Recent Changes in the Natural Environment of Strafford

An Interim Report of the Strafford Conservation Commission

June 2025

This report is largely crowd-sourced—it quotes many Strafford residents who have lived here long enough to have noticed changes in the weather, animals, birds, insects, and plants—and it adds information from governmental agencies and independent groups such as The National Oceanic and Atmospheric Administration (NOAA), The New Hampshire Audubon Society, and journal articles. We consider it an interim report because there are many subjects for which we have no local observations, or only one or two, and because the natural environment keeps changing. We would be grateful to hear from residents who have not yet passed on what they have noticed, even if this report has already mentioned what they have seen. Please send your notes to Michael Ferber: mferber@unh.edu.

Weather: Temperature, Rain, Snow

There is general agreement that we have "Hotter summers!" as one resident summed it up. A couple wrote, "We have noticed less snowfall and more rain and warmer temperatures in the Winter. Very hot Summers are becoming the norm." Another couple said, "Years ago, we didn't need an air conditioner in any room; now several rooms 'need' them." They added, "Erratic temperature swings."

Along with "Hotter summers!" the first resident added, "More icy winters, more rain, less snow." "Fewer honest snowfalls, good for skiing and easy shoveling," wrote another. "Now much more ice and heavy, wet snow." He added, "I remember a day or two in the winter of 1987-88 when the temperature was minus 20 F, according to my thermometer. I think that has not been equaled since." "Winters were longer & colder," a third person agreed; "I recall a week in January 1968 w/ temps 15-25 below zero - the snow was always fine & dry and with so many open pastures & hay fields the snow fences would get drifted over quickly, burying parts of Province Road & Water Street under several feet of snow, frost so deep - leaving a 'snow pack' right into mid April." "A lot less snow!" reported a fourth. "Over the 37 years we were there, we had snow some years up to the roof of our house. And we always had to worry about frozen pipes. Now it's not as cold and there's hardly any snow."

A resident taking careful notes told us, "7 or 8 yrs ago, and the years before that I can remember too, we had the first snowfall on or around Halloween. At the very least it was cold enough that multiple layers were required under costumes and a coat overtop. This year it was very, very warm for Halloween and the last two years weren't noticeably cold either.

"Snow had been coming later and later even over the last three years," this resident continued. "In 2022 first snowfall was about a week before Thanksgiving, 2023 it was on or just after Thanksgiving, and this year it was almost 2 weeks after Thanksgiving. This surprised me very much because the Goldenrod had bloomed 8-10 weeks earlier and all of the acorns dropped quite early. Typically snow and freezing temperatures come about 6 weeks after Goldenrod

blooms and the acorns dropping indicates that a freeze is coming and generally that the winter will be quite harsh but none of that followed for quite a while."

One observer elaborated on the changing "mud season": "In years past, mud season was typically a spring and January thaw issue. Now most of our winters and springs are nearly continuous mud seasons…. Why does this matter? If you're a forester, logger, or farmer winter should be a time to be able to bring equipment onto productive soils without doing damage. Cold winter weather is also important for plants, insects and many species of wildlife. Cold is critical for northern plant seeds that have adapted a 'cold stratification' regime that is necessary for good germination. Species of insects and animals that hibernate or go into some sort of slowed-down metabolism can suffer if mid-winter temps become irregular and force their metabolic rates to speed up then slow down again with temperature fluctuations. When looking at a conservation project on Evans Mountain, I was startled to see bats flying around in February due to a lengthy winter warm spell."

The NH Audubon's Backyard Winter Bird Survey 2024 Report, based on surveys sent in by 1575 observers around the state (90 from Strafford County) during two days of February that year, noted the trend of rising temperatures since 1987, the first year of the survey: the average February temperature has risen more than 3 degrees F since that date.

