



NEW ENGLAND COTTONTAIL NEWSLETTER

FALL 2025

Welcome to the New England Cottontail Newsletter! This publication was produced by members of the New England Cottontail Conservation Initiative. We formed in 2009 as a collaboration between state and federal natural resource agencies, non-governmental organizations, land trusts, universities, and private landowners, with a goal of conserving the New England cottontail throughout the species' current range. From conservation rearing, to research and monitoring, to creating habitat, we are working hard to make sure New England's native cottontail rabbit can thrive. In this edition, we will share with you work done by zoos and universities that contributes to carrying out the **Conservation Strategy for the New England Cottontail (*Sylvilagus transitionalis*)**.



New England cottontails from Patience Island are released onto the mainland to assist population recovery. / S. Dudek

Contents

- [Welcome](#)
- [What's for Dinner?](#)
- [A Visit to the Vet](#)
- [Life Under the Canopy](#)
- [Kits Niche](#)
- [Get Involved](#)



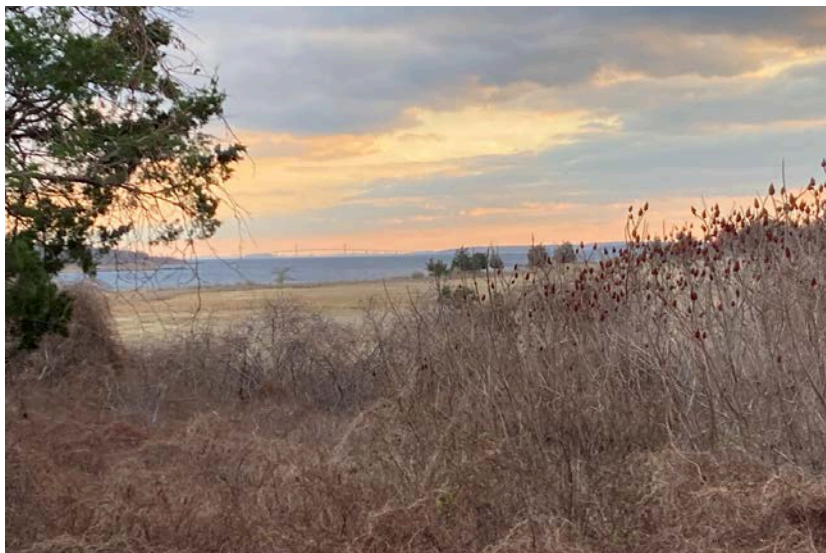


What's for Dinner? New England Cottontails Prefer to Feed on Native Plants

**T.J. McGreevy, Research Associate Professor
Director, Wildlife Genetics & Ecology Laboratory
Department of Natural Resources Science, University of Rhode Island**

Understanding the New England cottontail's diet is important for helping this regionally rare rabbit survive. The Wildlife Genetics Ecology Laboratory (WGEL) at the University of Rhode Island recently conducted a range-wide comparison of New England cottontail's and eastern cottontail's (*Sylvilagus floridanus*) diet to better understand what plants each species eats and if the two rabbits could potentially compete with each other in settings where food is limited.

The study found that both the native New England cottontail and invasive eastern cottontail had very similar diets and that both strongly preferred native to non-native plants. To expand on this research, members of the WGEL conducted a diet analysis of New England cottontails living on Patience Island, in Narragansett Bay, where conservationists established a breeding colony in 2012.



Patience Island provides a unique opportunity to study New England cottontail in the wild without competing interactions from eastern cottontails. / T. J. McGreevy



Wendy Finn at URI conducting plant nutritional analyses. / T. J. McGreevy

Researchers collected fecal samples on the island to determine what the New England cottontails were eating in a setting without competition from eastern cottontails, which are not found on Patience. Fecal pellets were sent to the Wildlife Habitat and Nutrition Laboratory at the University of Washington. The laboratory put traces of the fecal samples onto microscope slides and visually identified the kinds of plants the cottontails were eating.

Rabbits are known to feed on plants that are high in protein and energy. Our research team measured the total nitrogen (which converts into protein), energy, crude fat, fiber, minerals, and phenolic compounds in the island plants. We thought the cottontails would prefer plants with higher protein and energy values, but that was not the case. Instead, they fed on plants with higher values of ash (these values were obtained by burning the plant material and then weighing the minerals that remained) and phenolics, toxic or bad-tasting chemicals that plants produce to deter herbivores from eating them.





