



NEW ENGLAND COTTONTAIL NEWSLETTER

SPRING 2023

Welcome to the first edition of 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 captive 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 and future editions of our newsletter, we will share with you the work we do in carrying out the **Conservation Strategy for the New England Cottontail (*Sylvilagus transitionalis*)**.

Feel free to submit comments on our first issue. Please visit the link below to complete a quick survey:
www.surveymonkey.com/r/NECNEWS1



New England cottontails require dense thicket habitat to forage and hide from predators/USFWS

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Conservation Status

The New England cottontail (NEC) occurs in five New England states and eastern New York. This native rabbit is a "Species of Greatest Conservation Need" in all six states where it currently occurs. In Maine and New Hampshire, NEC are state endangered; in New York, they are state listed as special concern; and in Rhode Island, Connecticut, and Massachusetts, they are a "Species of Greatest Conservation Need" with no state listing status. They are not known to occur in Vermont.

The NEC was a candidate for federal Endangered Species Act listing from 2006 through 2015, when the U.S. Fish and Wildlife Service, due in part to the conservation actions carried out by partners in the NEC Initiative and a commitment to continue efforts to restore populations, determined that federal listing was not warranted at that time.

With coordination by the Wildlife Management Institute, a Technical Committee consisting of biologists from all six states, as well as professionals with the U.S. Fish and Wildlife Service and the U.S. Department of Agriculture's Natural Resources Conservation Service, continues to implement objectives in the Conservation Strategy.

The Technical Committee collaborates with many other conservation partners and oversees activities conducted by several work groups, including Research and Monitoring, Population Management, and Habitat Management. We meet monthly via conference call and in person once annually. This January, our annual meeting was held at Roger Williams Park Zoo in Rhode Island. Among the items in this edition of our newsletter, we have highlighted contributions made to New England cottontail conservation by partners in Rhode Island.

We hope you enjoy this spring edition of our newsletter and look forward to our next one in the fall.



Members of the New England Technical Committee from the 2023 annual meeting in Rhode Island on a field trip to Patience Island. Rhode Island biologists gave a tour of Patience Island to discuss the success of island breeding colonies/Petrullo and Ferreira



Zoos Saving Species: New England Cottontail Rabbit Breeding and Recovery Program

Lou Perrotti
Director of Conservation Programs
Roger Williams Park Zoo

The rare New England cottontail rabbit, a threatened species of native rabbit once abundant throughout the New England region, is getting much-needed help. As cottontail populations continued to diminish, the U.S. Fish and Wildlife Service, state fish and wildlife agencies, the USDA Natural Resources Conservation Service, private landowners, university researchers, and other partners acknowledged the need, urgency, and opportunity to conserve this at-risk species.

The New England cottontail became a candidate for listing under the federal Endangered Species Act in 2006, but thanks to conservation actions and continued commitment by state agencies and organizations, the Service determined in 2015 that listing was not warranted. An important part of this conservation commitment started in 2010, when biologists teamed up with Rhode Island's Roger Williams Park Zoo with the goal of restoring populations by breeding New England cottontails in captivity. Captive-bred rabbits would then be released in natural habitats throughout the species' range to create new populations and augment existing populations. By 2011, Roger Williams Park Zoo had dedicated the space, staff, and veterinary care for the breeding program and continues to provide the expertise to sustain a supply of healthy captive-born New England cottontail rabbits.

Partners in Massachusetts, Connecticut, Maine, New Hampshire, and New York continue to provide wild-captured adult cottontails for the breeding program. These are the "founder" rabbits that produce the offspring for reintroduction efforts and boosting populations in the wild.

Genetics testing performed at the University of Rhode Island confirms that the founders are indeed New England cottontails (rather than similar-appearing eastern cottontails, an introduced species also found in the region) before they are added to the breeding program. Founder rabbits are rotated every two to three years and released back to where they were originally captured and replaced with new animals.

