

# WILDLINES

New Hampshire Fish and Game's quarterly newsletter of the Nongame and Endangered Wildlife Program



WINTER  
2019



## New Rearing Efforts Help Restore NEW ENGLAND COTTONTAIL

The first captive-bred New England cottontails, raised by Rhode Island's Roger Williams Park Zoo, were released into New Hampshire in 2013. Rather than releasing young, inexperienced rabbits directly into a shrubby thicket, the NH Fish and Game Department worked with the US Fish and Wildlife Service to build a holding pen at the Great Bay National Wildlife Refuge. This acre-sized pen serves as a predator-free space for young rabbits to practice

foraging for food, hiding for safety, and to put on weight.

"Most rabbits are radio-collared when released," explained NH Fish and Game Biologist Brett Ferry, "but they can't be collared until they reach a certain size."

Collars allow biologists to monitor mortality and track movement. Ferry and the team observed that most rabbits stick close to where they are released, and rarely move into different patches.

Last year, two additional pens, ranging from six to ten acres in size, were completed at the Great Bay National Wildlife Refuge to temporarily house rabbits and serve as breeding pens. "These were created to diversify the breeding effort, and to provide greater capacity for adding young cottontails to the landscape," said Ferry.

As part of a regional recovery effort for this state-endangered species,

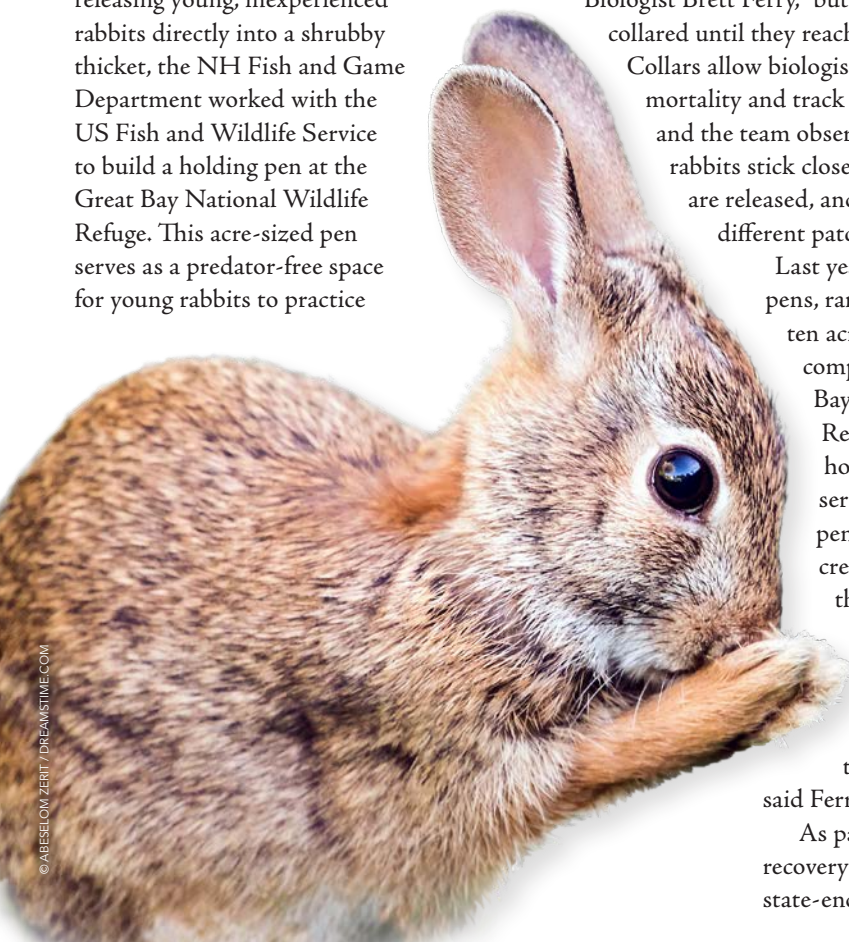
cottontails come to New Hampshire from three places: Patience Island, the Roger Williams Park Zoo in Rhode Island, and the Queens Zoo in New York.

"Patience Island in Narragansett Bay is a tremendous success story, where they first received captive-bred rabbits from the Roger Williams Park Zoo and established a colony on the island now stable enough to produce offspring for nearby states, including New Hampshire," reported Ferry.

From the Roger Williams Park Zoo and Queens Zoo in 2018, a total of 67 rabbits were transported north to be split between populations in Maine and New Hampshire – more than double the number received in previous years. "The zoos had their best season yet, with high rates of survival after birth," noted Ferry.

