



When will Algonquin's leaf colour be at its peak?

Algonquin colour admirers understandably want to know when the colours will be at their peak but this is difficult to say ahead of time. We have no crystal ball, however, fall leaf colour is usually best from late September through early October. Our graph illustrates the "peak" dates since the 1970s. This may help when you plan your autumn visit to Algonquin.

You can check for regular updates on the Park's leaf-colour status by visiting: www.algonquinpark.on.ca or www.OntarioParks.com When in the Park, trails with good views of maple colour include:

Hardwood Lookout
(at km 13.8)

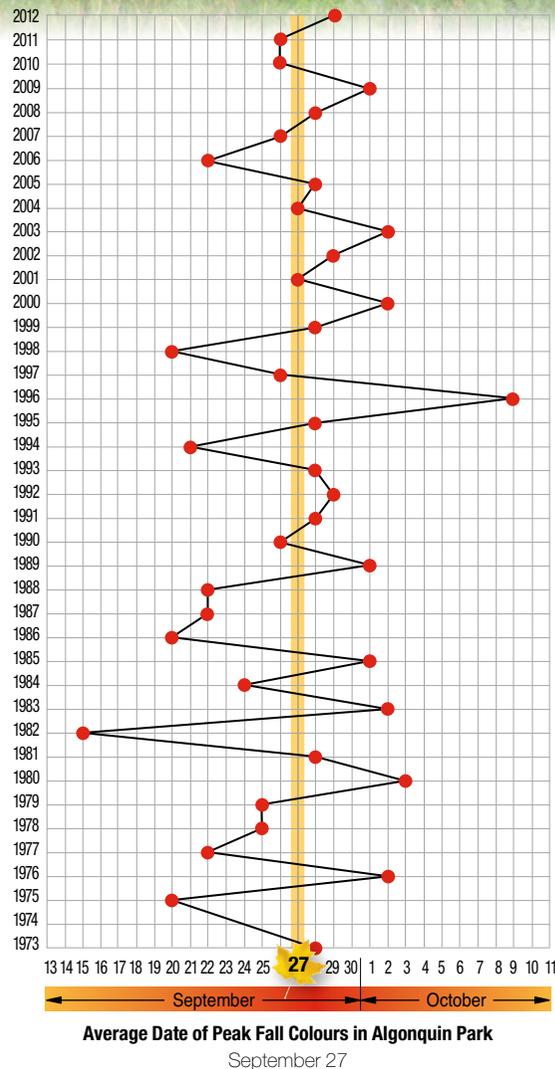
Track & Tower
(at km 25)

Centennial Ridges
(2 km South from km 37.6)

Lookout
(at km 39.7)

Booth's Rock
(9km South from km 40.3)

Enjoy the view!



The Visitor Centre now offers free WiFi internet access... and while there, don't forget to check out The Friends of Algonquin Park bookstore, or enjoy a light snack or meal at the Sunday Creek Café.

A single piece of firewood can destroy millions of trees.



If you bring your own firewood from home, you could spread insect and plant diseases that threaten the health of our forests. The **Asian Long-horned Beetle** and **Emerald Ash Borer (EAB)** are of particular concern right now. Although these invasive insects pose no risk to human health, they threaten the health of our forests.

Prevent the spread of these pests.

Here's how YOU can help to control the spread of invasive species

Leave firewood at home!

A better alternative is to purchase firewood locally around the park; however please check for pest infestation and avoid purchasing ash firewood.

Leave natural items in their natural habitats.

It is unlawful to cut any plants or trees, or collect dead wood, for campfires.



Firewood is sold at your campground office or...

- Pog Lake Woodyard (at km 36.9)
- Mew Lake Woodyard (at km 30.6) *open year-round*
(during winter months, operates on self-serve fee station - cash only)

QUESTIONS? Talk to Park staff, call the Canadian Food Inspection Agency (CFIA) at 1-800-442-2342, or visit www.inspection.gc.ca
FIREWOOD from all areas regulated by the Canadian Food Inspection Agency (CFIA) will be seized and NOT replaced.

Protect our environment and forest resources.

www.algonquinpark.on.ca

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The Raven

A Natural and Cultural History Digest

Gone, and in a Puff of Smoke

By Peter Mills

Much of what we know about the natural world today comes from a rigorous scientific process that involves testing, evaluation of the findings, and often re-testing and re-evaluating many times over again to uncover the best explanation for what is truly happening. It would be unfair, however, to say that this formal process carried out by trained professionals is the only avenue by which valuable information has come to be known. What about citizen

One of these citizen science programs that is currently on-going is the Ontario Reptile and Amphibian Atlas—a project run by the Ontario Nature organization, but whose field work has been carried out by thousands of amateur nature enthusiasts. Simply put, upon seeing either a reptile or amphibian anywhere in the province, anybody (even you!) can visit their website and report a sighting using an online interface, entering information on precisely where



