

WILDLINES

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



SUMMER
2021

BUTTERFLY DISCOVERIES

In the White Mountains

There is a certain butterfly in New Hampshire, only seen in the White Mountains, that is shrouded in mystery. Found nowhere else on earth, much of the White Mountain fritillary's specific life cycle needs remain unknown despite targeted efforts. Almost a decade ago, researchers identified this insect as one particularly vulnerable to climate change. Due to its natural rarity and the imposing threats of changing vegetation and timing shifts, the species will be considered for protection under the federal Endangered Species Act.

All of the information that's been

gathered on this butterfly has been critical. Biologists can now easily distinguish between males and females, have developed protocols to collect eggs and overwinter larvae in captivity, and have conducted population surveys. What remains unknown is the particular host plant (or plants) that young caterpillars feed on, even though several suspected species have been offered in a laboratory setting. Researchers are also attempting to determine how many phases, called instars, the caterpillars complete each summer before metamorphosing into adult butterflies. "It will take successful feeding and tracking their molts to determine this," reported Nongame Program Biologist Heidi Holman, who continues to strategize with other researchers who are working to understand the fritillary's biology.

As the COVID-19 pandemic arrived, it brought staffing challenges and hiring constraints that threatened to delay research and discovery efforts. In an extremely valuable partnership, four fellows from the American Conservation Experience with the US Fish and Wildlife Service stepped in to continue the research. "We were able to observe that the population still occupies the full extent of its range, which is an indication of stability," said Holman.



Male White Mountain fritillary

Two studies will occur this year, one using mark-recapture methods and the other looking at the butterfly's genetics. "Mark recapture will give us information about adult lifespan, distances individuals travel regularly, and abundance in a subpopulation," explained Holman. Genetic information will assist with these efforts, providing insight on dispersal, the presence of bottlenecks, and identifying any subpopulations that are potentially more vulnerable than others. "By gathering all these different pieces of data, we can develop a population model," explained Holman. "This model can then be manipulated with changes to reproduction, survival of various life stages, or habitat due to climate change to show the potential impact on the species, including the likelihood of extinction." The decision of whether to list the species for federal protection is slated for 2027, giving the research team several years to gather the necessary scientific data to inform an effective conservation plan.



White Mountain fritillary on labrador tea

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CHIMNEY SWIFT

(Chaetura pelagica)



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Description: The chimney swift is a slender, dark-colored bird with curved, narrow wings. It flies very quickly in pursuit of insect prey. Several may be seen flying together, emitting a “chittering” call. Like many other aerial insectivores, populations of chimney swifts are in steep decline.

Habitat: Occur statewide in New Hampshire, commonly in developed areas with vertical surfaces on which to nest. They prefer structures such as uncapped chimneys in urban and suburban habitats.

Threats:

- Loss of chimneys and the capping or lining of chimneys so they are unsuitable for nesting.
- Climate change impacts, particularly storm severity and frequency, which could cause mortality during the bird’s southern migration.
- Declines in prey and other impacts from pesticide use in North and South America.

Conservation Actions:

- Monitor nesting habitat for use by chimney swifts, and report nest sites to Ebird.org.
- Educate homeowners and building managers about the importance of keeping uncapped chimneys in place and minimizing disturbance of nesting birds.

ILLEGAL TURTL

Addressed with New Funding

The carving-like designs on wood turtles’ shells, the yellow and orange splashes of color, and their sweet faces with big round eyes are just a few details that make this turtle, which resides in New England’s stream habitats, such a beautiful creature. These details, among other factors, have

driven an increase in illegal collection, which poses a major threat to wood turtle populations everywhere.

Some unknowing collectors pick up a native turtle and bring it home as a pet, while other poaching groups sell the rare turtles for profit. A newly acquired grant will



© USEFWS

Juvenile wood turtle

Wood turtles (*Glyptemys insculpta*), a Species of Special Concern in New Hampshire, only get to be 5–8 inches in length. They are found in slow-moving streams and channels with sandy bottoms, but during summer can be found in floodplains, meadows, woodlands, fields, and wetlands.

FROM REPORTS TO PROTECTION: HOW OUTDOORSPEOPLE DRIVE CONSERVATION

There is an invaluable connection between New Hampshire’s nature lovers and the conservation science being implemented at the state and regional level. Landowners, foresters, recreationists, birders, sportsmen and -women, and wildlife enthusiasts continue to collect and report critical wildlife data just by going about their normal routines. A jogger discovered a new generation of state-threatened nesting piping plovers, and a kayaker observed an extremely rare cobblestone tiger beetle, which led to

the documentation of a new population of the state-endangered insects. Collaboration with conservation partners and the interested public continues to be a core principle of the Nongame and Endangered Wildlife Program.

Most recently, wildlife reporting has been particularly beneficial for the state’s rare reptiles. There had been only scattered observations of single Eastern box turtles until 2014 when a walker reported a turtle in Hudson, leading to the discovery of a small population. A separate population was discovered by a local outdoorsman who recreates daily on the trails behind his business. Eastern box turtles have now been reported from separate areas of Hudson, Lee, Newfields, and New Ipswich.

“It’s possible that years would have passed before we discovered these vulnerable low-density populations, if ever, without



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Piping plover with chicks

TLE TRADE

provide funding for the coordination and administration of a holding facility, which can safely house confiscated wood turtles while their health is assessed and origin determined using collected information and DNA analysis. This facility, located in Massachusetts, is a trusted partner with a demonstrated history of turtle husbandry.

Moving into the next phase of conservation, partners throughout the region will implement a strategic plan to protect important wood turtle populations while also working to minimize declines across the wood turtle's range. Several threats are being addressed in this new round of conservation actions, just one of which is illegal collection (poaching). "Models have shown that the removal of just one female from a wood turtle population can lead to local extinction in as little as 50 years," said Nongame Program Biologist Joshua Megyesy.

