

Weird Weather, Heat Stress, and Backyard Conservation

by Judith Saum

While we Granite Staters tend to be a gritty bunch that take pride in our ability to deal with severe and changeable weather, the current trend is testing our limits.

Winter days that whiplash from beach-weather warm to extreme polar dives seem to be the new norm. What was once a “mud month” now extends from February through April making some dirt roads and walking trails next to impassable. Hot, humid days with a heat index above 90 F are becoming more common. Heavy rain events with flooding downpours punctuated by random “flash” droughts are on the rise. (See “Preparing for the New Normals in NH’s Climate” <https://www.newhampshirenetwork.org/events>.)

Not just our psyches must cope with this erratic climate reality, our bodies must adjust, too. According to the NH Healthcare Workers for Climate Action, doctors are finding that climate-related exposures are impacting the health and wellbeing of their patients. This is especially true for those who suffer with allergies, asthma, heart, and lung problems. A longer frost-free season is also allowing ticks to proliferate, and tickborne disease is increasing. <https://www.nhclimatehealth.org/>

A study by the NH Environmental Public Health Tracking Program shows that rising heat is associated with higher numbers of emergency department visits and deaths in the Granite State.

I ponder all this as I work in my yard removing dead leaves from my garden beds. I intentionally heaped the beds with dry leaves last fall to insulate overwintering pollinators and other insects. Now I remove only the top layer while still leaving three or four inches to mulch my ornamental flowers through summer heat and dry spells.

My thermometer rapidly approaches the mid-eighties on this hot, steamy day in early May. Given that my garden hose was frozen at 6 AM when I tried to water the kale in my raised bed, this dramatic heat rise of more than 60 degrees in the matter of a few hours seems strange. But I grab my water bottle and deeply sip, reminding myself that dehydration and heat stress can sneak up and happen unexpectedly even on a spring day like this one that is unseasonably hot and humid.

As I continue working, I accidentally dig too deep into the wet leaf layer under my rose bush and expose two wiggling salamanders. They recoil from the sunlight, and I quickly throw the leaves back down to protect them during this rapidly overheating day.

Then I begin to wonder. If hotter temperatures and heat stress present a danger to us humans, what’s it doing to critters like these salamanders that inhabit my yard?

I recall the startling lack of bees that I and others across New Hampshire witnessed in our yards last spring. I suspect that the scarcity of bees had something to do with heat and drought because when the rains and cooler temperatures returned in July, so did the bees. I learned during that disturbing experience that warming temperatures are a major factor in bumblebee decline. A 2019 UNH study on at-risk native bees in the seacoast area showed that half of the fourteen species identified had already perished while the remainder have moved to cooler regions further north or higher in the mountains.

Likewise, the captivating song of the hermit thrush sadly went missing from the woods behind our house for the first-time last summer. The National Audubon Society website indicates that hermit thrushes are moving northward to Canada to avoid rising temperatures and spring heat waves that endanger young

birds in the nest. Could it be that the heat waves we had here last May and June drove the thrushes from our woods to seek cooler refuge? <https://www.audubon.org/climate/survivalbydegrees>

But what about salamanders, newts, toads, and frogs? The picture with amphibians is not as well-studied and is more complex. According to the USDA Forest Service, each species has its own rhythm of lifecycle events around wintering and breeding. Vulnerability may vary from one species to another. Frogs and toads, for example, may be threatened not just by rising heat and drought, but also by warmer winters and extreme temperature fluctuations. UNH Cooperative Extension predicts that heat and more extreme rainfall/drought patterns will likely impact vernal pools which could threaten the survival of many species. <https://extension.unh.edu/resource/vernal-pools>

My next question: are there ways to protect backyard wildlife from heat stress as hotter summers become the norm?

While online information on this topic is surprisingly sparse, I was able to piece together the following list from the National Wildlife Federation website plus a few other sources:

- **Mulch with dead leaves--then add rocks and logs.** Dead leaves from autumn leaf drop left on flowerbeds and in corners of the yard are beneficial not just to overwintering pollinators, they also help toads, salamanders, and frogs survive in summer. Add a few logs and a pile of rocks to create an even cooler refuge for amphibians. During hot, dry spells, it's a good idea to throw some water on these occasionally.
- **Leave patches of exposed, damp soil.** Doing this under shrubs and will allow amphibians to dig in to stay cool. During dry spells, water these spots every few days to keep them moist.
- **Mow less.** Setting the mower blade higher to cut the grass at four to five inches during summer hot spells will not only help the lawn survive, it can also provide cool vegetative respite for frogs and toads.
- **Stop mowing altogether.** Let some areas of the yard grow tall grass and weeds. This creates shade for amphibians, plus supports pollinators and other insects like fireflies. Birds will also benefit from having more food forage from grass seeds and insects.
- **Provide water.** A small pond or bubbling water feature, a bird bath, several small saucers of water---any of these will work nicely. Keep them at ground level and shaded, if possible. Bees and butterflies need water, too. A shallow dish filled with small stones or pebbles that break the water surface to provide a place to stand will meet their needs.
- **Grow native.** In his best-selling book, *Nature's Best Hope*, entomologist Doug Tallamy details how landscaping with "alien" non-native plants has created a die-off of insects resulting in a decline in the birds and wildlife that depend on them. His prescription to plant native flowers, shrubs, and trees to restore biodiversity has inspired a movement of dedicated backyard conservationists through a project called "Homegrown National Park." (For ideas about what to plant, see <https://homegrownnationalpark.org/> For ideas about planting for at-risk native bees

in NH, see *Beyond the Buzz: How to Create a Healthy Pollinator Garden*
<https://extension.unh.edu/blog/2022/02/beyond-buzz>

It is tempting to add at least one more bullet to this list which would be to **support a conservation organization**. Either The Nature Conservancy or the National Audubon Society would be good choices. Recognizing that ecosystem health and human wellness are intricately linked, The Nature Conservancy in New Hampshire is working to create a network of resilient and connected landscapes where biodiversity can flourish in the face of a changing climate. Likewise, the National Audubon Society acknowledges that unstable climate is by far the biggest threat to birds and advocates for solutions to achieve net-zero carbon emissions by 2050.

As the weather gets weirder and hotter and more extreme, the efforts of gritty organizations like these that take a strong stand on climate are more important than ever.