Eastern Hog-nosed Snake
SCOTT GILLINGWATER

science—the everyday collection of information by enthusiastic members of the public? What about Christmas Bird Counts—a phenomenon carried out all over North America during the winter when bands of people gather together and spend a whole day censusing all the birds found within a region? Or, for example, Butterfly Counts carried out by keen naturalists who, by spending one day per year swinging their nets about, can tally their findings and thus keep a record of how the populations of these fascinating insects vary over time.

the critter in question was found. The goal of the Atlas is to create maps that accurately convey just where each of Ontario's snake, lizard, turtle, salamander, and frog species are found. Why is this important? Well, it serves to show us where all these creatures live—animals that contribute to the intrinsic quality and individuality of Ontario, as well as showing conservationists where to focus their efforts when it comes to offering protection for this often at-risk group of animals. It also shows us some pretty interesting trends. For instance: the map for



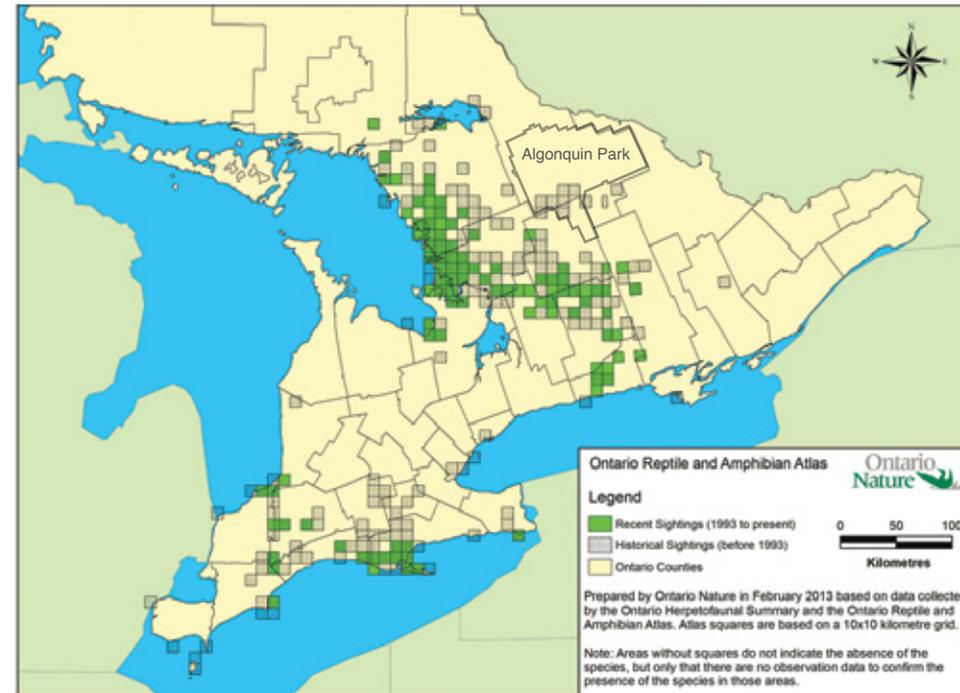
the Massasauga Rattlesnake—Ontario’s only venomous serpent—shows it is found only in a narrow band along the Georgian Bay shoreline and a few sites in far-southern Ontario. This reflects the specific habitat-needs of this snake (it is not, by the way, found in Algonquin). On the other hand, looking at the range map for the Red-backed Salamander shows it is extremely abundant, and can be found nearly anywhere there is forest in southern Ontario.

The maps produced by the Atlas also offer more detail than simply showing what species are found where—they show where a species was found historically, as well as currently. Often, these two ranges are the same, but in some places, for a variety of reasons, a species may no longer be found where it once was. It is from looking at the maps in this way that the plight of Ontario’s reptiles and amphibians becomes apparent. This group of animals has not fared well with humans as we have

moved into the landscape—roads laid down to transport us also kill thousands of frogs, snakes, and turtles in their attempts to cross them. The destruction of habitat for development, toxic pollutants, the illegal collection of the creatures from their wild habitats for the pet trade, and a host of other reasons have drastically reduced the province’s numbers of these amazing animals. So it is here, when looking at the maps over a span of time, that the Atlas becomes of special value to conservationists. It is also here that these maps become of interest to us in Algonquin Park, and especially when we look at the map of one species in particular: the Eastern Hog-nosed Snake, or, as it is often known locally, “The Puff Adder”¹.

Before we continue, let us offer a formal introduction to this snake. Measuring, in large specimens, at close to a metre and with a thickness similar to the inner-tube of a bicycle tire, the Hognose is an impressive beast. But

Eastern Hog-nosed Snake (*Heterodon platirhinos*)



The distribution of the Hognose in Ontario, green squares showing where it has been recorded recently (since 1993), and empty squares showing where the species was found historically (though it is possible in some of these squares it is just no one has made an effort to search for this species). Note the “empty” squares within Algonquin’s boundaries.