To try to rebuild a species, we first needed to learn if we could keep healthy individuals in captivity, and we have found that we can. We've also learned that we can successfully breed wild rabbits in captivity and raise the young from birth through weaning.



The captive-breeding program at Roger Williams Park Zoo and Queens Zoo helps boost New England cottontail numbers in the wild/Roger Williams Park Zoo



Zoos Saving Species (continued)

This program has made promising progress toward boosting cottontail numbers while project partners continue to monitor wild populations and protect and restore habitat throughout the species' range. Joining with state and federal partners, Roger Williams Park Zoo helped form the New England Cottontail Captive Breeding Work Group as part of the New England Cottontail Conservation Initiative.

In 2015, the Queens Zoo, in New York, joined the captive breeding effort; together the two institutions have successfully bred, raised, and released hundreds of cottontails into their natural environment in Rhode Island, New Hampshire, and Maine.

Since little is known about the reproduction of New England cottontails in the wild, the zoos also work closely with university researchers and veterinarians to help us better understand the species, reduce stress, develop a physiological profile, and document all husbandry and reproductive information that we can. This information continues to guide our breeding and release protocols and helps us work to improve our annual output and survival of the released rabbits.

The Roger Williams Park Zoo, in conjunction with the Queens Zoo, received the Association of Zoos and Aquariums 2019 North American Conservation Award for their work on the New England Cottontail Rabbits Captive Breeding and Recovery Program. The award recognizes the outstanding work the two zoos have accomplished to help this rare and threatened native rabbit.



Roger Williams Park Zoo staff releasing a captive-bred New England cottontail into natural habitat to augment a wild population/Petrullo



Rhode Island biologist releasing a captive-bred New England cottontail into Great Swamp WMA/Petrullo



Establishing Island Breeding Colonies and Bringing the New England Cottontail Back to Rhode Island

Andrea Petrullo
Research Assistant
Wildlife Genetics and Ecology Lab, University of Rhode Island

By the early 2000s, New England cottontails (NEC) had declined throughout their native range, and their status in Rhode Island was particularly bleak. In 2009, there were only four known sites in the state occupied by these native rabbits. The last known naturally occurring population in Rhode Island was documented in 2014, but they have since died out on that site. To launch a comeback for the species, the biologists with the Rhode Island Department of Environmental Management (DEM) created an island breeding colony in 2012.

Patience Island is an uninhabited 207-acre island in the Upper Narragansett Bay. The dense, tangled plant growth that covers most of the island makes it ideal for rabbits. Between 2012 and 2018, captive-born juvenile NEC were released there. In 2016, DEM biologists began live-trapping rabbits on the island every winter and moving them to habitat specifically created for NEC in Great Swamp Wildlife Management Area in South Kingston, RI. Since then, nearly 130 Patience cottontails have been translocated to Great Swamp. Another 50 have been sent to Maine and New Hampshire to bolster populations in those states.



Island breeding colonies, like the one found on Patience Island in Rhode Island, play a vital role in New England cottontail conservation/Petrullo

In 2019, the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife teamed up to create a second island population of NEC on Nomans Land Island, a 628-acre island southwest of Martha's Vineyard. Nomans is a former US Navy bombing range that was designated a National Wildlife Refuge in the 1970s. This larger island has the potential to support as many as 600 cottontails.



Establishing Island Breeding Colonies (continued)

Island breeding colonies offer New England cottontails a chance to live in a safer, more sheltered version of the wild. On Patience, there are no bobcats, fishers, or foxes; the only potential predators are birds of prey, mink, and coyotes (which likely swam to Patience). Nomans has no mammalian predators at all. Patience is closed to small game hunting, and Nomans is off limits to the public.

Since both islands have no eastern cottontails, NEC do not face interspecies competition for food or territories, and there is no threat of hybridization with the introduced species. Both islands are protected, so habitat loss or fragmentation will not be an issue. Island rabbits may live longer lives and produce more surviving offspring than their mainland cousins. Despite their relative safety, island rabbits still need to learn valuable survival skills like predator avoidance, foraging for food, and sheltering from the elements.

