

WILDLINES

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



COMMUNITY TRAINING GETS RESULTS

Six New Hampshire towns collaborated with natural resource professionals to complete conservation projects earlier this year.

Representatives from Amherst, Atkinson, Candia, Durham, Claremont, and Thornton participated in the first-ever Community Conservation Cohort, facilitated by the Taking Action for Wildlife Team, which provides support to communities, conservation groups, and individuals in the state on conservation initiatives. Twenty participants from the towns' conservation commissions engaged virtually to learn, share ideas, plan, and then execute their individual conservation projects.

"Most of the towns produced long-term plans through this process, even though the particular projects they chose to work on were slated to be completed within a few months," said Amanda Stone, The University of New Hampshire Cooperative Extension's State Specialist in Natural Resources and Conservation. Completed projects included the following.



The town of Claremont hosted a pollinator garden planting, one of the projects that conservation commissions around New Hampshire developed and implemented.

♦ Claremont launched a successful series of events hosting speakers from around the state to educate their residents and others about wildlife, habitat, and climate change, with the goal of fostering support and interest in conservation through each event.

♦ Durham focused their efforts on determining what animals were moving and where by organizing a public Wildlife Watch event for the community to document wildlife and join conservation efforts.

♦ The town of Thornton focused on the habitat surrounding the Pemigewasset River, engaging local partners and encouraging community members to become informed and active in protecting this vital resource.

♦ Candia identified needs at their locally owned properties, including increased signage and information on wildlife habitats. They successfully loaded existing trail maps onto the Trail Finder app so that people could get outside and enjoy these

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Partnerships, Mysteries, and Challenges for PLOVERS

Endangered piping plovers returned again this year to New Hampshire to nest within the pockets of grassy dunes on Hampton and Seabrook Beaches. “Seabrook had six nests and Hampton had seven, putting us at a record nesting year in New Hampshire,” reported NH Fish and Game Piping Plover Monitor Christian Robinson. However, plovers experienced a number of parental difficulties on both beaches, raising only 13 fledglings out of the 47 chicks that hatched.

“This season we had people accidentally step on four young plovers and move one,” explained Robinson. “Bigger issues included intense heat waves, wind storms, and heavy rain, which posed challenges to survival for juvenile plovers, while fox predation and unleashed dogs caused other problems.” Robinson is especially thankful for the volunteer base of about 20 individuals who worked to help protect plovers on the busy beaches.

One interesting interaction occurred between plover chicks and a family of common eiders. Eiders are not typically seen on sandy beaches and are not known to be predators of plovers. However, one of the eiders was observed chasing an adult plover and, although no plovers were observed to be predated, one plover chick had disappeared following the encounter. Robinson also

witnessed a drone fly over Hampton Beach that prompted ten plover adults to launch defense responses to protect their young. “Adult plovers swarmed the drone leaving their eggs and chicks vulnerable to people and predators and unprotected from the sun and extremely warm temperatures,” reported Robinson. “Drones continue to create increasing problems for wildlife, especially birds.”

Uncharacteristically high tides in May resulted in two nests being flooded. When this happens, the eggs usually become unviable because they get too cold from the water and the birds then abandon the nest, often re-trying elsewhere. However, biologists observed that both of these nests still successfully hatched three out of four eggs. “This was interesting because it demonstrates just

how resilient the adults are during incubation and that they do everything they can to stay on their nest,” said Robinson.

Hampton’s weekly fireworks posed another challenge to the nesting success of plovers. Together with area partners, NH Fish and Game developed strategies to reduce disturbance which included recommendations to change the fireworks launching schedule and to prevent crowds from getting too close to the plover nests or groups of chicks.

Every year, the success of conserving this endangered species is rooted in the cooperation of many partners, and 2021 was no exception. Fish and Game’s Nongame and Endangered Wildlife Program coordinates this crucial effort along with the US Fish and Wildlife Service, the New Hampshire Department of Natural and Cultural Resources, the Towns of Hampton and Seabrook, volunteers, local residents, and beach visitors. 🐦



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Searching for a **THREATENED DRAGONFLY**



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The ringed boghaunter is a black and yellow-orange banded dragonfly that measures just over one inch in length. It is one of the rarest dragonflies in North America. Most of its population occurs in suitable wetlands among developed areas from Maine to Connecticut, where it is listed as threatened or endangered in each state. The insect's restricted range, specialized habitat of bogs and wetlands dominated by sphagnum moss, and historic loss of peripheral populations (like those in New York and New Jersey) have increased its need for protection.