The NOAA 2022 report states: "Temperatures in New Hampshire have risen more than 3°F since the beginning of the 20th century. The number of hot days has varied across the period of record (1950–2020); however, the most recent period (2015–2020) had the highest multiyear average of about 9 days. Since 2000, the number of warm nights has been above average, with the 2000–2004 period having the highest multiyear average of about 2 nights per year). The greatest warming has occurred in the winter, with an increase of more than 4°F since 1900. This is reflected in the number of very cold nights, which has been below average since the early 1990s. The 2010–2014 period had the lowest multiyear average of about 18 nights per year. Warmer winters are also reflected in a trend toward earlier ice-out dates on lakes and fewer nights below freezing."

A lengthy study published in *Environmental Research* on 19 February 2020 by four researchers offers this conclusion: "Across the temperate, seasonally snow covered regions of the planet between 40 and 60 °N, winter is a time when temperatures are largely below freezing, and precipitation falls as snow, not rain. We demonstrate that the winter season as defined by these below-freezing, snow covered conditions, has become shorter by −2.1 d [days] per decade in this region, or a loss of three weeks across the past century. Within frigid winter, conditions have also become more intermittent, with fewer frost days and snow covered days that are critical to supporting ecosystem functions and services. . . . Areas between 40 and 60 °N are not just becoming warmer during DJF [December, January, and February]; they are losing the cold and snow in October, November, March, and April."

Several people commented on Bow Lake. For example: "No longer 20 or more ice-fishing bob houses out in the middle of Bow Lake, due to unsafe ice." "The biggest [change] for me is Bow Lake not freezing like it used to. When I was a kid it was frozen over enough by the end of January for 3 fire trucks to cross safely. I would walk on the ice, play on it, cross it all the time. Now it takes longer and longer to freeze and with the weather varying so drastically goes through so many freezes and thaws that I'm too unsure from day to day to enjoy it anymore."

There is a Wikipedia article named "Lake Winnipesaukee Ice-Out" that gives the date for every ice-out from 1887 to 2025. The dates vary a great deal, but one telling index is that, of the six years when ice-outs took place in March, the first was in 1921, the second was in 1946, and

the next four were in 2010, 2012, 2016, and 2024. The earliest ice-out date ever was March 17, 2024.

"Maple tapping is a few weeks earlier than it used to be, too," noted a resident. Shorter winters or earlier springs are obvious to those who produce maple syrup. Said one who does, "We've been making maple syrup for nearly 50 years. Our 'operation' is very low tech. That being said we now are tapping trees at least two weeks before we would have ever thought about tapping in the 1970's…. In addition, the season is very fickle now, much more so than it was in the past. Sap flow is dependent on daily temperature swings from the mid 20'sF to the mid 40'sF coupled with a high pressure system. That used to be our March weather but that ideal swing in weather conditions has moved back into early to mid February, and there is not a lot of consistency in the weather pattern. This year we had a spike in temperatures to 60F that was followed with freezing temps and another flow of sap."

"I was looking at the bushes," writes a long-time resident this April, "and remembered my mother saying they used to hope the lilacs would flower by Memorial Day, to use. Now, they flower a good bit earlier than that."

Droughts are an ongoing concern. "My vernal pool completely dried up the last 2 years with the lack of rain." "Precipitation: We're still in a moderate drought the day I am typing this (4/25). 2012 was an unusually wet year. The last wet year was 2023. Only 2 years between 2012 and now have had normal precipitation. The other 9 years have been characterized by varying degree of drought." But too much rain at once has also been noted: "A large part of our driveway washed away in the 2006 Mother's Day storm. The existing drainage pipe wasn't large enough for the torrent of rain. The rain went over the culvert and washed that part of the driveway out." This report added, "The intensity and duration of rain storms has changed. We have more intense short periods with significant rainfall…. On the 18th of December, 2023 we received approximately 5" of rain in a short amount of time, which caused damage to our yard and loss of healthy soil."

More wind (and different winds) have been noticed, too. "It seems to have grown gradually windier year-round since 1987," was one general impression. An interesting comment came from another resident: "When I was a kid and watching the wind daily for smooth water skiing potential, the wind would generally be blowing west to east. Blowing from east to west meant a really bad storm. Now, when [I am] visiting, the wind seems to blow east to west regularly. It is very disorienting, as if the lake is backwards. Tell me if I am crazy!" It would be good to know if others can confirm or disconfirm this report.