Islands do have some drawbacks for wildlife researchers. They are difficult to access, especially during the winter when most rabbit fieldwork is conducted. In rough weather, Patience is inaccessible, which makes live-trapping problematic. Traps are left open overnight and must be checked the following morning, or we risk the lives of any animals we have caught. A harsh marine forecast can mean that a researcher must spend a chilly night on the island. Our partners on Nomans likely have all the same problems, plus the additional issue of unexploded ordinance from the island's past as a naval bombing range. Any human activity on Nomans is restricted to paths or other areas that have already been cleared.

Despite these difficulties, island breeding colonies have already played a key role in the NEC conservation efforts in Rhode Island. DNA testing on fecal pellets from Great Swamp WMA have verified the presence of recently released NEC and also the descendants of ones released in past years. RI DEM is currently evaluating more potential release sites throughout the state, and improving habitat on Dutch Island, also in Narragansett Bay, which will become another breeding colony within the next few years.



Islands provide a safer natural environment for New England cottontails to thrive. However, biologists' access to islands may take some extra planning/Petrullo



New England cottontails are periodically trapped on Patience Island and translocated to the mainland to augment populations/Petrullo



Asking and Answering Biological Questions

Sue Booth-Binczik, Ph. D.

Wildlife Diversity Biologist, New York State Department of Environmental Conservation
Chair, New England Cottontail Technical Committee Research and Monitoring Work Group

The Research and Monitoring Work Group (R&MWG) of the New England Cottontail (NEC) Technical Committee takes the lead on identifying biological questions that need to be answered for NEC conservation efforts to be successful and then pursues answers to those questions. The group also evaluates the success of conservation efforts by tracking the effects they're having on NEC populations. The R&MWG includes faculty and graduate students at several different universities, who work with state agency biologists to accomplish these tasks.

When the **Conservation Strategy for the New England Cottontail** was first written in 2012, it included a list of important questions that needed to be answered through research. Many studies have been conducted since then, and we have made significant progress toward answering most of those questions. We have also realized that there are other aspects of the species' biology that we don't understand as well as we should.

In the early years, we believed that NEC were very similar to the introduced eastern cottontails in many respects, such as how many young they have each year, but now it seems there may be some important differences we need to learn more about. So, in 2022 the R&MWG worked to update the **Conservation Strategy** with a new list of questions that need to be answered, taking out some that we've answered and adding others in areas where we realize we need more information. We also prioritized questions, identifying the ones we think are most important to answer as soon as possible. Now we have an up-to-date plan to guide research in the coming years, to help us conserve NEC more effectively.

The other big task the R&MWG tackled last year was to standardize the field methods for annual monitoring of NEC populations. Every winter, staff in all of the states with NEC conduct surveys at sites we believe are occupied, as well as new sites we hope might have NEC. We collect rabbit droppings, known as "scat or pellets," and send them to a lab for DNA analysis to find out whether they came from a NEC or an eastern cottontail. This lets us keep track of where NEC are living and whether their distribution is growing or shrinking.



Radio telemetry helps researchers answer biological questions about New England cottontails in the wild/USFWS



Biologists collect rabbit pellets during habitat surveys to determine New England cottontail occupancy/Petrullo



Asking and Answering Biological Questions (continued)

We also collect data on the plants growing at each site. Analyzing the plant data together with rabbit species identification lets us find relationships between them, which will help us understand what makes good NEC habitat and how we can manage habitat to help NEC outcompete eastern cottontails. However, people who work for different agencies are collecting data across such a large area, it's hard to make sure everyone is collecting and recording the data exactly the same way, and if they're not, the analyses will not be as useful. We decided which methods everyone should use and revised the field survey instructions to make sure there won't be any confusion in the future.

