

New England Cottontail



New England cottontail



Photo credits: *Michael N. Marchand*

Scientific Name *Sylvilagus transitionalis*
(Bangs, 1895)

Family Name Leporidae
Rabbits and Hares

Did you know?

Due to the decline of over 80% of its range since the 1960s, the New England Cottontail is a candidate for Federal threatened or endangered status (US Fish and Wildlife Service 2004).

Summary

Protection Special Concern Species in New York State, candidate for listing federally.

This level of state protection means: 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 un

This level of federal protection means: this species is a candidate for listing.

Rarity G3, S1

A global rarity rank of G3 means: 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.

A state rarity rank of S1 means: Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology makes it especially vulnerable in New York State.

State Ranking Justification

New England cottontails have disappeared from many historical locations including Warren County, the Catskills, and Long Island. It was last documented in Rensselaer County in the 1960s (Benton and Atkinsin 1964). Recent surveys suggest that it continues to decline throughout its range due to forest maturation, habitat loss, habitat fragmentation, and competition with eastern cottontails (Litvaitis et al. 2006). In New York, it is now limited to a few fragmented populations in Columbia, Dutchess, Putnam, and Westchester counties. If current trends continue, the species will likely become extirpated in the state.

Conservation Issues

Threats

Changing habitat, fragmentation of forest lands, and competition with the eastern cottontail (*Sylvilagus floridanus*) have likely contributed to the decline of this species and remain as threats (Litvaitis 1993, Tash and Litvaitis 2007).

Management Considerations

If significant habitat characteristics are identified through research, identify potential habitat within the historic range of the species, modify this habitat to increase its suitability, and reintroduce New England cottontails to these locations (Litvaitis and Villafuerte 1996, Tash and Litvaitis 2007).

Research Needs

Comparisons of habitat within extant and historic sites are necessary to see if there are significant differences between the two that may have led to the decline of the New England cottontail (Tash and Litvaitis 2007).

Short Term Trends

The species was still found in Rensselaer County in the 1960s, but recent surveys suggest that it continues to decline and is now limited to a few fragmented populations in Columbia, Dutchess, Putnam, and Westchester counties (Litvaitis et al. 2006). If current trends continue, the species will likely become extirpated in New York State.

Long Term Trends

The historical record includes specimens from Warren County to the north, west of the Hudson River in the Catskills, and south to Long Island, but recent records from these locations are lacking. The current distribution is thought to be restricted to the east side of the Hudson River and includes fragmented populations in Columbia, Dutchess, Putnam, and Westchester counties. Recent evidence suggests that it continues to decline in these locations and it is thought that the species will become extirpated if current trends continue.

Habitat

The New England cottontail is an early-successional species, preferring open woods, disturbed areas, shrubby areas, thickets, and marshes (Hamilton and Whitaker 1979). Specimens collected in Rensselaer County in the 1960s were from second-growth hardwoods with hemlocks at elevations greater than 1000 feet, and scattered swampy areas with stands of spruce and conifer plantations (Benton and Atkinson 1964). Current populations in southeastern New York can be found in isolated habitat patches that have undergone some form of disturbance such as agricultural fields and edges, and occasionally, brushy edges of transportation corridors (Tash and Litvaitis 2007).

Associated Ecological Communities

Beech-maple Mesic Forest

A hardwood forest with sugar maple and American beech codominant. This is a broadly defined community type with several variants. These forests occur on moist, well-drained, usually acid soils. Common associates are yellow birch, white ash, hop hornbeam, and red maple.

Hemlock-northern Hardwood Forest

A mixed forest that typically occurs on middle to lower slopes of ravines, on cool, mid-elevation slopes, and on moist, well-drained sites at the margins of swamps. Eastern hemlock is present and is often the most abundant tree in the forest.

Sedge Meadow

A wet meadow community that has organic soils (muck or fibrous peat). Soils are permanently saturated and seasonally flooded. The dominant herbs must be members of the sedge family, typically of the genus *Carex*.

