records that were included in museum collections, were found in scientific reports, were reported to NHFG by a trained expert, or that included a specimen or clear photograph. Trained observers will likely result in many new town records.

No data available to assess condition of ribbon snake populations.

2015 Authors:

Michael Marchand, NHFG

2005 Authors:

Kim A. Tuttle and M. N. Marchand, New Hampshire Fish and Game

Literature

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Appendix A: Reptiles

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