What's for Dinner? (continued)

We think the New England cottontail probably developed the ability to digest and eliminate the phenolics from their bodies by co-evolving with these plant species over thousands of years. Some of the native plants they ate were blackberry, wineberry, raspberry, and arrowwood viburnum. Our studies also showed that New England cottontails eat these and other native plants on the mainland.

We learned that New England cottontails consume a wide variety of plant species. When new sites are being considered for translocating rabbits or releasing cottontails bred in zoo-based programs, conservationists can check to see if enough native plants are in place to let New England cottontails thrive. Habitat managers can promote native plant species at release sites and on the two islands that host New England cottontail populations. The results of diet studies can also help zoo personnel decide which plants to offer to New England cottontails in the conservation breeding programs at the Roger Williams Park Zoo in Rhode Island and Queens Zoo in New York.



New England cottontail on Patience Island are continually monitored by research scientists to assess population health and study research needs.
/ T. J. McGreevy

Read the full research manuscripts that support this newsletter article here: [Plant constituent predictors in the winter diet selection of the imperiled New England Cottontail \(*Sylvilagus transitionalis*\) and High Similarity in Winter Diet between Imperiled New England Cottontail and Invasive Eastern Cottontail.](#)





A Visit to the Vet: The Veterinary Care of New England Cottontails at Roger Williams Park Zoo Protects the Species as a Whole

Abigail Thomas

DVM and MPH Candidate

Cummings School and School of Medicine, Tufts University

The breeding of New England cottontails in animal care facilities, such as the Queens Zoo and Roger Williams Park Zoo, gives biologists the opportunity to bolster population numbers while safeguarding genetic diversity for reintroductions into the wild. Veterinarians like Dr. Jessica Lovstad play a vital role in this effort by managing the health of rabbits in the breeding program at Roger Williams Park Zoo. These populations are especially essential now given the threat that Rabbit Hemorrhagic Disease Virus 2 (RHDV2) poses to this rare and declining species.

The New England cottontail is a medium sized rabbit that occupies habitat throughout New England and eastern New York. Its current range has been greatly reduced by habitat loss due to development, natural succession of forests, and competition from the invasive eastern cottontail. A new threat has been posed to this population by the introduction of RHDV2 to the western United States. While this disease has not been found in wild populations in New England, the low genetic diversity and population numbers of wild New England cottontail make them especially vulnerable to population decline from this disease.

One step towards reintroducing rabbits to nature involves a processing exam of juvenile rabbits born in human care. Under general anesthesia, Dr. Lovstad examined the newly weaned kits' physical state and checked for abnormalities. Then, to prepare the rabbits to enter the breeding program or be released, the kits have a microchip inserted and are given an ear tag which help with identification. They are also given a topical flea + tick medication and RHDV2 vaccines. All of these work together to help these rabbits survive in the wild and reproduce, while also introducing individuals to the population that have immunity to RHDV2— further bolstering the population's strength.

Recent research has indicated that New England cottontail populations are genetically similar in parts of their range which can put them at greater risk of extinction without intervention. So, researchers are monitoring the genome of the zoo population to improve the genetic diversity in the breeding population. This has a twofold effect, it improves the diversity that is being introduced which will increase the strength of fragmented populations and their resilience. As part of the kit processing exams, two biopsies are taken to be analyzed in two different research studies looking at the population's genetic diversity.



General anesthesia keeps the rabbit safe and stress-free during vet exams. / A. Thomas



A Visit to the Vet (continued)

At this time, the veterinary staff have not seen evidence of RHDV2 in the cottontails they have received from the wild. Still, there are important biosecurity measures in place to protect the breeding population. For instance, as there have been previous exposure events via hay, the staff age all their hay 90 days before it is fed. And before the emergency use authorization of the Medgene vaccine, they were importing the RHDV2 vaccine from France to protect their animals.

Breeding the New England cottontail in zoos is an essential part of the effort to protect New England's only native rabbit. In cooperation with the efforts of veterinary staff and wildlife biologists, there are actions you can take at home to protect the New England cottontails! If you are a domestic rabbit owner, you can contact your rabbit veterinarian to see if your rabbits can receive the RHDV2 vaccine. Also, if you observe multiple dead rabbits with no outward signs of trauma you can report the concern to your state wildlife agency, local veterinarian, or animal control officer. As always, ensuring biosecurity in your home can further protect domestic and wild rabbits.