The first statewide systematic survey for dragonflies took place from 2007 to 2011. This baseline data allowed biologists to measure changes in the abundance and the distribution of dragonflies in New Hampshire. In 2021, NH Audubon Biologist Pamela Hunt set out to revisit sites where ringed boghaunters were documented in previous years, as well as to survey additional suitable areas. She and others conducted the surveys from late April to early June when boghaunters are active, making them one of the earliest dragonflies to appear on the landscape.

Surveyors explored suitable wetlands and searched for adults or their exuvia, which are the cast-off outer skins left behind after dragonfly larvae molt into adults. However, a boghaunter's exuvia is just one centimeter in length, making it difficult to find.

"Out of 12 known sites surveyed, boghaunters were found at six," reported Hunt. "Did they show up early, late, or is the

ONLINE REPORTING AVAILABLE FOR SICK SONGBIRDS

The Nongame and Endangered Wildlife Program is actively monitoring the spread of an unidentified illness affecting wild birds. Bluejays, starlings, cardinals, robins, and grackles are among the species reported ill. The symptoms appear to be neurological, with birds becoming disoriented and acting strangely, often accompanied by swollen or crusty eyes.

Thousands of reports of ill or deceased birds have come from ten U.S. states, including New Jersey and Pennsylvania. Although there haven't been verified cases identified in New Hampshire, a number of sick and dying birds have been reported to NH Fish and Game, including some that show symptoms of the illness. Following a national wildlife health report from the U.S. Geological Survey National Wildlife Health Center, state wildlife agencies across the East Coast urged observers to watch for these symptoms, take down bird feeders, and disinfect bird baths (using a 10% bleach solution) until more information became available.


The NH Fish and Game Department is collaborating with the University of New Hampshire's Veterinary Diagnostic Laboratory and other partners to track reports of this emergent bird illness in the state and conduct diagnostic testing. Anyone observing sick or dying birds with similar symptoms is encouraged to report their sightings at wildnh.com/nongame. By late summer, some states had reported declines in the number of ill bird reports received. Several news stories reported an unsubstantiated link between the mysterious bird illness and cicada outbreaks. Since the


population declining? These are questions we hope to answer over the next few years." There were also other known sites that researchers weren't able to survey this spring, so Hunt and colleagues plan to conduct similar surveys next year to continue updating the available data to help better understand this rare dragonfly.

The ringed boghaunter is the only state-listed dragonfly in New Hampshire.



A male cardinal

illness remains a mystery, we encourage birders to remain vigilant and report any ill or dead birds showing signs of the illness. New Hampshire Fish and Game and partners will continue to work toward identifying the specifics of this illness and provide updates as they become available. 

Because of this, a multi-partner approach was used for monitoring this season, led by NH Audubon and assisted by The Nature Conservancy and Americorps, the NH Army National Guard, and volunteers from towns with known occupied sites. NH Audubon and partners plan to reconstruct the entire statewide survey within the next 10–20 years, looking at changes across many dragonfly populations. 

BROWN THRASHER

(Toxostoma rufum)

© ANDY MORFEW

Adult brown thrashers are rusty red to medium brown with dark teardrop markings on their chest, a long tail, and bright yellow eyes. This bird sings loud, musical songs (over 1,000 different melodies—more than any other native bird!) during New Hampshire summers where it breeds throughout most of the state. It spends time in shrubby thickets near forest edges where it uses a powerful beak to thrash about in leaves in search of insects, to crack open acorns, or to snack on berries.

Habitat: Shrublands and pine barrens.

Threats:

- Loss and fragmentation of shrubland habitat.
- Invasive plants that alter native shrublands, causing shifts of insect populations, which are the brown thrasher's main food source.
- Predators such as raccoons, skunks, feral cats, and dogs that can successfully prey on thrashers because the birds spend large amounts of time on the ground.

Conservation Actions:

- Report sightings of brown thrashers at Ebird.org.
- Support projects that create or maintain shrubland habitat.
- Permanently conserve areas of shrublands and encourage the persistence of native shrubland species.

