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The joy of paying attention

From the beginning of history, people have searched for order and meaning in the reoccurring events of the natural world that, together, constitute a year. In days gone by, knowing the dates of certain natural occurrences



OUR CHANGING SEASONS
Drew Monkman

could very well mean the difference between life and death. In many cases, one's very survival depended on being aware of food-related events such as when to sow seeds or when the salmon were running.

Today, people are once again discovering the satisfaction of observ-

ing and recording a wide variety of annually repeated natural phenomena. And, by keeping records, the pleasure of the search is all the greater. Our interest in nature's cycles may not be as pressing as that of our ancestors, but it can be just as compelling, especially in a time of climate change.

The art of observing and recording the annual cycle of "first events" is known as phenology. Phenology deals with the relationship between the changing seasons and climate, and the related changes and movements of plants and animals. For example, someone with an interest in phenology might record the date of the arrival of the first tree swallow in the spring, or the first trilliums to flower. Keeping track of the dates of first happenings not only enhances the pleasure of seeking out these events, but also provides a reassuring measure of order and predictability to nature. It also serves as a way of being attentive to all that surrounds us.

Phenological awareness helps us see the land as a whole. You soon develop a sense of what other phenomena in nature should be happening at the same time as the event you are observing. For example, when the leaf colours are at their height in mid-October, white-throated sparrows and dark-eyed juncos are coming to feeders, kinglets and yellow-rumped warblers are calling as they glean insects from trees and shrubs, a spring peeper will sometimes break into song, musky fishing is at its best, asters abound in fields and the Great Square of Pegasus looms high overhead in the night sky.

So, to a very large extent, "seeing" means knowing what to expect. An awareness that rough-legged hawks are likely to be hov-



Early fall is a time of morning mists. The photographer never knows what surprises may await.

Terry Carpenter, special to The Examiner

ering over a hay field in October through early November greatly increases the chances of actually seeing them. In fact, the cornerstone of most plant and animal identification, especially birds, is knowing what to expect, given the habitat and the time of year. A seasons- or phenologically-based approach to natural history, therefore, provides a way to mentally organize and retrieve information about the natural world. Otherwise, much of the content of field guides and other nature books becomes little more than an impenetrable mass of information.

The events that constitute nature's annual cycle in the Kawarthas are practically limitless. In Peterborough County alone, there are at least 1,200 species of vascular plants, 55 mammals, 17 amphibians, 16 reptiles, 90 butterflies, at least 60 dragonflies, 160 breeding birds and another 75 bird species that regularly migrate through our area. Each of these species responds to the advancing seasons in a series of datable events. Obviously, no one person could ever hope to record or even to recognize more than a small fraction of these annual events. However, simply tracking a few of them can be very

satisfying and quite often surprising, especially in light of climate change.

Phenological records are providing further evidence of how quickly climate change is actually occurring. They also help to explain why these changes are so dangerous. Scientific American (January, 2004) reports that the flowering dates for a large number of plants in Oxford, England, have changed quite dramatically in the past 50 years. One study found that 385 plants were flowering an average of 4.5 days earlier in the 1990s compared to the previous four decades. A smaller subset of 60 species were flowering, on average, two full weeks earlier. In another study in the Netherlands, it was discovered that certain caterpillars are now reaching their peak abundance a full half-month earlier than they did 20 years ago. This, of course, is because the plants they feed on are leafing out earlier due to warmer spring temperatures. All of this might seem quite inconsequential until you begin to think of some of the other animals that depend on these caterpillars, such as birds. Birds returning from the tropics in the spring know when to begin their northward migration by the changes in the length of the

day. Obviously, global warming has no effect on day length. This means that birds may end up arriving on their temperate zone breeding grounds on a date that no longer makes sense. In other words, they could very well be arriving after the most important source of food for their nestlings, in this case caterpillars, has passed its peak. The study found that most pied flycatchers, which migrate 5,000 kilometers from tropical West Africa to the Netherlands each spring, are now arriving too late to take advantage of the peak in caterpillar numbers. So, today, only those flycatchers that arrive earliest have healthy chicks. Researchers in Europe are speculating that this same mechanism, namely a mismatch in nesting dates and peak insect numbers, may be an important factor behind why a number of other tropical migrants in Europe have declined in recent years.

There is a certain amount of natural variability in the timing of "first occurrence." Factors such as normal variability in weather patterns or the influence of an El Niño can delay or hasten events. This past May, tulips remained in bloom much longer than usual, thanks to the cool weather. Still, I

was somewhat surprised this fall to see white-throated and white-crowned sparrows arriving right on schedule in my backyard despite temperatures that were more typical of August than September. Obviously, the birds' southward migration is indeed responding to cues other than temperature and food availability in the north.

American biologist and writer Bernd Heinrich suggests that "most of us are like sleepwalkers here, because we notice so little." In our hectic, modern world, so much of nature has been reduced to Discovery Channel documentaries and all that stuff that rushes past on the other side of closed car windows. However, knowing and paying attention to nature becomes so much easier and satisfying when it is done in a context of place, in our case central Ontario and the Kawarthas, and in a context of time, namely the passing seasons.

If we are ever going to take care of this planet, we have to start by knowing and caring about our own region.

For example, only those people who know that we should be hearing nighthawks over downtown Peterborough on warm summer nights — a beautiful sound that has fallen silent — are disturbed and saddened by their absence, but yet motivated to try to do something to bring them back. Human nature is such that, in the end, we will protect only what we love and love only what we know.

What to watch for this week

If you're walking along our wonderful rail trails in Peterborough this week, take a moment to look at the various asters that adorn the trail edges. Purple New England asters, mauve heart leaved and purple-stemmed asters, and white or mauve-tinged heath, panicled and calico asters can all be seen. Don't worry if you're not completely certain of what species you're looking at. This is a complicated genus of plants, hybridization is common and even the experts don't necessarily agree on how they should be classified into species.

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