Bow Lake and Rivers

A life-long resident of Strafford told us, "When I was a kid I was always in & on Bow Lake, there were lots of frogs, turtles - now & then a really big snapping turtle, and eels - right in front of the dam. I remember going with my Dad to see if the smelt were 'running' in the stream that feeds into Caswells Cove - I don't think there are any smelt, lake trout or rainbow trout now." In the late 1980s and early 90s the Conservation Commission frequently discussed the impact that various development activities would have on smelt runs.

"The last few years there have been lots of cyanobacteria blooms on Bow Lake." Another said, "In the last few years I have more often had to avoid swimming or kayaking in Bow Lake, or taking my dog to it, because of cyanobacteria blooms."

The NH Dept of Environmental Services (NHDES) issued Bow Lake cyanobacteria warnings for 9 days in May and June 2021, for 7 days in May 2022, and for 15 days in May 2023.

Birds

Turkey

The bird most widely commented on was, not surprisingly, the Turkey. "The turkey population has grown immensely." "More turkeys, meaning the bird type." "More Turkeys (flocks of hens and chicks and Toms)." "Also many more turkeys than 40 years ago when we didn't see any." "Wild Turkey: went from zero in the 1990s to abundant today." These five observations confirm what NH Fish and Game (NHFG) has posted on its website: "Wild turkeys totally disappeared from New Hampshire 150 years ago because of habitat loss and the lack of a fish and game department to regulate hunting seasons. NH Fish and Game began transplanting wild turkeys into the state in in 1969-70 (this initial effort failed), then again in 1975. Today the population is estimated at upwards of 50,000 birds. Turkeys are present in every county in New Hampshire, though severe winter weather and lack of suitable habitat limit the distribution of wild turkeys in the northernmost part of the state." A recent headline of the *Union-Leader* summarized the tale: "Missing for a century, wild turkeys are now plentiful in NH" (Oct 17, 2021).

Bald Eagle, and other Raptors

"More likely to see a bald eagle now than years ago." "Bald Eagle: went from non-existent to frequent in the last 30 years. Breeding on Bow Lake. NH Audubon describes its successful reintroduction: "With the statewide breeding population surpassing 100 pairs for the first time in 2023, it's hard to believe that as recently as 1987 there were no Bald Eagles nesting in New Hampshire. … DDT was banned in 1972, and as the regional population (especially in Maine) began to rebound, it was only a matter of time before the Bald Eagle returned to breed in New Hampshire. In 1988 a pair returned to the same tree at Umbagog last used in 1949, and the following year they successfully fledged a single chick. This remained the only nest for a decade, but the late 1990s saw the beginning of the steep growth we see today."

"Osprey: went from non existent to frequent in the last 30 years. Possibly started breeding somewhere in the last 15 years Strafford/Northwood. Infrequent but increasing around Bow Lake."

Songbirds

Bluebird sightings have increased. "More bluebirds at my feeders in winter - never had bluebirds 20-25 years ago." "Eastern Blue Bird; large increase in encounters and sightings throughout town in last 10 years. They are even trying to breed in my neighborhood!" NH Audubon tells the backstory on its site: "Back in the early and mid-1900s, bluebirds had declined due to competition with starlings and House Sparrows, both of which will aggressively exclude

other birds from nesting cavities. The widespread introduction of bluebird boxes has reversed that trend, and today bluebirds are a common sight along New Hampshire's roads and fields. Breeding numbers are roughly twice those of 50 years ago, and since the 1990s we've seen a dramatic increase in the winter months."

One resident reported, "Hardly any Chickadees where there used to be tons and Blue Jays are scarce." NH Audubon website confirms that the Blue Jay population has declined appreciably since about 1982 but is still not scarce statewide. It also that the reports black-capped chickadee population has increased since 1965 but the boreal chickadee population has declined a great deal.

