



NEW ENGLAND COTTONTAIL NEWSLETTER

SPRING 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 National Wildlife Refuges, conservation organizations, and zoos that contributes to carrying out the [Conservation Strategy for the New England Cottontail \(*Sylvilagus transitionalis*\)](#).



New England cottontails from Nomans Land Island were held in quarantine facilities to make sure they were disease-free before being released into the wild. / N. Poutiatine, USFWS



Contents

- [Welcome](#)
- [Nomans Land Island is a Bunny Paradise](#)
- [Paws on the Ground: How Detection Dogs are Mapping Hidden Cottontail Occupancy](#)
- [Breed Like Rabbits: Progress in New England Cottontail Conservation Breeding](#)
- [Kits Niche](#)
- [Get Involved](#)

Nomans Land Island is a Bunny Paradise

Bridget Macdonald
Public Affairs Specialist
U. S. Fish and Wildlife Service, Northeast Region

In September 2024, a team of biologists from the U.S. Fish and Wildlife Service, MassWildlife and New Hampshire Fish and Game boarded a 40-foot aluminum landing craft and headed to Nomans Land Island for a week. This was no pleasure cruise. They were there to assess a new population of New England cottontails that had been established on the island in 2019.

In 2011, biologists had surveyed several small islands off the coast of Massachusetts and Rhode Island to see if they had suitable habitat for New England cottontails. With plenty of dense thicket to provide shelter and food, Nomans Land, a national wildlife refuge, passed the test.



Biologists disembark onto Nomans Land Island to conduct a week of field work. / D. Drumme, USFWS



New England cottontails depend on dense vegetation for survival. Vegetation surveys are an important tool to determine that there is enough dense vegetation across the island. / D. Drumme, USFWS

After conducting an assessment to ensure there would be no negative environmental impacts, the Service coordinated with MassWildlife to release 13 New England cottontails — five females and eight males — on Nomans Land in May 2019. The Service released another 13 rabbits over the next two years. In 2022, they partnered with the University of New Hampshire to estimate how many New England cottontails were now on the island through surveillance with wildlife cameras and genetic analysis of droppings. The estimate was astonishing: 400 rabbits.

Nomans Land Island (continued)

While the reintroduction effort on Nomans Land is clearly working, biologists wanted to take a pulse check at the five-year mark: hence the expedition in September 2024.

First, they wanted to redo the habitat survey conducted in 2011 to see if there had been any significant changes to the landscape. They also wanted to collect more droppings for genetic analysis to determine if the population was still growing. The goal was to stabilize the number of rabbits at approximately 500. Finally, they wanted to catch some rabbits to move to suitable sites on the mainland that need new bunnies to boost their populations.

None of this was easy, in part because Nomans Land is full of natural and unnatural hazards. Because the island was formerly used by the Navy for aerial bombing practice, everyone on the trip was required to take unexploded ordnance training. The island is also difficult to navigate – covered with dense, thorny brush and poison ivy.

Despite these hazards, the team completed the vegetation survey and successfully trapped and transported 15 rabbits off the island. The cottontails were then released at Rachel Carson National Wildlife Refuge in Maine and Great Bay National Wildlife Refuge in New Hampshire.

Read the full story about the expedition to Nomans Land at: [Nomans Land Island NWR is bunny paradise](#)



A New England cottontail awaits transportation from Nomans Land Island to a mainland quarantine facility. / D. Drumme, USFWS



Island breeding colonies play an important role in the NEC conservation breeding program. / D. Drumme, USFWS

Paws on the Ground: How Detection Dogs are Mapping Hidden Cottontail Occupancy

Arden Blumenthal Conservation Dogs Program Coordinator New York - New Jersey Trail Conference

The New York-New Jersey Trail Conference Conservation Dogs Program (CDP) is conducting winter pellet surveys for New England cottontails (NEC) at Fahnestock State Park in New York's Hudson River Valley, bringing an innovative approach to monitoring this rare species. Through partnerships with NYS Department of Environmental Conservation and NYS Parks, the CDP is deploying three specially trained detection dogs to locate cottontail scat (fecal pellets) in challenging terrain.