The Nongame and Endangered Wildlife

The wood turtle's shell is highly sculpted with large irregularly shaped pyramidal scutes (top). Its neck and forelimbs are a bright orange, while its lower shell is yellow and spotted with black (bottom).

Program receives reports of native turtles for sale and carefully tracks and investigates each viable lead with the help of the Department's Law Enforcement Division. This funding has been secured from the incredibly important Competitive State Wildlife Grant Program, awarded by the US Fish and Wildlife Service, which distributed over \$7 million in 2020 to 28 states and four commonwealths to support conservation projects. 🐢



Eastern box turtle

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the help of community observers," said Nongame Program Biologist Melissa Doperalski. "The people who reported these sightings continue to be our eyes and ears in those areas and have helped spread the word to neighbors about watching for the box turtles and reporting them."

Discovering where populations exist is the first step toward protection. This season, the Nongame Program will continue to track the activities of eight box turtles equipped

with radio transmitters, helping to identify their range and to further decipher threats to the populations. "There are likely other populations on the landscape," said Nongame Program Biologist Joshua Megyesy, who continues to monitor reports from community observers.

"It's incredibly

important that people don't share the location of any turtles on social media, however, most of which are vulnerable to illegal collection."

Biologists sincerely thank those individuals and groups that contribute to research and monitoring. Reports are most often made through the online tool Wildlife Sightings nbwildlifesightings.unh.edu or through email at RAARP@wildlife.nh.gov, where all data is vetted by NH Fish and

Game biologists. These observations help them delineate the distribution of wildlife, evaluate changes in distribution over time, provide information about seasonal activity, and establish target areas for land conservation or habitat management. All verified reports are added to the statewide Natural Heritage Database, which contains all records of verified state-listed and tracked wildlife species in New Hampshire. 🐢



Eastern box turtle

JULY

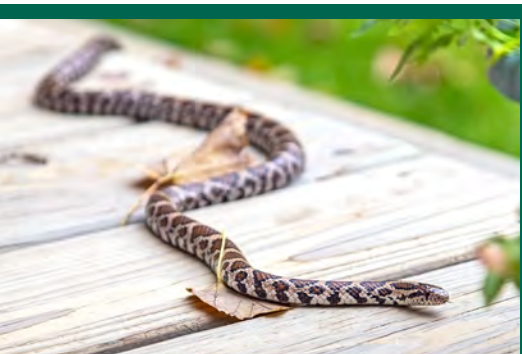
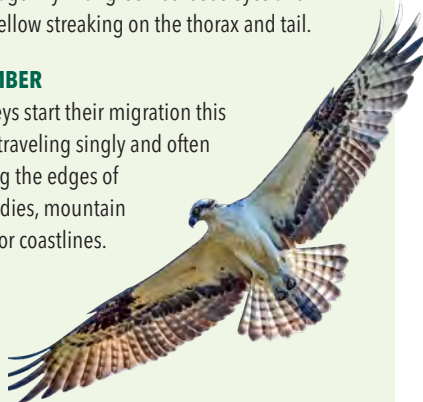
- Look for the round, brownish American toad in the shade of plants and in areas with moist soil. It uses its tongue to snatch up insects, spiders, earthworms, and slugs.

AUGUST

- The largest clubtail dragonfly in North America, the Dragonhunter, may be seen this month along slow-moving streams. Look for a black dragonfly with green bulbous eyes and bright yellow streaking on the thorax and tail.

SEPTEMBER

- Ospreys start their migration this month, traveling singly and often following the edges of waterbodies, mountain ranges, or coastlines.



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Avoid the use of poisoned bait or glue traps when capturing unwanted mice. Mice don't die immediately from the rodenticides used in bait, and consequently may be consumed by owls, hawks, fisher, and other predators. If they consume enough poisoned mice it can be fatal. Glue traps can also catch non-target wildlife such as songbirds and snakes. If a snake or other animal is captured in a glue trap, they may be successfully removed using a generous amount of cooking oil gently applied to the animal's body where it is stuck in the glue. Be sure to share this information with family and friends. For injured wildlife, consult the NH Fish and Game website for a list of licensed rehabilitators at www.wildlife.state.nh.us/wildlife/rehabilitators.html.



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Moose Plates and Federal Funds Boost Community Conservation

The Taking Action for Wildlife team was formed to break down complex conservation ideas into achievable actions for communities and landowners, helping implement on-the-ground tasks to benefit wildlife. This partnership between UNH Cooperative Extension, the NH Fish and Game Department, and the NH Association of Conservation Commissions would not be possible without funding from the New Hampshire Conservation and Heritage License Plate, also known as the "Moose Plate."



Annually, dollars from Moose Plate sales help fund over 20 projects led by the Nongame and Endangered Wildlife Program.

Taking Action for Wildlife provides the critical link between environmental science and community involvement. Some of the many free resources available include brochures that discuss stewardship of the 12 habitat types identified in New Hampshire's Wildlife Action

Plan, and for several Species of Greatest Conservation Need, ranging from bats to brook trout. Throughout the COVID-19 pandemic, the Taking Action for Wildlife team has continued to host online workshops for land managers working on conservation projects.

Taking Action for Wildlife was celebrated in the latest report for the State and Tribal Wildlife Grants Program, commemorating its 20th year. Looking toward the next 20 years of consultation, the Taking Action

for Wildlife team has developed resources centered around understanding the impacts of climate change and planning for resiliency in our communities. To read this information, as well as success stories from around the state, visit www.TakingActionForWildlife.org. Thanks to everyone who has purchased a Moose Plate and shown their support for nongame wildlife funding. 🦅