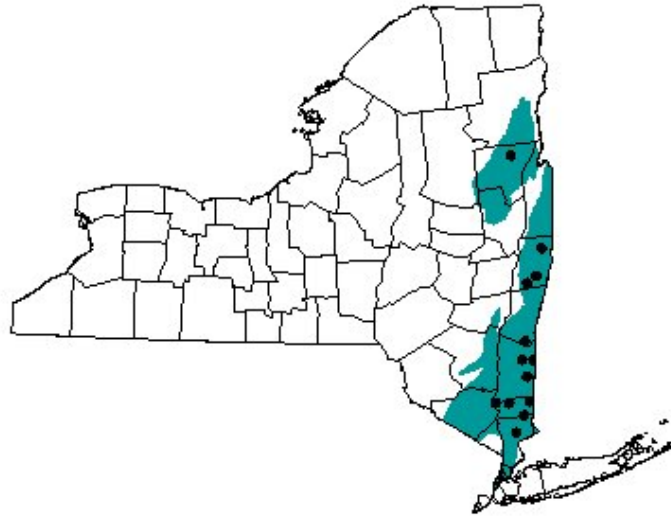
Other Probable Associated Communities

- Chestnut oak forest
- Red maple-hardwood swamp
- Shallow emergent marsh
- Spruce flats
- Spruce-fir swamp

Associated Species

Eastern Cottontail (*Sylvilagus floridanus*)

Range



The map shows the known locations for new england cottontail (black dots) based on the New York Natural Heritage Program database . A general approximation of the potential range (blue shading) throughout the state is based on the U.S. Forest Service Ecological Units (Keys et al. 1995).

Data Sources

- New York Natural Heritage Program (Natural Heritage Element Occurrences)
- NYS GIS Data Sharing Cooperative, simplified by NYS Department of Environmental Conservation, Habitat Inventory Unit (County Boundary for New York State)
- U.S. Department of Agriculture, Forest Service (Subregions of the conterminous United States)

Best Places to See

Southern Columbia County and northern Dutchess County

New York State Distribution

Various range maps show the former distribution including the southern tier counties, Catskills, and most of the eastern New York counties. Most records are old and actual specimens are known only from Suffolk, Warren, Nassau, Westchester, Rensselaer, and Schoharie counties. Recently, the New York State Department of Environmental Conservation Endangered Species Unit has conducted survey efforts (skull collection, live-trapping, fecal analysis) from potential counties of occurrence and has discovered extant populations in Columbia, Dutchess, Putnam, and Westchester counties (Litvaitis et al. 2006).

Global Distribution

The New England cottontail previously was widely distributed in New England, extending north to Rutland, Vermont, southern New Hampshire, southwestern Maine, and southwest through eastern New York. The range has been reduced and fragmented. Currently the species is restricted to boreal/montane regions in southwestern Maine, central and southern New Hampshire, perhaps extreme southern Vermont (Litvaitis 1993), Massachusetts (except southeastern part), northern Rhode Island, Connecticut, and New

York east of the Hudson River (Chapman et al. 1992). Remnant populations are apparently restricted to five regions: 1) seacoast region of southern Maine and New Hampshire, 2) Merrimack River Valley of New Hampshire, 3) a portion of Cape Cod, Massachusetts, 4) eastern Connecticut and Rhode Island, and 5) portions of western Connecticut, eastern New York, and southwestern Massachusetts (Litvaitis et al. 2006).

Identification Comments

Identifying Characteristics

The New England cottontail closely resembles the eastern cottontail (*Sylvilagus floridanus*), but it tends to be a little smaller and darker. The ears are shorter and rounder, with the outer edge possessing a broad, black stripe which does not blend gradually into the browner color of the ear as in the eastern cottontail. There is usually a black spot between the ears, as compared to the white spot found on the forehead of the eastern cottontail. (Chapman 1975, Godin 1977, Litvaitis et al. 1991)

Characteristics Most Useful for Identification

True identification can only be made through DNA analysis or skull characteristics (Hamilton and Whitaker 1979, Ruedas et al. 1989).

Behavior

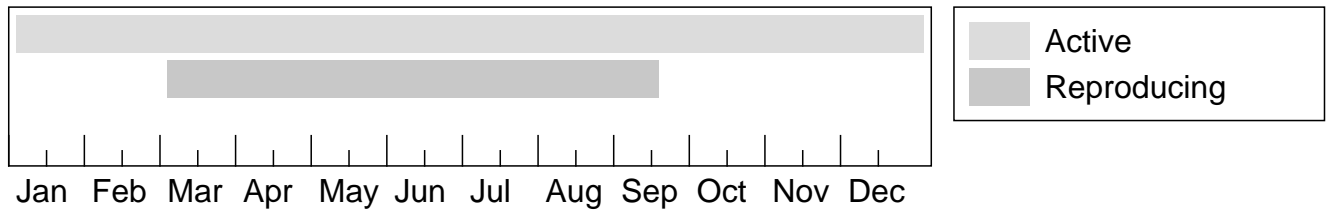
Breeding season is January to September, peaking from March to July. The gestation period is 28 days. Litter size is generally 3-5 or occasionally up to 8, with up to several litters per year. Litters are smaller but more numerous than in the eastern cottontail, resulting in about the same productivity. Most individuals first breed in their second season, but 18% of pregnancies are in juveniles. (Dalke 1942, Hamilton and Whitaker 1979)