The program's detection team includes Peat, a 4-year-old black Lab returning for his second NEC season, alongside new recruits Lettie, a 1.5-year-old black Lab, and Lady, a 5-year-old border collie mix. The dogs' exceptional olfactory capabilities offer several advantages for NEC surveys. Their ability to detect pellets by scent rather than sight lets them work efficiently in the dense mountain laurel understory that makes up the large contiguous habitat patch that NYS DEC is most interested in. Highly trained detection dogs can cover ground quickly, keep habitat disturbance at a minimum, and detect the targeted odor passively, without scratching or digging in the ground or interacting with wildlife. Unlike humans, the dogs are unbiased surveyors, following scent regardless of assumptions about the quality of habitat or difficulty of terrain.

Handler expertise is also crucial to the program's success. The handlers are trained to interpret their dogs' subtle behaviors while considering how environmental factors such as temperature, humidity, wind, and topography affect scent movement. This knowledge helps conservationists optimize search patterns and maintain survey efficiency. While navigating via GPS, dodging brittle branches, and walking carefully over ice-covered logs, handlers still prioritize their dogs' welfare above all. The dogs are outfitted with protective gear, including eyewear, bells, and brush guards for safely negotiating dense vegetation, and they benefit from targeted fitness programs, excellent nutrition, and food supplements to prepare them for the job.



Peat and his fellow conservation dogs introduce a new approach to surveying for rare rabbits. / A. Blumenthal



Protective gear helps keep the four-legged surveyors safe in dense thicket habitat. / A. Blumenthal

Paws on the Ground (continued)

Each dog underwent rigorous training in detecting cottontail pellets, beginning in controlled indoor settings where they completed 160-185 training repetitions using over 40 individual DNA-confirmed NEC samples provided by NYS DEC. The dogs then transferred their training to simulated field conditions, learning to locate sample pellets in natural habitat. Finally, the teams coordinated with NYS Parks to visit known NEC sites for in situ training opportunities, where they were rewarded for finding both lab-analyzed frozen pellet samples and fresh NEC pellets in real time.

This thorough approach and the program's effectiveness were demonstrated during the 2022-2023 pilot season, when Peat and his handler conducted surveys over 16 days. The team covered 768 acres, with Peat traveling 159 miles while his handler logged 41 miles on foot. This effort resulted in 21 samples collected; genetic analysis of these samples revealed that NEC occupied several habitat patches that biologists hadn't known about.

The 2024-2025 survey season is focusing on habitat patches near these recently discovered areas. To date, the team has completed 11 survey days for NYS DEC and will conduct up to 4 additional days for NYS Parks. The current season has already yielded 28 collected samples, with all samples undergoing genetic analysis to confirm whether they come from New England cottontails or from eastern cottontails, a nonnative rabbit species also found in the area.

The data collected will provide valuable insights about NEC distribution and habitat usage which will allow biologists and land managers to implement more effective conservation strategies. These strategies may include improving and creating habitat to let NEC disperse from the areas where they are born, which can potentially enhance genetic diversity within local populations.



Conservation dogs sniff out rabbit pellets across difficult terrain and dense vegetation. / A. Blumenthal



Handler Arden and canine partner Peat survey together for cottontail pellets across New York state parks. / A. Blumenthal

Breed Like Rabbits: A Breakthrough Year in New England Cottontail Conservation Breeding

Heidi Holman

NEC Population Work Group Chair

Wildlife Biologist, New Hampshire Fish and Game Department

The New England cottontail conservation breeding program at Roger Williams Park Zoo began in 2011, with Queens Zoo joining the effort in 2015 ([Zoos Saving Species](#)). In 2024, the program saw a major breakthrough. Breeding success improved, with all females bred, and a high number of kits born. Most notably, the survival rate of the kits reached nearly 76%, the highest ever recorded! To date, the zoo-based component of the conservation breeding program has produced 511 kits. Other aspects of the program, including outdoor breeding pens and island breeding colonies, have produced over 250 kits, resulting in over 761 kits available to be released into wild populations ([First Steps Toward New England Cottontail Recovery in Maine](#)) or moved within the conservation breeding program ([Establishing Island Breeding Colonies](#)). This success came as a result of a combination of trial and error, continuous improvements, and key lessons learned over the years.