From the NH Audubon's Backyard Winter Bird Survey 2024 Report: "As for birds, there has been a slow long-term decline in the number of sightings of black-capped chickadees, though they are still very common; "southern invaders," however, continue to invade, notably red-bellied woodpeckers and Carolina wrens, and several species have ceased to migrate south for the winter." A resident confirms: "Carolina Wren: southern immigrant which was rare late last century, has now become common over-wintering resident." Another notes, "more woodpeckers," but did not say which kind.

This may be the place to note that we are including both kinds of changes in bird populations, those induced by human intervention, such as Turkeys and Bluebirds, and those due to changes in the environment, such as the "invasive" birds from the south.

"Goldfinches - Last year, for the first time, I had a large flock of goldfinches in my yard pecking at the ground. I had never witnessed this before. I hoped it wasn't because they were displaced." NH Audubon reports that the Goldfinch population has been stable for at least the last sixty years.

"Purple Finch; no longer a local breeding bird, big decline in our state bird." But another resident claims, "A pair of Purple Finches come now and then to our feeder." NH Audubon: "Purple Finches showed a consistent decline from the 1960s to early 1990s, after which the population appears to have leveled off. Reasons for the decline are highly speculative since the species is not well-studied despite being common and widespread. As a northern species, it could be responding to climate change – or to related changes in habitat or food supply – but we simply lack the data needed to evaluate this hypothesis." The chart on its Purple Finch page, however, suggests that the leveling off it reports is coming to an end, and another decline is imminent or already here.

"Whippoorwills are more scarce, I used to hear them at the farm in Ctr Strafford."

"Less evening Grosbeaks, no Woodcocks." "Evening Grosbeak; used to be an uncommon visitor and potentially breeder but is now rare or missing during breeding season. I think in part this is related to the decline of the Red Pine stands. This change is more noticeable in Pawtuckaway State park where large stands of plantation pine succumbed in the last decade."

NH Audubon has posted this: "Prior to the 1900s the Evening Grosbeak was rare in the east, but over time it gradually expanded from the Rocky Mountains and first bred in New England in the 1920s. By the 1940s and 1950s it was a reliable winter visitor, with larger numbers roughly every two years, and this pattern continued through the 1980s. Now, as anyone who remembers the invasion years (when grosbeaks descended on feeders by the dozens and cleaned them of sunflower seeds in a matter of hours) will tell you, the species has become extremely hard to find." It also reports a slow decline in Woodcocks.

"Rose-breasted Grosbeak; becoming increasingly uncommon and no longer seems to be breeding in my area." NH Audubon states that the Rose-breasted Grosbeak population statewide is "strongly decreasing" and the decrease is unexplained.

Mammals

Deer

"The deer have decided to eat far more variety of plants in the summer than ever before," a resident told us. "I'm thinking that it may be because of less hunting and a larger deer population possibly, although I have recorded on camera about 7 years ago a herd of about 14 deer." Another reported, "The numbers [of White-tailed Deer] around my neighborhood grew rapidly during the 1990s to the point I fenced in my gardens around 2000. Numbers are high all about town and are negatively impacting the growth of both tree and under story plant species."

NH Fish and Game gives statewide numbers: "In New Hampshire, the white-tailed deer population is approximately 100,000 individuals…. Despite the species being greatly reduced in the US by the early 20th century because of unregulated hunting and habitat loss, white-tailed deer numbers have increased significantly and populations are thriving. This rebound has also been seen in many areas of NH." A town resident went into some detail: "White tailed deer numbers have exploded in the last 20 years due in no small part to NH Fish & Game rules but also, and not insignificantly, because of warmer winters. Wildflowers and many woody plants that were common in most woodland are now gone or disappearing because of deer browsing. In the 1970's, foresters were trained to reserve deer yards in dense hemlock or spruce fir stands to help deer make it through the winter months. We no longer get that advice. NH used to be at the northern edge of where white tail deer could survive because of our typical winter weather. January and February brought on week- or month-long deep freezing temperatures. Deer become inactive in those conditions and seek dense conifer stands where temperatures and snow depth are moderated. Every year we would find deer carcasses or scavenger remains after a typical winter. That's not common now in this part of the state and we now are overrun by deer."