Biologists are interested to see how a more natural breeding scenario, similar to the one created in the new outdoor pens, compares with success rates of zoo-raised rabbits. Trapping has already begun within the breeding pen to determine the number of young produced this year. "We started the summer with four adult females and four males in the breeding pen, and we know there are at least two young hopping around in the brush, and there are likely more," said Ferry.

*COTTONTAILS continued on page 3*



© ABESLOW ZERT / DREAMSTIME.COM

Donate online at [wildnh.com/nongame](http://wildnh.com/nongame)



© 2019  
New Hampshire Fish  
and Game Department

Glenn Normandeau  
Executive Director

### WILDLINES

Michael Marchand, *Nongame and Endangered  
Wildlife Program Supervisor*

Loren Valliere, *Writer-Editor*

Victor Young, *Graphic Design*

Becky Johnson, *Copy Editor*

Cheryl Talon, *Data Manager*



603-271-2461  
WildNH.com



[/nhfishandgame](http://nhfishandgame)



WILDLINES is funded in part through  
the sale of Conservation License Plates.

[mooseplate.com](http://mooseplate.com)

## WHITE MOUNTAIN ARCTIC *(Oeneis melissa semidea)*



© GARRY KESSLER

*This very rare and specialized butterfly, with a delicate wingspan under two inches, is adapted to life above tree-line.*

**Status:** State Threatened.

**Description:** This mottled brown butterfly lives in the White Mountains alpine zone, a habitat so severe that it takes two years for the species to complete its life cycle. Larvae emerge from eggs in the summer, freeze under rocks and snow to overwinter, and then morph into adults by the following summer.

**Habitat:** Rocky, treeless mountain alpine which is home to the butterfly's high-elevation host plant, Bigelow's sedge.

**Threats:** The biggest threat to this butterfly and its habitat is climate change, along with related habitat fragmentation, acid rain and snow, and trampling from human recreational activities in the alpine zone.

**Conservation Actions:**

- When hiking and exploring, stay on marked trails and read posted signage.
- Never collect moths or butterflies from the wild.
- Report your sightings to [www.NHWildlifeSightings.org](http://www.NHWildlifeSightings.org).

## Moose Plate Dollars Fund

# AMERICAN MARTEN

When registering your car for the first time, or renewing a registration at your town office, don't forget to request a Moose Plate – a \$30 investment in your state's conservation and heritage. Allotted funds from the sale of conservation license plates, displaying the iconic moose, helped New Hampshire Fish and Game to investigate the American marten population (a Species of Greatest Conservation Need), and supported several other wildlife and habitat projects this year.

Biologists have been monitoring the

expansion of marten distribution over the past 20 years. The species inhabits the White Mountain National Forest and north to the Canadian border, but their population density and size are still largely unknown.

This long and slender brown weasel looks ordinary – often confused with a fisher or mink. Yet their most distinctive characteristic, a bright orange throat patch unique to each marten, is proving to be remarkably useful to biologists. Deploying motion-activated cameras, biologists are



## DNA Analysis Strengthens Wood Turtle Conservation

Surveys for wood turtles were completed in the fall of 2016 in an 11-state project that extended from New Hampshire's northernmost border south to Virginia. It was the first-ever attempt to develop a range-wide conservation strategy for this Species of Greatest Conservation Need. Since then, biologists have combed through the mountain of information collected to characterize the status of each state's turtle populations to develop a management plan for strategic recovery.

Researchers have worked diligently to identify genetic diversity across the known range of wood turtles, and assess whether or not a genetic sample from an individual turtle could be traced back to a particular stretch of river. The need for this portion of the analysis stems from illegal commercial collection of wood turtles, which continues to be a serious threat. A total of 1,895 wood turtle DNA samples were submitted for analysis and cataloging, with 200 of those submitted from New Hampshire.

"Throughout the region, there were four clusters of genetically similar turtles, with Maine and New Hampshire being part of the same cluster," explained NH Fish and Game Biologist Josh Megyesy. Wood turtles in New Hampshire, as well as those from Pennsylvania, appeared to be a genetic



© NHFG STAFF PHOTO

mixture of nearby populations, suggesting that turtles have maintained some ability to move between sites. "We observed that most wood turtles typically move within 300 meters (less than a quarter-mile) of their home stream," said Megyesy. "Related turtles were found about 30 miles apart, indicating much larger movements can, and do, occur." However, genetic analysis suggested some isolation of wood turtle populations had happened at sites in New Hampshire, as well as in Maine and Maryland.

The genetic analysis fortified the Northeast Wood Turtle Conservation Plan, which was finalized in 2018. Genetic distinctiveness and diversity were both

# MARTEN DETECTION

capturing photos of these throat patches to identify individual marten and document how many times they visit three different cameras set up within their home range.

