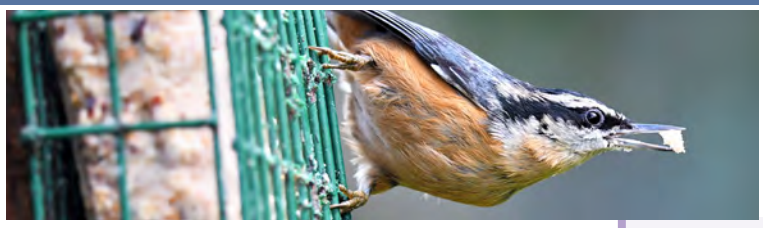
WILDLINES

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



WINTER 2025

YOUR MOOSE PLATE AT WORK

Helping to Conserve State-Endangered New England Cottontails

New England cottontail

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Purchasing a New Hampshire Conservation License Plate is a great way to support the state's natural, cultural, and historical resources. The Nongame and Endangered Wildlife Program relies heavily on "Moose Plate" revenues to help fund conservation projects for threatened and endangered species such as Blanding's turtles and New England cottontails.

New England cottontails are the state's only endangered rabbit, often confused with the non-native eastern cottontail. Native cottontails primarily inhabit the seacoast area and rely on dense patches of early successional forest and shrublands for reproduction, food, and refuge from predators.

"Habitat loss and conversion of land due to development, as well as the spread of non-native eastern cottontails, capable of outcompeting native species, are some of the greatest threats to New England cottontails," said Nongame Program Biologist Heidi Holman.

While protecting and enhancing habitat for New England cottontails is required to prevent the extirpation of the species in New Hampshire, another conservation strategy Holman has employed with marked success is population augmentation through conservation breeding. Monitoring efforts have shown that the release of captive-reared animals has been effective in New Hampshire.

"The seacoast population has grown from an estimated 100 cottontails to over 300," said Holman. "Adding to the existing population while protecting and managing their habitat are equally important contributors to this recovery effort."

The Nongame Program has collaborated with the U.S. Fish and Wildlife Service, several state agencies, and zoos to increase the number of cottontails for release through breeding and relocation. Breeding facilities include zoos and field sites at National

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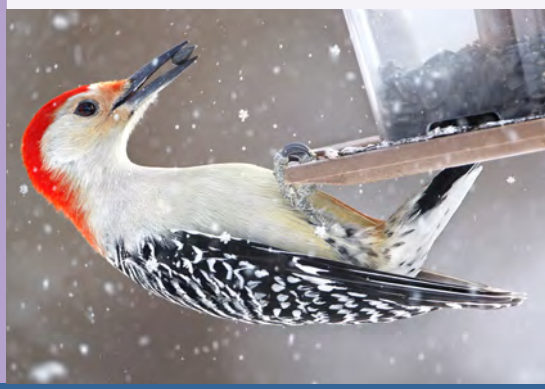
BIRDFEEDER 101

Winter is an excellent time to witness the quiet nature of your backyard, and for many people, birdfeeders are a popular way to experience wildlife. Birds, however, do not typically depend solely on feeders to survive the winter. If you choose to use a bird feeder, remember to clean it regularly to reduce the spread of diseases. It is important to recognize that all animals, including mischievous squirrels, might appreciate a tasty snack at your feeder, especially when food sources are limited. Bears will also take advantage of a free buffet, which is why NH Fish and Game recommends taking down feeders by April 1 as bears begin to awake from hibernation.

Erecting birdhouses for specific species is another way to support your local wildlife, and heated bird baths are a special treat, too. Planning your spring garden to include plants that support wildlife also encourages foragers in your area.