Moose

We gathered three comments on moose. "I saw one young moose on the road just outside Strafford around 1990 but have seen none since then." "I have lived in Strafford since 1986. I have noticed a significant decline in the number of moose." "Last century and into 2010 it used to be common to see moose in my neighborhood annually. Since 2010 I have had only 2 encounters and none in the last 3 years. When hiking around town I do not see any sign at all, when before I used to regular encounters."

NH Fish and Game confirms: "The moose population [of NH] peaked in the late 1990s at 7,000-8,000, and has since declined to about 3,000-4,000." Maine Public Radio reported on May 18, 2022, that 86% of the new moose calves in Maine were overwhelmed by ticks (tens of thousands of them on a single moose) and died. More ticks now survive our warmer winters.

Opossums

Several Strafford residents have noticed "more opossums." "We see many more opossums dead in the road now than in the past." "When I was a kid there were no opossums." "Opossum: Moved in around 2000 and is now a regular yard creature."

It is indeed an invasive mammal: it is called the Virginia Opossum. Declan McCabe, in *Northern Woodlands Magazine* (April 15, 2021), writes, "For as long as I have lived in the Burlington area of Vermont, opossums have been a common sight, albeit often as roadkill. This was not always the case. Daniel G. Elliot's 1901 *Synopsis of the Mammals of North America and the Adjacent Seas* described the opossum's range as 'New York on the Atlantic Coast to Florida and west to Mississippi and Texas.' There is no mention of any New England occurrences. Further back in time opossums were even farther away…. By the 1920s opossums had made it into Connecticut, and by the 1940s a full-scale New England invasion was underway, with populations in Massachusetts, Rhode Island, and southern Vermont and New Hampshire."

At the instigation of fourth-graders in Keene, a bill is under consideration in the legislature (SB 30) to name the Opossum, presumably with "Virginia" omitted, the official New Hampshire state marsupial. There isn't much choice, as the Opossum is the only marsupial in North America.

Foxes

One Strafford observer has seen "more foxes," but another reports "Definite decline in both species [Red and Tree] while coyotes becoming much more active." NH Fish and Game: "Red foxes are found throughout New Hampshire, unlike their cousins, the grey foxes, which are found mostly in southern parts of the state. In the 1930s and 1940s, fox hunting with dogs was a very popular sport. An average of 5,000 foxes were taken each year. Today, hunters only take a couple dozen individuals annually, and trappers have caught an average of 310 red foxes each year over the past ten years."

Chipmunks and Other Rodents

"I haven't been counting, but the chipmunk population seems to have grown over the last twenty years; while squirrels (red and gray) seem constant. Maybe more moles and voles as well." "Chipmunks: The numbers have increased dramatically in the last 10 years and now approaching plague numbers." "We have no formal monitoring of chipmunks," said Matt Tarr, a wildlife biologist with UNH Extension, "But my observation and what I'm hearing from folks all over New Hampshire is: There's a lot of chipmunks this year!" (As reported by David Brooks, *Concord Monitor* June 17, 2021.) "Voles/Mice: numbers much higher than previous decades. I have been losing old clumps of perennials that have never been bothered since planting in the1990s."

Bats

A couple told us, "We used to see many bats on most summer nights when we moved here (2003). They would sleep in the closed umbrella shade over our deck table. We have only

seen a few over the last few years and none took up residence in our bat house." Another resident reported, "Abrupt die-off of bats after about 2006, because of white-nose syndrome." A third: "Fewer bats around our house, maybe because of fewer mosquitoes." NH Fish and Game: "The little brown bat was found abundantly throughout New Hampshire until about 2010, but the entire population is now at great risk from White-nose Syndrome."

Reptiles and Amphibians

Frogs and Toads

A common comment: "Fewer frogs hopping across roads on rainy nights." "No more frogs in the road; very infrequently, we hear peepers." "No more trying to dodge frogs in the road during every summer rain."