Diet

In the spring and summer, New England cottontails feed on grasses and herbs including goldenrods, crab grass, and chickweed. In the fall and winter, their diet consists of seedlings, bark, twigs of gray birch, red maple, and aspen, and shrubs including blackberry, dewberry, and willow. (Dalke and Sime 1941)

The Best Time to See

New England Cottontails are most active at dawn and dusk. The breeding season is typically from March to September.



The time of year you would expect to find New England Cottontail in New York.

Similar Species

Eastern Cottontail (*Sylvilagus floridanus*): The eastern cottontail is lighter in color and typically has a white spot between the ears, whereas the New England cottontail is darker and typically has a dark spot between the ears.

Taxonomy

Kingdom Animalia

└ **Phylum** Craniata

└ **Class** Mammals (Mammalia)

└ **Order** Rabbits and Hares (Lagomorpha)

└ **Family** Leporidae (Rabbits and Hares)

Additional Resources

Links

Google Images

<http://images.google.com/images?q=SYLVILAGUS+TRANSITIONALIS>

NatureServe Explorer

<http://natureserve.org/explorer/servlet/NatureServe?searchName=SYLVILAGUS+TRANSITIONALIS>

References

- BENTON, A.H. AND T. ATKINSON. 1964. NOTES ON THE NEW ENGLAND COTTONTAIL IN EASTERN NEW YORK. N.Y. FISH GAME J. 11(2):154-156.
- Barbour, M. S., and J. A. Litvaitis. 1992. Niche dimensions of New England cottontails in a fragmented landscape. Abstract, 6th Annual Meeting of the Society for Conservation Biology, p. 36.
- Barbour, M. S., and J. A. Litvaitis. 1993. Niche dimensions of New England cottontails in relation to habitat patch size. *Oecologia* 95:321-327.
- Barry, R. E., M. Stevens-Sommer, and N. Bensley. 1996. Distribution, home range, and habitat of the New England cottontail (*SYLVILAGUS TRANSITIONALIS*) in western Maryland. Unpublished report, Maryland Natural Heritage Program.
- CONNOR, P.F. 1960. THE SMALL MAMMALS OF OTSEGO AND SCHOHARIE COUNTIES, NEW YORK. N.Y.S. MUSEUM AND SCIENCE SERVICE BULL. 382. 84 PP.