Advancing Research Methods for ENDANGERED SNAKES

Radio transmitters have given researchers a deeper look into the lives of some secretive animals. A radio transmitter is placed either noninvasively on the animal's exterior or internally via surgery. The transmitter immediately begins releasing a signal that can be picked up by a radio antenna and attached receiver. Each unique frequency allows biologists to track individual animals over time. To pick up the frequency and locate the individual, biologists must be in close proximity to the animal—often within

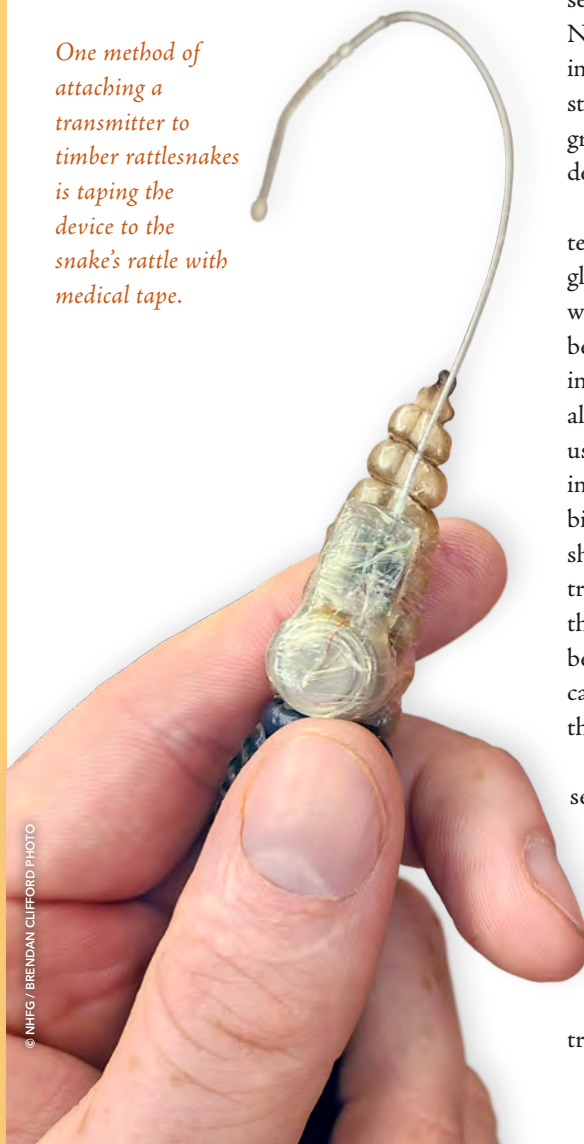
about a mile, but this varies greatly due to the landscape and the size of the transmitter.

For years, New Hampshire's timber rattlesnakes (state endangered) and northern black racers (state threatened) have been tracked with radio transmitters that were surgically implanted by a local veterinarian. The information gleaned from this radio telemetry was extremely valuable in understanding the movement and habitat use of these species to prioritize land conservation. However, each surgery required removing the animal from its natural environment for up to several days for the procedure and recovery. Nongame Program biologists were interested in alternative methods that would cause less stress to the animal and that could be used on gravid (pregnant) snakes without affecting the development of their unborn young.

Methods of attaching external transmitters to timber rattlesnakes using skin-safe glue, medical tape, or a combination of both were deployed as trial experiments. "The benefits of these methods include less risk of infection, a reduced likelihood of the process altering the snake's behavior, and ease of use because the transmitter can be attached in the field without anesthesia," explained biologist Brendan Clifford. However, snakes shed their skin several times a year, and any transmitter attached externally remains with the shed skin, limiting the time snakes can be actively monitored. External transmitters can also be knocked off as snakes slither through tight spaces.

"We've had good success over two seasons of trials by attaching a smaller transmitter to the snake's rattle with medical tape," reported biologist Melissa Doperalski. The transmitter weighs just a few grams, which also means that it has a slightly smaller transmission range than a larger transmitter. The deployed transmitters successfully lasted through a

One method of attaching a transmitter to timber rattlesnakes is taping the device to the snake's rattle with medical tape.



© NHFG / BRENDAN CLIFFORD PHOTO

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winter of hibernation. Eight individuals were tracked in 2021 using this method.

The information collected by radio telemetry has allowed New Hampshire's researchers to understand the movements of this extremely elusive animal, outline home ranges, define its habitat use throughout each season, understand the timing of hibernation, and monitor breeding and reproduction. The data are critical to maintaining a sufficient conservation plan for this endangered reptile. Therefore, Nongame staff ask that any suspected rattlesnake sighting be promptly reported to NH Fish and Game at 603-271-2461. 🐍



A state-endangered timber rattlesnake

© NHFG / BRENDAN CLIFFORD PHOTO

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properties, fostering support for future projects.

♦ Atkinson's members created a plan to develop informational videos about their town-owned properties and the wildlife that frequents them. Using social media outlets, residents were happy to participate by submitting photographs, short video clips, and stories to be included in the final products.