Zoo-born New England cottontail kits augment wild populations or supplement the conservation breeding program. / Roger Williams Park Zoo



Zoo keepers process and prepare a batch of zoo-born New England cottontail kits before they are transported and released into a wild population. / Roger Williams Park Zoo

Key Factors Contributing to Success:

- **Mate Choice Studies:** Understanding female preferences helped guide pairings.
- **Hormone Assays:** Early detection of pregnancy enabled better management.
- **Larger Birthing Pens:** Provided better nest quality, reduced stress, and increased kit survival.

Breed Like Rabbits (continued)

Research at Roger Williams Park Zoo has focused on enhancing breeding productivity by studying the reproductive biology of the New England cottontail. Observations revealed that non-productive pairings rarely copulated, and there were significant differences in social behaviors between productive and non-productive pairings. This led to a mate choice experiment, where a female was introduced to three males, allowing her to interact with each male through both visual and olfactory contact. The number of times a female visited each male was a significant predictor of reproductive success (Rabbit Bachelorette).

In 2023 and 2024, mate choice trials conducted before the breeding season helped identify the pairings most likely to succeed. Females were more than twice as likely to breed with their most visited male compared to their least visited male. Ongoing research continues to focus on identifying successful pairings, detecting pregnancy non-invasively, and understanding the traits that contribute to reproductive success. This research not only benefits the breeding program but also offers insights for wild populations and the development of non-invasive monitoring tools for conservation efforts.



Zoo-born New England cottontail kits are released into the wild to augment existing populations across New England or added to conservation breeding programs. / Roger Williams Park Zoo

Kits Niche

Who's Been Here? The Secret World of Animal Tracks

Patricia Bishop

Academic Intern

Environmental Science & Policy, University of Southern Maine

Have you ever walked outside after a fresh snowfall and noticed footprints on the ground? Those are called tracks, and they tell us which animals have ventured past, even if we don't see them!

The New England cottontail shares its home with foxes, deer, owls, turkeys, and even tiny mice. Each animal has its own way of surviving. Some are predators, like foxes, that hunt for food. Others, like rabbits, need to be extra sneaky to stay safe. Even though some animals eat different things and have different habitat niches, they all live together in the same environment.

By looking at tracks, we can learn who was here, where they were going, and what they were doing! Some tracks show animals walking in straight lines, some hop like a bunny, and some leave behind a winding trail through the snowy woods.