Our goals for this year are to begin research focused on answering top-priority questions, and continue to revise the annual monitoring field methods to make sure we're getting as much information as possible out of the data we're collecting. We will also look into splitting up the monitoring data from past years and analyzing it separately for different states, based on the methods that were being used at the time, to see if that will shed more light on some of the relationships we are exploring.

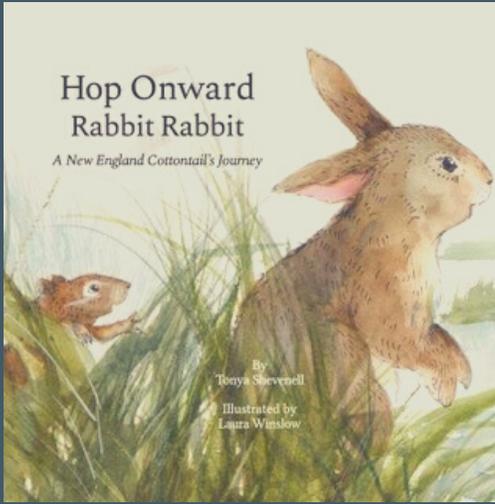
Look for updates on what we learn in future newsletters!

Kits Niche



New England cottontail kit in Maine author Tonya Shevenell's lawn/Shevenell

Kits, or kittens, are cottontail babies! Adult females are called does, and males are bucks. New England cottontail kits are born throughout the spring, summer, and even into early fall. The kit pictured here was born in July 2020 near the home of Maine author Tonya Shevenell. Throughout that year, she watched kits grow and learned about the efforts to conserve them. This inspired her to write *Hop Onward Rabbit Rabbit: A New England Cottontail's Journey*, illustrated by Laura Winslow. www.malibumaine.com

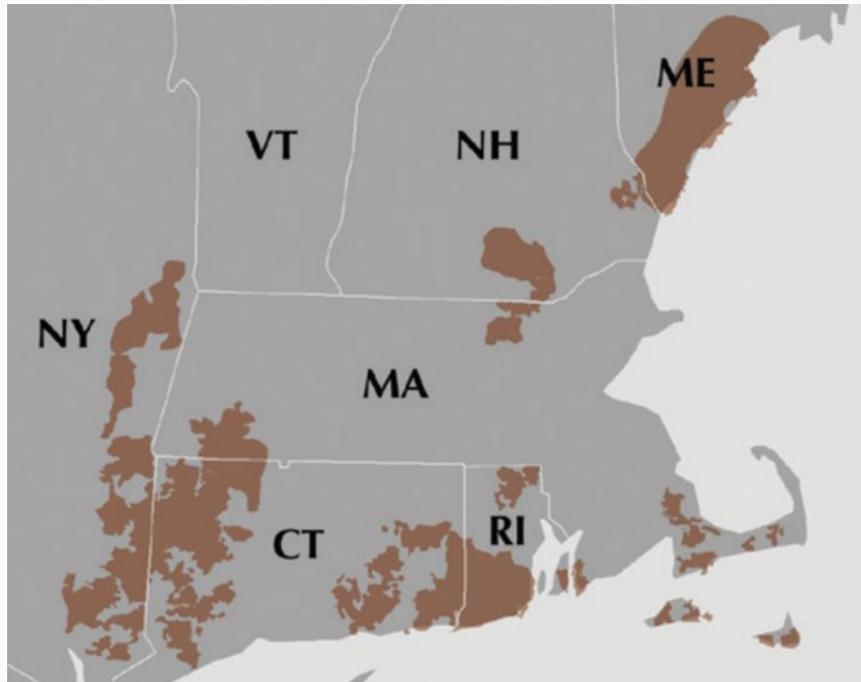


Check out this New England cottontail children's book with your kits at home!

Learn More and Join the Effort!

Visit our website explaining how we are working together for the New England cottontail:
www.newenglandcottontail.org

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:

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 Incentive Program

www.nrcs.usda.gov