"The last 2 years, I am not seeing any snakes or frogs in our yard. It could be that we have more hawks around or the drier summers." "Toads - I used to have a few toads in my yard. I haven't had any recently. Instead, I have been seeing small frogs, usually near my water barrels. Wood Frogs: My swamp is still supporting a decent population of males despite the many years of drought we've had over the last decade (since 2012 actually). Spring Peepers have never been abundant. Tree frog numbers are fewer of recent years. Road areas that used to resound with the calls of spring amphibians have gone mostly silent since the 1990s."

NH Fish and Game lists the Spring Peeper, the Wood Frog, and the Grey Tree Frog as "widespread and secure."

Newts and Salamanders

"Abrupt die-off of newts, though that may be due in part to new homes uphill from us. Around 1998 our little daughter could collect thirty or more newts after a rainfall (she put them back); now they are rare." "Orange salamanders - There used to be many of these along the road when I walked. There are not many now. But I have seen them in my back yard." NHFG: Red-spotted Newts are "widespread and secure."

"Breeding Spotted Salamanders are decreasing, with fewer egg masses. I used to be able to count egg masses in the multiple dozens, but recently there are rarely a dozen masses. Many eggs seem to get infected or just don't develop but I'm not certain this is a newer phenomenon." NH Fish and Game lists the Spotted Salamander as "widespreadand secure."

Snakes

"Garter snakes remain common but declining, perhaps due to chipmunk predations. Have not encountered a brown snake in 4-5 years and they used to be common. Have not seen a ringneck, red belly or milk snake in a long time (pre-2010?)." NH Fish and Game considers Garter, Brown, Northern Ringneck, Northern Red-bellied, and Eastern Milk Snakes all "widespread and secure."

It seems reasonable to think that, in the face of reports from our townspeople of declines in numbers of several species, some NHFG data may be out of date.

Turtles

"Sad, very sad," a resident who has kept records lamented. "Road kills kept climbing thru the 2000s as increasing traffic and fractured landscapes left several species very vulnerable: Blanding, Spotted and Wood Turtle sightings crashed after c. 2010. Their reproductive rate was incapable of matching the carnage. Even the common Painted Turtle seems to be declining based on the numbers of road kills." Another added, "We used to stop now and then on the road and rescue a turtle that was in danger of being run over. Now we seldom see any."

NH Fish and Game concurs: Blanding's: "State Endangered, Wildlife Action Plan Species in Greatest Need of Conservation. Legally protected in New Hampshire: possession, sale, import, and take (harm, harass, injuring, killing) is illegal." Spotted Turtle: "State Threatened, Wildlife Action Plan Species in Greatest Need of Conservation. Legally protected in New Hampshire: possession, sale, import, and take (harm, harass, injuring, killing) is illegal." Wood Turtle: "Species of Special Concern," etc.

Trees

"Trees, really big ones," a long-time resident told us, "are all gone - elm, American chestnut, and tamarac, to name a few - not just here in Strafford." But another wrote, "Strafford has become far more forested (aerial photos tell the story), and those early successional forests of the mid 20th century have grown and matured. I notice this at my house. Some of the new deep shade in our yard is from trees that we have allowed to grow up on our property, but some is from the increasingly tall, mature, stand of trees on neighboring land. Back in the '50s and '60s, much of this land was new young forest and there was so much more sunlight. Not so today."

Ash

The ash disease is much on residents' minds. "Lots of dying Ash trees." "Ash and Hemlock trees dying." "White/Black Ash: a wide severe decline." One asked, "Is anything being done about the Emerald Ash Borer invasion?" The answer is yes: a tiny Asian "wasp," a natural predator of the Ash Borer, has been released on ash trees in New Hampshire for ten years now, but with limited effect so far.

Beech

"My beech trees have all taken a drastic hit from beech tree leaf disease since it started in the yard 3 years ago." "My beech tree leaves looked sickly in the summer of 2024." "American Beech: severe decline underway." Beech leaf disease was first detected in the US in 2012 (Ohio) and in New Hampshire in 2022.