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SPOTLIGHT

ON SPECIES OF GREATEST CONSERVATION NEED

TRICOLORED BAT

(*Perimyotis subflavus*)

© TIM KRYNAK USFWS

One of North America's smallest, the tricolored bat was aptly named for its tricolored fur that is dark, light, then dark at the tip. It has been proposed that this state-endangered bat also be listed as endangered under the Federal Endangered Species Act due to population declines resulting from white-nose syndrome (WNS). In winter, these rare insectivores hibernate in caves or mines with stable temperatures. In spring they will emerge and roost in deciduous trees, feeding at night on insects. Females will eventually give birth to one or two pups by June.

Habitat: Forests, caves, mines, open-water areas, barns, and other structures.

Threats:

- Mortality and reduced wellness from WNS.
- Disturbance from humans exploring bat hibernacula in the winter, potentially arousing bats that must conserve stored fat and energy to survive.
- Conversion and degradation of summer roosting and foraging habitats.

Conservation Actions:

- Prevent disturbances to hibernating bats through education and bat-friendly gates.
- Conserve priority habitats.
- Biologist will continue to monitor bats in hibernacula and summer habitats.

COLD-BLOODE

Cold-blooded animals, or ectotherms, such as reptiles and amphibians do not actually have "cold blood." Instead, these creatures, also known as herpetofauna or "herps," do not generate their own body heat like humans and other endothermic mammals. Herps rely on their environment to warm their bodies, mainly from the sun and the ambient temperature.

Herps cannot survive New Hampshire's winter temperatures without a strategy. Unlike mammals, they lack insulating fur, stored fat, and the internal furnace of their own metabolism to keep them warm. While some mammals do truly hibernate, most will continue some level of activity throughout the winter. Herps typically must take cover in the ground or underwater. Wood frogs, however, freeze almost solid in the winter and then thaw out and reanimate in the spring. They accomplish this feat by producing an "antifreeze" made of a glucose solution to protect their cells from ice crystal damage. The majority of the state's other frogs and salamanders burrow into mud or find small underground tunnels to avoid the frigid air.

Whether it's under the ice or underground, New Hampshire's herps may be just under your feet riding out the winter.

Most turtles hibernate, or brumate, in the water where temperatures are mainly consistent. During their dormancy, turtles slow down their vital systems and are able to absorb oxygen out of the water through specialized tissues in their mouth and cloaca, sometimes referred to as "butt breathing." Turtles incur an oxygen debt, however, because their blood and tissues build up lactic acid with the lack of oxygen, but compounds in their shells circulate in their bloodstream to reduce the acidity and keep them alive.

Snakes prefer to overwinter in burrows, rock crevices, or other subterranean dens. Timber rattlesnakes and northern black racers will often den communally in rock crevices or piles where they can find stable, above-freezing temperatures. Some snakes, such as milk snakes, will even hibernate in basements and are sometimes observed in older homes that have stone foundations. In autumn, you might find them "squatting" in an old basement where they are very happy to feed on mice.

Whether it's under the ice or

© ROYAL ONTARIO MUSEUM

Frozen wood frog

D WILDLIFE IN WINTER

Milk snake

Milk snakes can sometimes be found in basements during winter. When winter sets in a turtle will settle in a spot at the bottom of a stream, pond, or wetland. Their metabolism slows, but the turtle remains alert enough to detect changing light levels and warming temperatures. Reports of turtles swimming through the water underneath a layer of ice are not uncommon.

Common snapping turtle

underground, New Hampshire's herps may be just under your feet riding out the winter. To learn more about our fascinating reptiles and amphibians, visit ***wildlife.nh.gov/wildlife-and-habitat/nongame-and-endangered-species/reptiles-and-amphibians-new-hampshire.***

MONITORING MONARCH MIGRATION

For the past 4 years, the Nongame Program has been collaborating with NH Audubon to install data-receiving towers as part of the Motus Wildlife Tracking System (Motus) to follow the migration of birds, bats, and insects. These towers were constructed across New England to create a "fence line" to detect miniature transmitters on tagged animals as they fly by. This system provides data on movement, speed, and location as individual animals travel through different lines. NH Audubon has been tagging monarch butterflies for 3 years; monarch butterflies are listed as a species of greatest conservation need (SGCN). The information gathered from these towers could be valuable for assessing and conserving connected migratory pathways.