♦ Members of Amherst's Conservation Commission started their project by diving into the *New Hampshire Wildlife Action Plan's* habitat maps. These town-level maps highlight important habitat and wildlife populations to help prioritize areas for conservation. They discovered that 58 acres of a former golf course in town fell within some of the highest-ranked habitat in the region.

"The Town of Amherst acquired this property in collaboration with their recreation department, which was a great partnership to help Amherst address growing recreational needs," said Stone. The group then went to work identifying all the natural features on the property as the start of a conservation plan. To encourage participation, Amherst launched a wildlife and plant reporting campaign using the iNaturalist app.

"Conservation commission members plan to use this area for education as well, scheduling spring bird walks, vernal pool trainings, and plant identification courses," reported Stone.

The success of these stories serves as great inspiration for other towns hoping to increase conservation with a broad approach, looking at goals over multiple years and encouraging community involvement. 🐍

The **Taking Action for Wildlife Team**,

a partnership among UNH Cooperative Extension, the NH Association of Conservation Commissions, and the NH Fish and Game Department's Nongame Program, began its current round of Community Conservation Cohort trainings in September of 2021 and plans to continue this outreach annually.



UPDATES FROM OUR FIELD SEASON

Projects implemented and funded by the Nongame and Endangered Wildlife Program

- Late summer surveys in the month of August revealed 18 upland sandpiper fledglings, a state-endangered species known to nest only at the Portsmouth International Airport at Pease within New Hampshire. This number is slightly higher than 2020 results.
- In Hampton, state-endangered least terns produced nine nests, successfully fledging 10 chicks. After being absent since the 1950s, least terns have been nesting here in varying numbers since 2015.
- Research continued into the life cycle of White Mountain fritillaries, and biologists discovered larvae feeding on a variety of host plants in the captive rearing setting in the Mount Washington Laboratory, a breakthrough for this project. An additional captive rearing season will provide more detail in 2022. Also in this lab, the first White Mountain arctic caterpillar hatched in captivity, which is another butterfly whose entire range is limited to the alpine zone of New Hampshire's White Mountains. Biologists are diligently working to understand the habits and needs of these extremely rare species.
- Nongame and Endangered Wildlife Program biologists monitored three state-endangered eastern box turtle populations in southern New Hampshire using radio telemetry. This combined effort included biologists from Zoo New England. Increased monitoring resulted in the discovery of five new box turtles, which are now being tracked through hibernation and into next spring.
- A coordinated effort between Nongame and Endangered Wildlife Program biologists, the Oriante Society, the US Forest Service, and the Army National Guard allowed for the monitoring of one new Blanding's turtle population (state endangered) and three known wood turtle populations (species of special concern) this season. 🐢