A Hog-nosed Snake flaring its neck out as part of a dramatic, but heavily-bluffed, defensive display.

the thing that propels it into the stuff of legend is not its size, but rather its bizarre defensive behaviour that it exhibits when confronted by a predator (or curious human!). Flaring out the neck into a flattened, cobra-like position, hissing and puffing with alarming volume, and making mock-strikes (though the Hognose will not bite), most would-be predators are frightened away early on in the encounter. If the predator is persistent, the Hognose will “play dead”, during which it writhes about, mouth agape and tongue hanging, flips upside-down, and opens up the cloaca (the anus) to smear foul-smelling fluids all over the body before finally coming to a jarring “death”. If lifted right-side-up during “death”, the Hognose quickly flips itself into a belly-up position again.

The Hognose is really a southern species, whose range just fingers up into Ontario where there is suitable habitat which, in this species, generally consists of open sandy sites with sun-exposure to power these ectothermic (“cold-blooded”) creatures. It would be fair to say that Algonquin Park and the surrounding area form the northern fringe of this species’ range. Or, perhaps this is not quite correct—or at least not today, in 2013. You see, Hog-nosed Snakes are no longer found in Algonquin. They once were, but something has pushed them out. But what?

So, let us now use what we have learned about the Hog-nosed Snake and set out at solving this mystery. To begin, we should know

that the last report of this snake from within Algonquin’s boundaries was from 29 years ago: “1984-July 24th-1 large adult-Two Rivers Airfield-Tim McCrae”.

Let’s begin our investigation by examining some historical elements from Algonquin’s past. Between the mid-1800s right up until the early 1900s Algonquin was recklessly logged, and as a result of the huge quantities of dried-out brush left behind by the lumbermen, fires were a regular phenomenon. Both the removal of trees and the burning of the leftover slash



A Hog-nosed Snake in the act of playing dead during which it writhes about, mouth agape and tongue hanging, flips upside-down, and opens up the cloaca (the anus) to smear foul-smelling fluids all over the body before finally coming to a jarring “death”.

led to the conversion of Algonquin from a land of mature, cool, shady forest to one of clearings, bare rock, and sunshine—excellent habitat for the Hog-nosed Snake. Whether they were found here ancestrally in extremely low numbers is not known, but it is certain



Algonquin’s landscape has undergone a dramatic history. Historically, large areas of the Park appeared like this—places where fires induced by reckless logging practises swept through, converting forested habitat to open and sunny rock outcrops with regenerating growth.

that during this time when these open, sunny habitats were plentiful—created by axe, saw, and rampant fires—the Hognose would have undertaken a slow invasion of the Algonquin area from its core-range from farther south. For several decades these snakes survived here in Algonquin, but in the mid-1900s stringent rules for logging were being established for forestry practises. It was found that taking fewer trees from a forest in a given year really meant more lumber production in the long run. The forests began to grow back and fill in under this new logging regime. This, combined with the fact that forest fire suppression was also being mastered, led to the gradual disappearance of the habitats the Hognose needed to survive. As a result of these two things, the landscape began to mature back into cool, dark forest; a better balance had been met between maintaining Algonquin’s forested habitats and logging. Hognose numbers dwindled until, unbeknownst to us at the time, perhaps only one remained by 1984, the end of an era for Hog-nosed Snakes that began, and was terminated by influences people had on the landscape. They continue to be found elsewhere in the province, but here in Algonquin the Hognose has now all but disappeared.

So what does the disappearance of Algonquin’s Puff Adder tell us about the implications of a changing landscape? We

have seen that the Hognose was helped in this area by a massive man-made disturbance—logging, and the fires that came with it. They were then pushed out by a pair of factors. One of them man-made (fire suppression) and the other natural (forest regeneration). Maybe our story illustrates the notion that natural processes and rhythms of the landscape can overlap and work in tandem with human-impacts on the environment. Maybe this story reminds us that changes in the landscape—be they natural or anthropogenic—create both winners and losers, and that it is more of a balancing act than we may think. In the places where some species are pushed out, a space is created for new species to move in. The Hognose was a winner in one era of change in Algonquin Park, and a loser in the greatest sense of the word in the next. But maybe that’s okay. And so it goes.

¹ *The name Puff Adder really belongs to a truly venomous snake from Africa. The Hog-nosed Snake bears this name only with an informal slang association, named such because of the puffing and hissing sounds it makes during its famous defensive display. (It is not venomous).*

² *We do not argue species-at-risk do not need help. The Hognose is still found in southern Ontario and is in decline, but unlike in Algonquin the declines are mostly due to anthropogenic impacts like road-kill, persecution due to fear, habitat loss to development, etc.*