To reduce stress of handling and to receive safe veterinary care, NEC are placed under anesthesia for their vet visits. / A. Thomas

References for this article include:

Fenderson, L. E., Kovach, A. I., Litvaitis, J. A., & Litvaitis, M. K. (2011b). Population genetic structure and history of fragmented remnant populations of the New England cottontail (*Sylvilagus transitionalis*). Conservation Genetics, 12(4), 943–958.



Life Under the Canopy

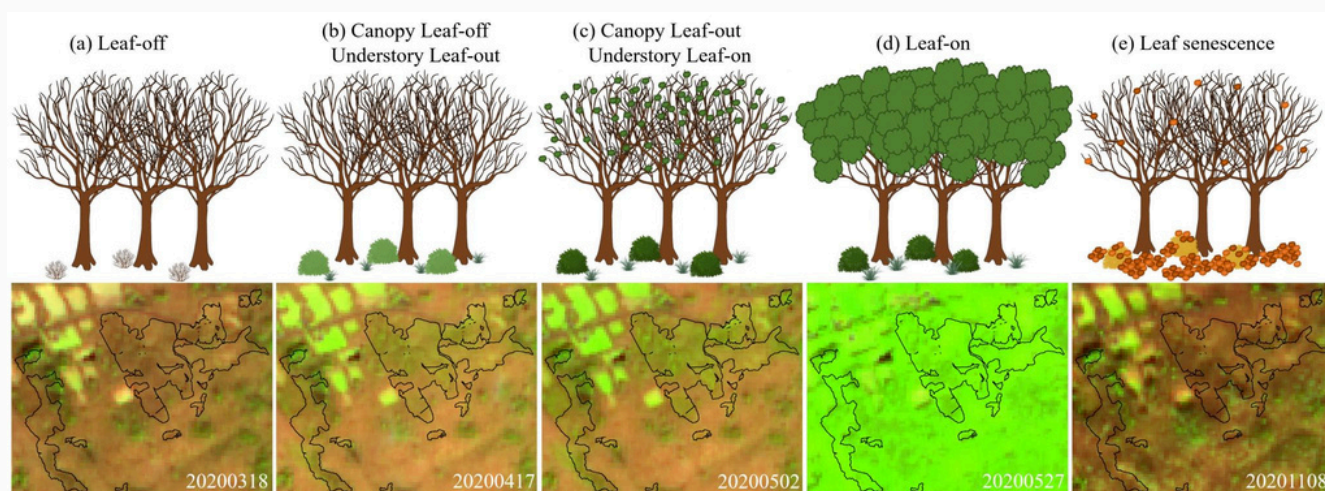
Adapted from a UConn Today story by Elaina Hancock
Research and Science Writer
University Communications, University of Connecticut

The forest understory, or what grows beneath taller trees, is a crucial part of the forest ecosystem. From providing food and cover for many kinds of wildlife to cycling nutrients, the understory plays many essential roles in a healthy forest.

One species that depends on certain understory habitats is the New England cottontail and Associate Professor in Residence Chadwick Rittenhouse, a researcher in the Department of Natural Resources and the Environment in University of Connecticut's (UConn) College of Agriculture, Health and Natural Resources was interested in locating areas that could support cottontails to monitor their dwindling populations. Curious about potential methods to track these habitats down, he spoke with Zhe Zhu, the director of UConn's Global Environmental Remote Sensing Laboratory, to see if remote sensing technologies could help.

Dr. Rittenhouse and Dr. Zhu used data from a Sentinel-2 satellite, nearly 500 miles above Earth's surface, to see what is happening beneath the tree canopy. The researchers chose data from a narrow observation window in the spring, after understory plants start greening up but before taller trees put out leaves that obscure the lower growth. "The plants in the understory grow earlier to get enough sunlight before the tree leaves close the canopy above," explains Zhu. Data collected through satellite were compared with field observations of test plots in the UConn Forest to ensure accuracy before being used to map all of Connecticut's understory species.

The research team's findings are reported in the journal *Remote Sensing of Environment*.

