THE GREAT OUTDOORS

The smell of snow? One of the largest and most complex nerves in our skull is the trigeminal. It interprets both sensory and motor information, including our sense of smell. It responds to tingling sensations like mint, spices, or the bite of winter air. The trigeminal nerve relays a "subtle yet visceral reaction that makes the aroma of a snowy day feel alive, vibrant and unmistakably winter." —Melissa Szaro (Ski.com). Photo: K. Rossini

Winter Woods

By J. Morton Galetto, CU Maurice River

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On milder winter days I enjoy taking a walk in the forest. It is often quieter

underfoot there because of moist ground, allowing one to hear even the faintest drilling sounds of a foraging downy woodpecker. On drier days the crunch of dead leaves under my feet can drown out the sounds of nearby wildlife, so I often find myself stopping to listen.

In the stillness of a winter woods, a babbling brook like this one at the Natural Lands' Peek Preserve can be heard from greater distances. Photo: J. Morton Galetto

In the quieter moments, the woods inspire reflection and I become lost in thought. I look at the barren branches of a winter tree thinking that even bare, words ring true, “I think that I shall never see a poem lovely as a tree,” (Joyce Kilmer). The cry of a red-bellied woodpecker, the honk of a goose, a scolding chickadee, a nasal yank-yank of a red-breasted nuthatch, or the scrabbling scamper of a squirrel often interrupts my contemplations. At times nature simply demands our attention.

A bit of snow or rain enables me to more easily identify tracks and sign left by the denizens of the forest and to craft stories about what must have happened there.

A leafless canopy provides newly-discovered, unimpeded views. Farther off, rivers and fields can be spied where leaves once created a more short-sighted perspective. Sometimes things that I thought to be much further away are in fact nearby.

Recently I was walking a field in Salem County bordered by a deciduous forest along the Salem River. The leafless

trees on the opposite hillside revealed that I was just a short distance from southern New Jersey's famous Cowtown Rodeo. I'd not realized its proximity through a thick canopy, but it was made ever so obvious in a bare winter woods. I saw a herd of deer navigate the meander on the narrows of the river's bed beneath me and then run up the hillside pasture behind the rodeo. There cows looked at them without a care as they peacefully shared the same pasture.

Signs of animals can be seen from greater distances in a winter woods, due to more open canopy and understory. Beaver activity at Union Lake Canal. Photo: J. Morton Galetto.

Sighting birds and animals among the leafless trees is also much easier in winter. The early spring forest offers these same advantages. In the last few weeks I have seen a number of racoons simply because bare branches revealed their presence.

Wildlife watchers enjoy leafless trees that offer great sightings of birds and other arboreal animals. Cumberland County Eagle Festival. Photo: CU/Natural Lands File photo.

Another benefit of the winter woodland is that nasty ticks are often finding shelter and thus are not nearly as prevalent. Others of our famously dreaded bothersome comrades, like greenhead flies and mosquitos, are nonexistent. In our region this is a huge plus for cold weather hikers.

Winter is also the time of water recharge. The rainfall that we get during cooler months has less evapotranspiration than in hotter months, so that more precipitation is able to provide groundwater recharge to both our aquifer and surface waters. Average rain in New Jersey is 3.8 inches per month. From 1895-2025 the average rainfall for January through March was 3.76 inches. If you are curious about April showers, that average is 3.74 inches (source climate.rutgers,edu), so that the higher moisture levels are primarily due to less evaporation versus more rain.

I often feel that chilly days smell fresher. Science actually explains what odors we perceive. Scents move through the air on molecules that come from plants and the ground. However, plants release fewer aromatic oils in winter, thus making familiar aromas less present, and when it's cold molecules simply move more slowly and evaporate less. Additionally the blood vessels in your nose constrict in response to cold air and your respiratory passages lose moisture. This diminishes your sense of smell as well. Furthermore, reduced humidity in winter means there are fewer air

particles. None of this seems as poetic as saying, “The air had a fresh clean cold odor – like new-fallen snow.” At any rate I prefer to think that I have the superpower to smell an approaching snowfall, versus my simply experiencing the lack of scent; sometimes scientific knowledge ruins magic!

Winter precipitation is important for the spring growth of trees. Remember that water, plants, and sunlight are the basis for all life. Through the process of photosynthesis plants will trap the sun’s energy in their leaves, thereby changing water and carbon dioxide into sugar, and thus allowing animals to access the energy necessary for all life on earth. Trees and plants will also return water to the atmosphere via their leaves. And the evaporation of surface waters will all contribute to the water cycle.

In winter, trees slow their growth to conserve energy. Deciduous types have dropped their leaves to reduce water loss while evergreens continue photosynthesis but at a much slower rate. The decrease in sap flow helps trees survive cold, frost, and wind.

The windiest part of the year in New Jersey is October 6 to April 4, when winds average 15 miles per hour (2018-Present weather spark.com). Know that more importantly the highest of winds take place during this time, with mean hourly peaks in the 25-28 m/p/h range. The absence of leaves helps give limbs a reprieve from being torn off by winter's gusts.

Beneath our feet microorganisms like fungi and insects remain active, especially if snow offers an insulating blanket. Decaying leaves, branches, forest mast, and other organic matter are all breaking down to create soil, such that important nutrients are being replenished.

In autumn I found that most of our vernal pools had dried up. These are the depressions where soils are less permeable and that fill up with water, often due to a layer of clay. During winter and early spring they will normally be recharged, providing important habitat for reptiles and amphibians, and offering drinking holes for mammals and birds. I hope to find that recent rains have been replenishing these pools.

Vernal pools recharge during winter and early spring, providing critical habitat for amphibians and other forest creatures. Willow Oak Nature Area, Vineland. Photo: J. Morton Galetto

In a winter forest, who stays and who leaves depends on the creature's adaptability and its needs. Birds are the most adaptive. There are year-round birds in our forest, birds that migrate to warmer climes, and those who come from colder areas to winter here. Some animals will hibernate or slow down their metabolism. As with us, it's a matter of seasonal preparation and adaptation. Other creatures are simply designed for seasonal variability, like mink and otter.

Enjoying winter wandering is truly a matter of preparation, plus avoiding the worst of days to enjoy the out of doors.

So watch the weather and layer up for a nice winter walk.

Trails like those found at the Nature Conservancy's Maurice River Bluffs Preserve are a favorite for winter hikers. Photo: J. Morton Galetto

Sources

Climate Rutgers.edu, NJ Precipitation Stats. *https://climate.rutgers.edu/stateclim_v1/nclimdiv/*

Ski.com To the Mountains, The Chemistry of Cold: What Does Snow Smell Like? *https://www.ski.com/blog/ever-wonder-why-snow-smells-so-good*

Trees

BY JOYCE KILMER 1886-1918

I think that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is prest
Against the earth's sweet flowing breast;

A tree that looks at God all day,
And lifts her leafy arms to pray;

A tree that may in Summer wear
A nest of robins in her hair;

Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

Alfred Joyce Kilmer was born December 6, 1886, in New Brunswick, New Jersey. The author of *Main Street and Other Poems*, he was killed while fighting in WWI. His lyrical poem is likely the most famous of all verses on trees. Sometimes maligned as too simplistic, it endures as one of the poems "[p]ractically known by everybody." (literary critic Guy Davenport). Others have praised the poem as deceptively simple and quite sophisticated in its personification and anthropomorphic imagery. You be the judge.
(photo: Wikipedia Commons/Columbia University)