Tracking butterfly movement can help identify valuable habitats, food sources, and migration patterns, allowing scientists to focus their conservation efforts. Preliminary data from Motus towers indicates that monarchs travel along consistent routes in their migration, often stopping at the same locations each year. Multiple butterflies that left the Great Bay area in fall were detected in the Jamaica Bay Refuge on Staten Island and the Blackwater National Wildlife Refuge in Maryland. Exciting Motus data shows that some monarchs sustained a 40-mile-per-day pace for their entire 500-mile journey, and one butterfly flew an astounding 100 miles in a single day. Many "layover sites" are in large grasslands or wetlands, at least 500 acres in size, which is crucial information for biologists striving to conserve monarch habitat and food sources used during migration.

WINTER
Wildlife Almanac

JANUARY

• Eastern painted turtle hatchlings emerge from their eggs, but remain 3–4 inches underground in sandy soils where they overwinter. By January, they have gone through a physiological change that allows them to survive freezing tempuratures in their nest chambers, waiting to resurface in the spring.

FEBRUARY

• Porcupines forage primarily on conifer twigs and bark, preferring tender hemlock. If you notice scattered twigs bellow a hemlock tree that have been snipped off at a 45-degree angle, there may be a porcupine overhead.

MARCH

• Northern saw-whet owls begin their breeding season in New Hampshire. The male breeding call is often heard at night in March as a series of high "*too-too-too*" sounds, which may continue for extended periods. Once paired with a female, the duo will nest in a tree cavity.

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Wildlife Refuges and offshore islands where key predators are not present. A record number of rabbits were produced from this effort in 2024 due to high kit survival in captivity and moving animals from the island breeding colonies to the newly created habitats across the region.

Early successional forest is a necessary component on the landscape for cottontail populations to persist, but maintaining that habitat takes planning, funding, and dedicated staff time. The Nongame Program is always looking for landowners who are willing to manage their land to benefit New England cottontails by making "patch" cuts in their forests to encourage young forest regeneration. Currently, the program also partners with towns, the Southeast Land Trust (SELT), and the Natural Resources Conservation Service (NRCS) to identify and help fund crucial habitat management and land protection. Your Moose Plate purchase, and your donation to the Nongame Program, make much of this work possible.

To learn more about the Moose Plate Program and how it benefits the Nongame Program, visit ***mooseplate.com/recipient-agencies/nh-dept-of-fish-game***.

MEMORIAL DONATIONS

to the **Nongame and Endangered Wildlife Program**

Donating a gift to conservation in memory of a loved one is a lasting way to commemorate their life and advance the mission of protecting New Hampshire's wildlife. The NH Fish and Game Department recognizes with gratitude the following individuals, their families, and friends, for helping to leave behind a conservation legacy for future generations:

• ***William Kelley*** was born and raised in New Hampshire. He shared a love of fishing and spending time up north with his wife and best friend, Claudette Kelley. In lieu of flowers, Kelley's beloved family asked others to honor his memory by supporting NH Fish and Game.

• ***Ted Walski*** was an invaluable member of NH Fish and Game for over 47 years. Retiring at age 76, He was a dedicated wildlife biologist who earned numerous achievements throughout his career. Walski successfully reintroduced wild turkey populations to New Hampshire, a feat that many people can appreciate from their own backyards. Walski also researched snowshoe hares and New England cottontails. Despite his vast achievements, Walski was most revered for his generosity, colorful personality, and dedication to wildlife.

• ***Katherine (Katy) Burns*** was an avid journalist, traveler, and advocate of Bow, NH. Burns was an award-winning journalist who spent her career as a reporter, editor, and columnist for numerous publications including *The Concord Monitor, The Cleveland Press*, and *New Hampshire Magazine*. Burns is survived by many loved ones including her husband, Don Burns, with whom she shared a love of camping and traveling.

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