Biologists are able to estimate the number of marten within the sampled area using a capture/recapture analysis. This information will be used to estimate the size of the marten population statewide. The Department completed a two-year effort to monitor marten using the cameras, and will work with the University of Massachusetts Amherst to sort through all

the photos and analyze the results.

If you have a moose on your plate, you've helped contribute to American marten conservation, as well as directly to other wildlife projects – and for that we thank you. Did you know that you can also give a Moose Plate gift certificate to a friend or relative? Visit [www.mooseplate.com](http://www.mooseplate.com) to learn more. 🦌



© JILLIAN COOPER / ISTOCKPHOTO.COM

*Deep, fluffy snow and spruce-fur forest are habitat conditions essential to the marten's survival.*

## ns on Plan

assessed when choosing priority sites for conservation actions. The plan is meant to be updated based on population-level and landscape-level changes, aided by a region-wide database to help biologists assess and monitor conditions at every wood turtle site. The database enables site-specific evaluation based on 17 categories, ranging from nesting habitat quality to the amount of recreational usage.

The plan suggests that future research should focus on invasive plants, major stream restoration projects, impacts from agricultural machinery, and how climate change affects stream temperature and dissolved oxygen levels.

Designating a facility to house confiscated illegally caught wood turtles until their origination can be determined is in future plans. Developing partnerships for turtle and stream conservation is one of many specific goals outlined, especially since directing various efforts to the highest priority areas will have the greatest conservation benefit. Although wood turtle declines have been documented for decades, and some threats seem irreversible, this eight-year project provided the first-ever regional wood turtle strategy, initiating range-wide conservation actions to protect these vulnerable populations. 🦥

### COTTONTAILS *continued from page 1*

A few rabbits will remain in the pens to produce young for next summer, but 27 were released into one of three seacoast sites. "From 2013 to 2018, more than 90 New England cottontails have been released into some of New Hampshire's highest quality shrub habitats," reported Ferry.

With the arrival of snow cover, biologists will visit these sites to collect rabbit pellets, which provide DNA, thus allowing individual rabbits to be tracked. "Pellet collection helps estimate survival for all rabbits,

including those not collared upon release," explained Ferry.

This monumental project continues to make strides toward restoring the state's only native cottontail, prompting two separate filming events this summer. Be on the lookout for the New England cottontail project on Animal Planet's *The Zoo* ([www.animalplanet.com/tv-shows/the-zoo](http://www.animalplanet.com/tv-shows/the-zoo)). PBS Nature will also be airing a documentary about the New England cottontail in 2019 ([www.pbs.org/wnet/nature](http://www.pbs.org/wnet/nature)).



New Hampshire  
Fish and Game Department  
11 Hazen Drive  
Concord, NH 03301

RETURN SERVICE REQUESTED

PRSR STD  
U.S. POSTAGE  
PAID  
CONCORD, NH  
PERMIT #1478

### JANUARY

- Have you seen a Common Redpoll at your feeder? This finch visits New Hampshire in winter on a quest to find its favorite food – birch seeds.



### FEBRUARY

- The beginning of mating season for the state-endangered and federally threatened Canada lynx is in February. Young lynx will spend their first year with their mother.


### MARCH

- Staghorn sumac (*Rhus typhina*) provides fruit through the winter and supplies early spring food for bluebirds, mockingbirds, and black-capped chickadees.

## Reducing the Negative Effects of Roads on Fish and Wildlife

As one of the most widespread threats to wildlife, the effects of roads on habitat connectivity and wildlife populations have gained national attention in recent years. In New Hampshire, a renewed group has assembled to reduce the effects of roads on the state's fish and wildlife, with a focus on protecting Species of Greatest Conservation Need.

The NH Fish and Game Department has collaborated with The Nature Conservancy to reconvene a Transportation and Wildlife Working Group. Strategy sessions have focused on identifying the most difficult areas for both land and aquatic species to successfully cross roadways. These hotspots will be the focus of targeted conservation actions.

To inform conservation actions, the team will share best management practices for road barrier mitigation, culvert and bridge design, fencing, and signage, and will serve as a resource for future projects. 



© BECCA S.

The recovery of a decimated population of Karner blue butterflies could not happen without a long-term plan that relies on enduring partnerships and years of on-the-ground restoration. As with all strategic wildlife projects, stable funding is critical, but not guaranteed. The Recovering America's Wildlife Act, which would dedicate \$1.3 billion annually to wildlife conservation without raising taxes, has reached more than 100 co-sponsors in the House of Representatives, with six Senate co-sponsors. New Hampshire continues to monitor the progress of this important legislation.