Other Trees

"Red Pine: steep decline in last 10 years due to red pine scale and perhaps southern pine beetle. American Chestnut: some stump sprouts still managing to survive. American Elm: seems to be an increase in seed mass and small trees in recent years. Likely will not live as long as the old days but there are elms managing to survive and set fruit as a shorter lived and smaller statured species. Eastern Hemlock: declining, but in patches infected with elongate scale, hemlock wooly adelgid or both."

Other Plants

"We love it that many of our flowering plants take advantage of the warm early spring weather that is now getting typical," one experienced observer noted. "However, there is a negative side to this. Unfortunately there is some evidence that some bird migration may now be getting out of sync with flowering native plant and insect cycles."

"We saw milfoil in Bow Lake last summer. We are so sad about that." "Japanese Knotweed is showing up everywhere." "More invasive species encroaching on our lands, garlic mustard, bittersweet, poison ivy (yes, I know it's a native), Japanese knotweed." "We see a lot of invasive knotweed around town. We have invasive Barberry throughout Whig Hill and on our property." "Dwindling number of lady slippers."

Insects (and Arachnids)

Several residents remarked, as one put it, there are "no more insects all summer on the windshield." "Fewer bugs smashing against the car windshield." "Also, almost no insects in the air at night, except maybe mosquitos. Even those, not as many as there used to be. Don't see bugs on the car windshield at night." "Insect abundance has generally declined. The lack of bug splat on the window shield is evidence of the extent of this decline." While this may seem a benefit, the loss of food for certain birds, as one resident noted earlier, is a serious consequence.

Others have noticed "Fewer butterflies even though I have more flowers, [and] Fewer moths around our outdoor lights at night." "Daddy long legs - Towards the end of the summer, I would usually find many daddy long leg spiders all over the back of my house. I would have to capture them & put them outside when they came into the house. I rarely see them now & haven't had one in my house in a while."

"We rarely see Lightning bugs in the summer anymore. If we see them once it feels like a miracle." "Fewer fireflies flitting around at night to delight kids and adults, alike. And what about those ladybugs, dead and alive in the windows?" As for the latter, another observer reports, "Lady Beetles: native species were common, then the huge surge of oriental lady beetles occurred and now there are almost no lady beetles around. This is especially evident in the fall of current years when few gather on the late afternoon warmth of the house when they used to gather in large numbers." This observer lists several native insects whose numbers have fallen in the last five to ten years: Ground Beetles, Mayflies, June Bugs, stick insects ("almost a decade since last sighting"), and certain species of bees and dragonflies.

"Invasive bugs I've noticed on trees: woolly adelgid on hemlocks, ash tree die off from emerald ash borer." But "Several invasive species are currently ebbing where 10 years ago they

were in high numbers: Viburnum Leaf Beetle, Lily Leaf Beetle, Japanese Beetles ("declining in the last several years, [but] later emergence recently"), and Spongy (Gypsy) Moths.

The website NHBugs, sponsored by UNH, notes that "The N.H. Division of Forests and Lands monitors balsam woolly adelgid and in 2015 they mapped mortality of balsam fir from balsam woolly adelgid on 3,513 acres." Regarding the Spongy Moth, it writes, "the low populations in New Hampshire in recent years generally are believed to be the result, at least in part, of a spongy moth disease caused by the fungus *Entomophaga maimaiga*." But "Recent outbreaks of spongy moth in southern New England and some small populations in a few southern New Hampshire towns are worrisome."

A few residents commented on, as one put it, "a huge serious tick problem now, not in everyone's radar then." We mentioned ticks earlier, under "Moose."

A resident made a pertinent point about one of our pests: "Black Flies - We may hate black flies but many of our neotropical migratory birds just love them. They and other insects in the north country are one of the reasons that so many of these species migrate here to reproduce. Black flies depend on clean rocky fast moving streams. Lack of snow cover and early season droughts have significant negative impacts on populations of all insects that breed in streams which is a contributing factor to the decline in many species of birds."

Jumping Worms

"We have found a lot of invasive Jumping Worms." Another resident added, "Jumping worms in my gardens although they seemed to disappear last summer."