- CONNOR, P.F. 1971. THE MAMMALS OF LONG ISLAND, NEW YORK. N.Y.S. MUSEUM AND SCIENCE SERVICE BULL. 416. 78 PP.
- Chapman, J. A., et al. 1992. Systematics and biogeography of the New England cottontail, SYLVILAGUS TRANSITIONALIS (Bangs, 1895), with the description of a new species from the Appalachian Mountains. Proc. Biol. Soc. Washington 105(4):841-866.
- Chapman, J.A. and J.R. Stauffer, Jr. 1979. THE STATUS AND DISTRIBUTION OF THE NEW ENGLAND COTTONTAIL. P. 973-983. IN K. MYERS AND C.D. MACINNES (EDS). PROCEEDINGS OF THE WORLD LAGOMORPH CONF. 1979, GUELPH, ONTARIO. 983 P.
- Chapman, Joseph A. 1975. SYLVILAGUS TRANSITIONALIS, New England Cottontail. Mammalian Species 55:1-4.
- Dalke, P.D. 1942. The cottontail rabbits in Connecticut. Bull Conn. Geol. Nat. Hist. Surv. 65. 97 pp.
- Dalke, P.D., and P.R. Sime. 1941. Food habits of the eastern and New England cottontails. J. Wildl. Mgmt. 5:216-228.
- Eabry, S. 1983. THE NEW ENGLAND COTTONTAIL, SYLVILAGUS TRANSITIONALIS: AN ANNOTATED BIBLIOGRAPHY. PRIVATELY PRINTED 50 PP.
- Godin, A. J. 1977. Wild mammals of New England. Johns Hopkins University Press, Baltimore. 304 pp.
- Hall, E. Raymond. 1981. The Mammals of North America, Vols. I & II. John Wiley & Sons, New York, New York. 1181 pp.
- Hamilton, W. J., Jr., and J. O. Whitaker, Jr. 1979. Mammals of the eastern United States. Cornell Univ. Press, Ithaca, New York. 346 pp.
- Handley, C. O., Jr. 1991. Mammals. Pages 539-616 in K. Terwilliger, coordinator. Virginia's endangered species: proceedings of a symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.
- Johnston, J. E. 1972. Identification and distribution of cottontail rabbits in southern New England. Agricultural Experiment Station, University of Connecticut, Storrs, Connecticut. 48 pp.
- Keys, Jr.,J.; Carpenter, C.; Hooks, S.; Koenig, F.; McNab, W.H.; Russell, W.;Smith, M.L. 1995. Ecological units of the eastern United States - first approximation (cd-rom), Atlanta, GA: U.S. Department of Agriculture, Forest Service. GIS coverage in ARCINFO format, selected imagery, and map unit tables.
- Litvaitis, J. A. 1992. Historic land use and temporal patterns of diversity of forest wildlife. Abstract, 6th Annual Meeting of the Society for Conservation Biology, p. 87.
- Litvaitis, J. A. 1993. Status of the New England cottontail in the Lake Champlain drainage of Vermont. Final Report to the Nongame & Natural Heritage Program, Vermont Department of Fish and Wildlife, Waterbury, Vermont.
- Litvaitis, J. A., D. L. Verbyla, and M. K. Litvaitis. 1991. A field method to differentiate New England and eastern cottontails. Trans. Northeast Sec. Wildl. Soc. 48:11-14.
- Litvaitis, J. A., J. P. Tash, M. K. Litvaitis, M. N. Marchand, A. I. Kovach, and R. Innis. 2006. A range-wide survey to determine the current distribution of New England cottontails. Wildlife Society Bulletin 34: 1190-1197.
- Litvaitis, J.A. 1993. Response of early successional vertebrates to historic change in land use. Conservation Biology. 7(4):866-873.
- Litvaitis, J.A. and R. Villafuerte. 1996. Factors affecting the persistence of New England cottontail

metapopulations: the role of habitat management. *Wildlife Society Bulletin*. 24(4):686-693.

Litvaitis, M. K., J. A. Litvaitis, W.-J. Lee, and T. D. Kocher. 1997. Variation in the mitochondrial DNA of the SYLVILAGUS complex occupying the northeastern United States. *Canadian Journal of Zoology* 75:595-605.

NatureServe. 2005. NatureServe Central Databases. Arlington, Virginia. USA

New York State Department of Environmental Conservation. Checklist of the amphibians, reptiles, birds, and mammals of New York State, including their protective status. Nongame Unit, Wildlife Resources Center, Delmar, NY.

Nugent, R.F. 1968. Utilization of fall/winter habitat by the cottontail rabbits of northwestern Connecticut. Agricultural Experiment Station, University of Connecticut, Storrs, Connecticut. 34 pp.

Olmstead, D. L. 1970. Behavioral comparisons of two species of cottontails (SYLVILAGUS FLORIDANUS and SYLVILAGUS TRANSITIONALIS). *Trans. NE Sec., The Wildlife Soc.* 27:115-126.

Ruedas, L. A., R. C. Dowler, and E. Aita. 1989. Chromosomal variation in the New England cottontail, SYLVILAGUS TRANSITIONALIS. *J. Mamm.* 70:860-864.

Tash, J.P. and J.A. Litvaitis. 2007. Characteristics of occupied habitats and identification of sites for restoration and translocation of New England cottontail populations. *Biological Conservation*. 137(4):584-598.

US Fish and Wildlife Service. 2004. Endangered and threatened wildlife and plants; a 90-day finding on a petition to list the New England cottontail as threatened or endangered. *Federal Register*. 69(125):39395-39400.

New York Natural Heritage Program

625 Broadway, 5th Floor,
Albany, NY 12233-4757
Phone: (518) 402-8935
acris@nynhp.org

This project is made possible with funding from:

- New York State Department of Environmental Conservation Hudson River Estuary Program
- Division of Lands & Forests, Department of Environmental Conservation
- New York State Office of Parks, Recreation and Historic Preservation

Information for this guide was last updated on Feb 05, 2008