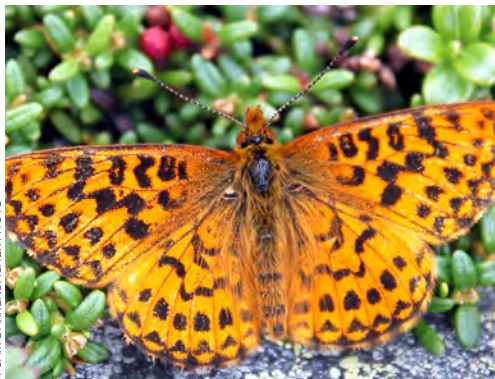


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Upland sandpiper



Least tern

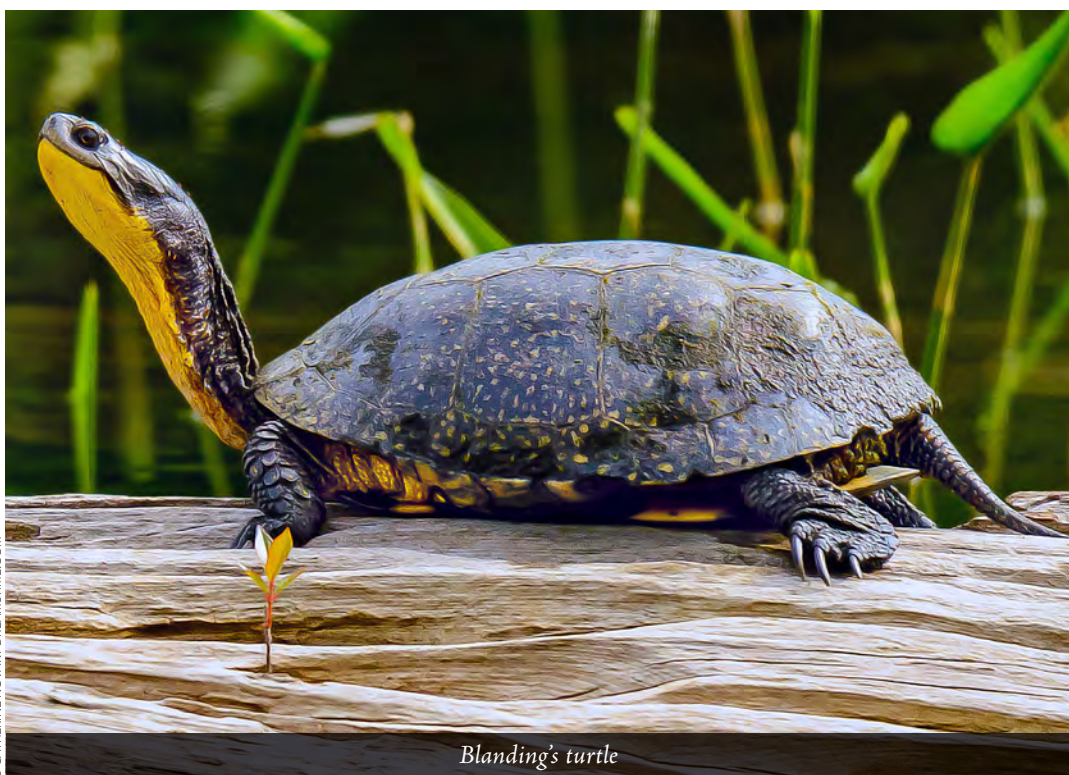


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White Mountain fritillary



Eastern box turtle



© CATHERINE NOVAK / DREAMSTIME.COM

Blanding's turtle

Donations Honor

A SPECTACULAR CONSERVATIONIST

Family and friends generously donated to the Nongame and Endangered Wildlife Program and the New Hampshire Audubon Conservation Department in honor of Harold "Flip" Nevers of Penacook, NH. Nevers dedicated much of his life to conservation efforts. With degrees in forestry and wildlife management, he rose to the ranks of furbearer biologist and federal aid coordinator for the New Hampshire Fish and Game Department. He later retired from the US Fish and Wildlife Service.

"Flip was often working in the background on many projects, supporting others to help make important things happen through NH Fish and Game," said former Nongame Program Supervisor John Kanter. Nevers was at the forefront of the return of several birds, including osprey and bald eagle, and was instrumental in solidifying the long-lasting and effective working partnership between Fish and Game and NH Audubon.

In 1989, he was one of the very first to identify a bald eagle hatchling in northern New Hampshire—the first in 40 years!


In those days, Errol's Lake Umbagog was not yet protected as a National Wildlife Refuge. Nevers worked with partners in this area monitoring osprey and eagles, a variety of waterfowl, and loons. "Flip was instrumental in launching Project Osprey and Osprey Weekend, where biologists and volunteers were assigned an osprey nest to



COURTESY PHOTO

Harold "Flip" Nevers

monitor to get a measure of productivity," said Kanter, "which was easy at the time, since there were only about a dozen nests in the state." Nevers worked carefully to install predator-guard flashing around the trees where osprey chose to nest, and he built nesting platforms in what is now the National Wildlife Refuge. Today, ospreys have expanded their breeding range and are considered recovered in the state. This

is undoubtedly due to Nevers and his colleagues' work to protect and recover this incredible bird of prey. In 1992, Lake Umbagog and the surrounding habitat was established as a National Wildlife Refuge, its importance emphasized by the work done in this area that established breeding territories for eagles, loons, and osprey. Nevers will be remembered for these notable accomplishments, among many others. 



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OCTOBER

- Look for migrating horned grebes as they stop along New Hampshire's coastline and lakes to rest and refuel by consuming marine worms, small crustaceans, and fish.

NOVEMBER

- Bullfrogs have retreated to oxygen-rich ponds to hibernate at the bottom. They usually aren't completely buried and may even slowly swim around occasionally while waiting out the cold.

DECEMBER

- Skunks, raccoons, and chipmunks enter periods of torpor during cold spells. These periods of inactivity are not true hibernation, and these species will emerge on mild days in search of food.



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To be a successful piping plover, you have to know how to dance! A male plover puts his best foot forward as a part of the mating process. After he scrapes a bowl-shaped nest in the sand, he calls over a female to show off his excellent work. He will soon begin a series of high and fast short steps using both feet (called tattooing or goose stepping) hoping to further impress her. It's up to the female to accept or reject his proposal. Every summer, there are incredible goings-on within the dune habitats on our local beaches, which is why it's so important to obey beach signage and continue to conserve dune habitat.

PHOTO BY CHRISTAIN ROBINSON