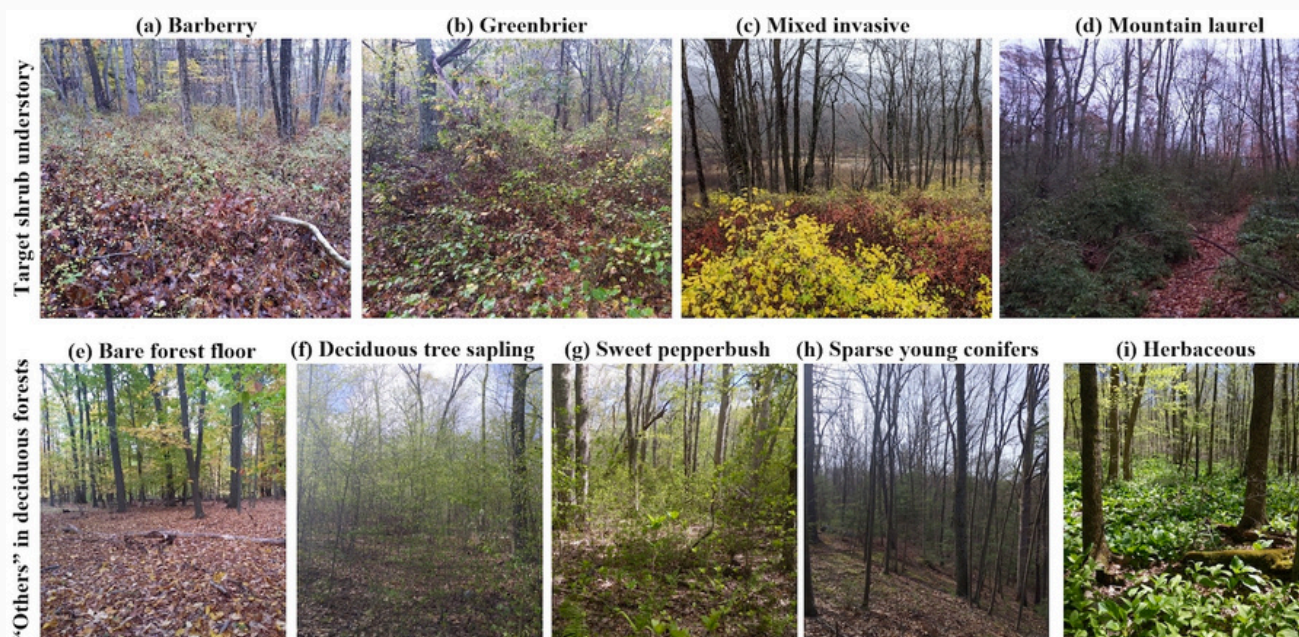


Using a narrow observation window between understory leaf-out and canopy leaf-on, researchers could use satellite imagery to map forest understory. / UConn



Life Under the Canopy (continued)

These satellite images also provided data across the electromagnetic spectrum that can be used to identify plant species. Rittenhouse and Zhu could distinguish plant species with an overall accuracy of 93 percent. They learned that around 53 percent of Connecticut's understory is now made up mainly of invasive plants such as Japanese barberry, Oriental bittersweet, burning bush, and multiflora rose. Native plants detected with satellite data included greenbrier and mountain laurel, two plants that New England cottontails use for food and cover.



Satellite imagery allowed researchers to remotely identify plant species with surprising accuracy which was then used to map species composition. / UConn

The researchers are thrilled with the results. "This is one of the largest understory species mapping activities ever in remote sensing history and I think there are a lot of things we can do with this kind of product, in addition to studying wildlife habitat," states Zhu.

The final maps can be accessed [interactively here](#).

Rittenhouse credits the success to the power of collaboration. "When you have this many people thinking deeply about a topic and trying to figure it out, it is a real benefit to have this wonderful collaboration that we have. I'm an ecologist by training, so I benefit tremendously from this collaboration and working with so many talented people who can do the things when I have an idea, and they figure out how to make it happen."

Collaborations with academic partners, such as UConn's understory mapping project, continue to increase our ecological and biological understanding of the New England cottontail, and are essential to the implementation of the [Conservation Strategy for the New England Cottontail](#).



Kits Niche

Pack Your Picnic Basket

Marianne Piché
Habitat Biologist
Massachusetts Division of Fisheries & Wildlife

Hi! You know me, I'm a New England cottontail. You may have noticed my ear tag. I have it because I was in the conservation breeding program at Roger Williams Park Zoo in Rhode Island for a while. Then I was brought back to where I was born in Sandwich, Massachusetts. Conservationists and researchers are looking into what kind of food we prefer. They already know we are herbivores (which means we only eat plants), but they want to get a better idea about the plants we like best. In What's for Dinner? researchers found that we like to eat native plants more than non-native plants, and we choose to eat twigs from blackberry, wineberry, raspberry, and arrowwood viburnum.

I am not the only type of herbivore! Other herbivores can eat different parts of plants. Can you choose the best match from the types of herbivores below for what my friends on the next page are saying about their food choices?