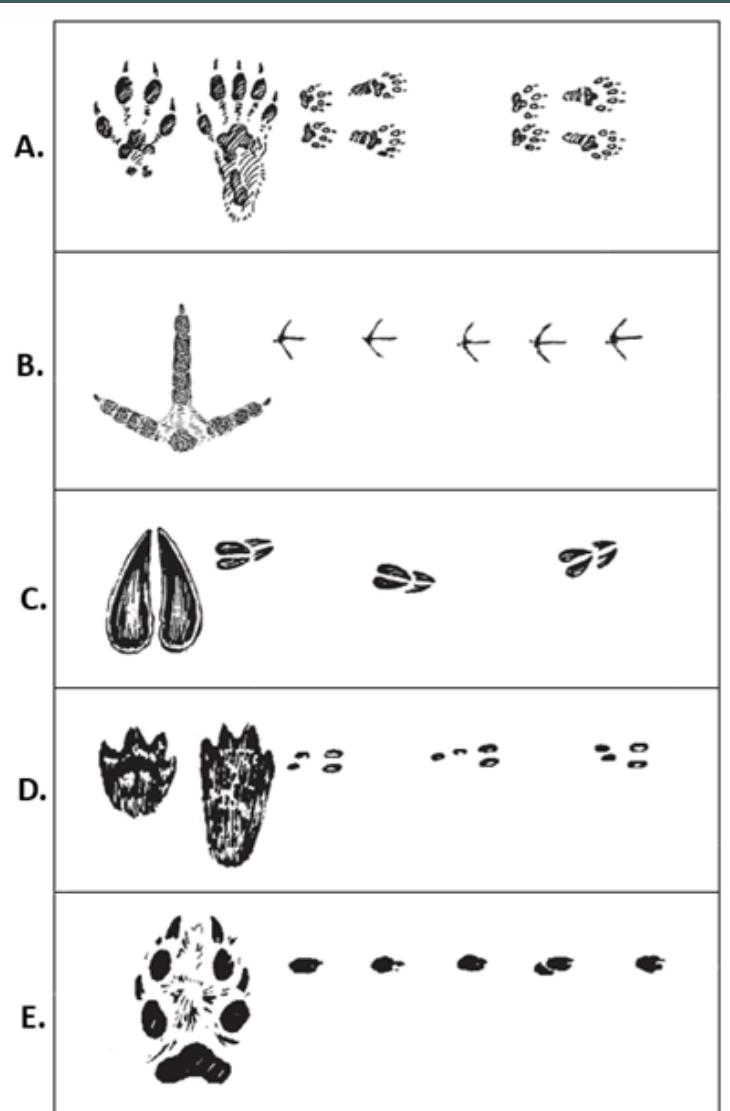


Wildlife tracks in snow. / USFWS

Kits Niche

Match the tracks!

Can you draw a line connecting each set of tracks to the animal who made them?



White-tailed deer



Red fox



Gray squirrel



Wild turkey



New England cottontail

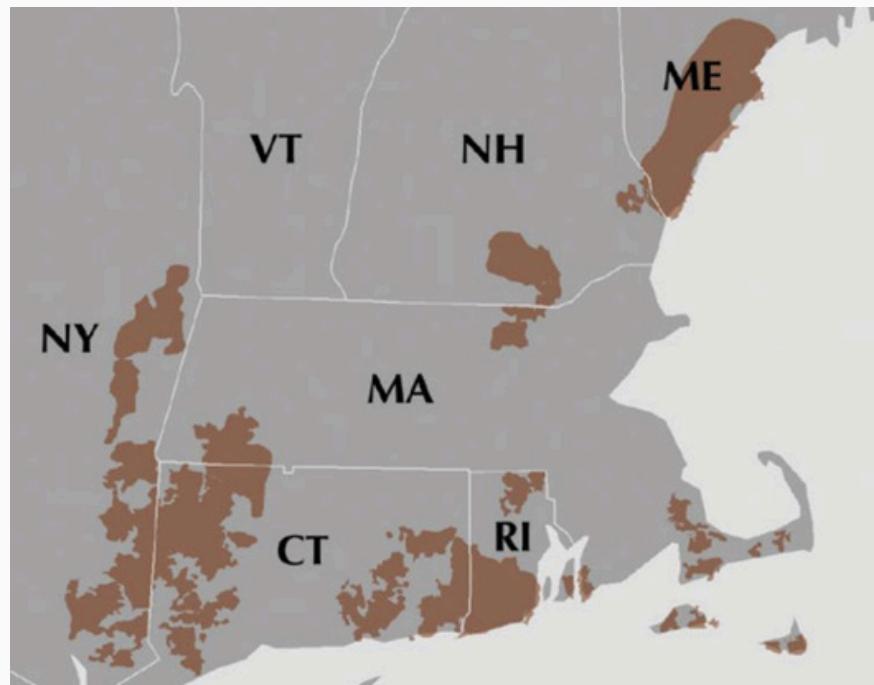
E. Red Fox
D. New England Cottontail
C. White-tailed Deer
B. Wild Turkey
A. Gray Squirrel

ANSWERS

Learn More and Join the Effort!

Visit our website explaining how we are working together for the New England cottontail:
<https://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

Maine: info.ifw@maine.gov

207-287-8000

New York: wildlife@dec.ny.gov

518-402-8883

Massachusetts: Mass.Wildlife@mass.gov

508-389-6300

New Hampshire: wildlife@wildlife.nh.gov

603-271-2461

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