



# New England Cottontail

## *Sylvilagus transitionalis*

### Disappearing rabbit trick

Why would a rabbit, the epitome of prolific breeding, be considered for protection under the Endangered Species Act? The New England cottontail is in just this predicament. Its population numbers are declining. As recently as 1960, New England cottontails were found east of the Hudson River in New York, across all of Connecticut, Rhode Island and Massachusetts, north to southern Vermont and New Hampshire, and into southern Maine. Today, this rabbit's range has shrunk by more than 75 percent. Its numbers are so greatly diminished that it can no longer be found in Vermont and has been reduced to only five smaller populations throughout its historic range.

### Where the bunnies are

The New England cottontail prefers early successional forests, often called thickets, with thick and tangled vegetation. These young forests are generally less than 25 years old. Once large trees grow in a stand, the shrub layer tends to thin, creating habitat that the New England cottontail no longer finds suitable.

Active at dawn and at dusk or night, the New England cottontail feeds on grasses and plant leaves in spring and summer and eats bark and twigs in winter. Home ranges vary from one-half to 8 acres, with adult males having larger home ranges than females. Research has shown that New England cottontails on patches of habitat larger than 12 acres are healthier than those on patches less than 7 acres. Presumably, rabbits on small patches of habitat deplete their food supply sooner and have to eat lower quality food, or may need to search for food in areas where there is more risk of being killed by a predator.



Anne Brown

New England cottontail

### Why are their numbers declining?

Biologists believe the reduced extent of thicket habitat is the primary reason for the decline in numbers and range of New England cottontails. Prior to European settlement, New England cottontails were probably found along river valleys where floods and beavers created the disturbances needed to generate its preferred habitat. Forest insect outbreaks, large storms like hurricanes and ice storms, and wild fire also created disturbances in the forest that promoted thicket growth. During colonial times, much of the New England forest was cleared for agriculture and then subsequently abandoned during the early 1900s. This abandoned farmland allowed for a great deal of early successional habitats to develop. Today, these habitats are aging while others have been developed and are no longer suitable for the New England cottontail.

The introduction of exotic invasive species, such as multiflora rose, honeysuckle bush and autumn olive, in the last century has changed the type of habitat available to New England cottontails. These plants form the major component of many patches where cottontails can be found. It may be that stands dominated by non-native species do not provide rabbits with the food resources that native plant species do.

Today white-tailed deer are found in extremely high densities throughout the range of New England cottontails. Deer not only eat many of the same plants but also affect the structure and density of many understory plants that provide thicket habitat for New England cottontails.

### **Introduced competitor**

In the early 1900s until the 1960s, hunting clubs and some eastern states introduced another species of rabbit, the eastern cottontail, into New England. Eastern cottontails appear able to thrive in a greater variety of habitats than New England cottontails through its ability to detect predators sooner. This helps eastern cottontails forage more safely in relatively open cover, while New England cottontails risk predation whenever they leave the security of their dense thicket habitats. The slightly better ability to avoid predators enables eastern cottontails to live in more diverse habitats, such as fields, farms and forest edges, and they are gradually replacing New England cottontails in many habitat patches.

### **Identity is more than skin deep**

It is nearly impossible to distinguish a New England cottontail from an eastern cottontail by looking at them. The minor differences of ear length, body mass, and presence or absence of a black spot between the ears and a black line on the front of each ear are subtle enough to be missed and are not 100 percent accurate. Scientists used to rely on examining the rabbits' skulls for positive identification, but can now use DNA analysis of fecal pellets. Since rabbits drop fecal material all around their territory, the extracted DNA from pellets collected throughout the region can provide a picture of where the New England cottontail is found.

### **Helping the cottontail**

The New England cottontail is the subject of research and habitat management in New York and the New England states. Halting the decline of scrub and brushland habitat is paramount, as is identifying potential habitat free of competing eastern cottontail to which New England cottontails could be restored. The U.S. Fish and Wildlife Service shares the concern for the future of New England's only native cottontail. Working together, states and federal agencies may help improve the chances of survival for the New England cottontail.

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