New England cottontail / MassWildlife

Type of Herbivore:

Folivore: feeds of leaves

Frugivore: consumes fruits

Granivore: eats seeds

Nectivore: drinks nectar

Palynivore: collects pollen

Xylophage: forages on wood



Kits Niche

Choose from the Type of Herbivore list on the previous page to finish what each animal is saying.

I'm a North American beaver. I eat the bark of trees and shrubs, especially aspen, birch, alder, and willow. I am a _____.



Beaver / MassWildlife

I'm an Arnassia miner. I specialize in collecting nectar and pollen to feed my young. We are _____.



Arnassia miner / MassWildlife

I'm a ruby-throated hummingbird. My long beak is an adaptation I use to reach into flowers to consume nectar. Hummingbirds are _____.



Ruby-throated Hummingbird / Cerrati

I'm a black bear. While preparing for hibernation, I eat a lot of berries that I find on shrubs in young forest habitat, so I can be called a _____.



Black Bear / MassWildlife

I'm a New Jersey tea inchworm. As a caterpillar I ate the leaves of New Jersey tea. As a caterpillar, I am a _____.



New Jersey Tea Inchworm / MassWildlife

I'm a red squirrel. We eat a lot of things, but most commonly forage on seeds especially conifer cones. So we are _____.



Red Squirrel / MassWildlife

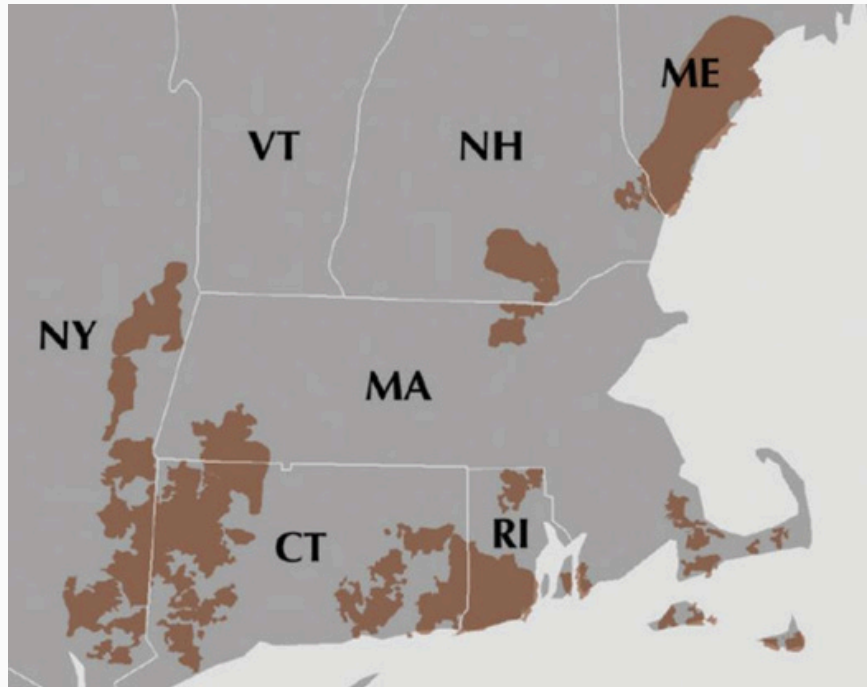
Answers:
Beaver: Xylophage
Black bear: Frugivore
NJ Tea Inchworm: Folivore
Arnassia miner: Palynivores
Ruby-throated hummingbird: Nectivores
Red squirrel: Granivores



Learn More and Join the Effort!

Visit our website explaining how we are working together for the New England cottontail:
youngforest.org/wildlife/new-england-cottontail

New England Cottontail Focal Areas



If you want to learn more about New England cottontail conservation efforts in your state's focal areas, refer to the contacts below:

State Wildlife Agencies:

Connecticut: deep.ctwildlife@ct.gov 860-424-3011	Massachusetts: Mass.Wildlife@mass.gov 508-389-6300
Maine: info.ifw@maine.gov 207-287-8000	New Hampshire: wildlife@wildlife.nh.gov 603-271-2461
New York: wildlife@dec.ny.gov 518-402-8883	Rhode Island: DEM.DFW@dem.ri.gov 401-789-0281

Funding Resources for Habitat Management on Private Lands:

US Fish and Wildlife Service Partners for Fish and Wildlife Program newengland@fws.gov 603-223-2541	US Department of Agriculture Natural Resources Conservation Service Environmental Quality Incentives Program www.nrcs.usda.gov
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