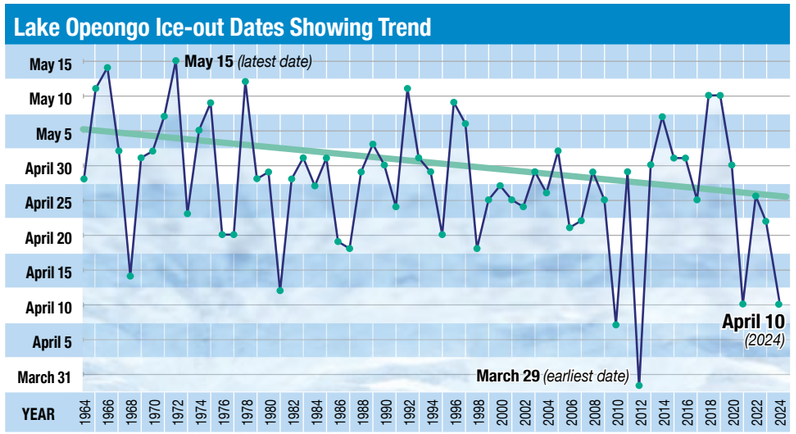
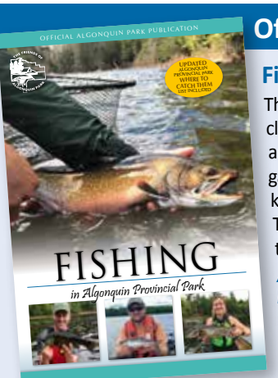


Compiled by Ontario Ministry of Natural Resources and Forestry: Algonquin Fisheries Assessment Unit

Fishing Reminders

- No live baitfish are permitted.
- No fishing is permitted within 100 m of a water control dam.
- No fishing within 300 metres downstream of Lake Opeongo's Annie Bay dam.
- Daily catch and possession limit for Lake Trout is 2 per person *(1 per person with a Conservation Licence)*.
- Daily catch and possession limit for trout is 5 per person, no more than two of which can be Lake Trout *(2 per person with not more than one Lake Trout, with a Conservation Licence)*.
- Be aware some lakes have slot limits. Check the Algonquin Information Guide for a list.
- Worms are not native to Algonquin and remaining worms should be taken home or thrown in the trash – not on the ground!

Refer to the Ontario Recreational Fishing Regulations Summary for complete details.



Official Park Publication

ONLY $6.95

Fishing in Algonquin Provincial Park

This publication provides interesting facts about Algonquin's clear, cold lakes; threats to lake ecology; and fisheries research and management. It has lists of all fish species in Algonquin, plus gamefish present in 233 lakes. Park visitors often have limited knowledge of how or where to fish, or the kinds of fish to expect. This book is intended to provide you with the information needed to plan your next angling adventure in Algonquin Park.

Available at the Algonquin Visitor Centre Bookstore & Nature Shop, East Gate and West Gate, or online at algonquinpark.on.ca

Notes from the Field By Peter B. Mills

Dickson Lake Old Pine

Fifty-two years ago, park staff determined that some impressive Red Pines growing along the shore of Dickson Lake were 340 years old. That means they germinated as seedlings around the year 1630 and, if they are still alive, would now be nearly 400! Last year, we checked in on the stand of pines to get a sense of just how many were still standing. Although some of the Red Pines seem to have succumbed to death by disease and lightning, we are happy to report that visitors to Dickson Lake still have an opportunity to see several of these amazing trees.

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The 1.3-km trail with outdoor exhibits is available year-round.

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Off the Hook

By David LeGros

It's about 6:20 in the morning and there is a breeze, scented with Balsam Fir and thawing soil at the edge of the lake. You have painstakingly planned the route, made back-country reservations, and decided on a menu for breakfast, lunch and dinner, not to mention a few treats. Your camping gear is all organized, and you picked out light equipment – those portages are feeling longer these days! Lastly, some fishing rods, tackle, and a container of bait. You and your companion have carefully loaded your canoe and are just about ready to push off from the access point into the Algonquin wilderness. You are leaving behind urban life, a long cold winter, and are now finally heading into the woods of Algonquin for an adventure.

Every year, countless people go on this annual pilgrimage. Heading into the backcountry shortly after ice-out, the annual trout-opener fishing trip is a timeless tradition. When the water is still cold, the trout move up into the shallows in search of food, which results in some of the best fishing all year. Anglers will use lures such as small spoons, spinners or the trusty hook, line, and worm. Earthworms, the universal fishing bait, are appealing to most species of fish and sometimes make the difference in getting a fish to bite. Not only are they widely used, they are commonly available to the point that most convenience shops will sell them.

We also find worms all over the place; for many of us, they are some of the first creatures

Continued on Next Page...

Photo credit: Peter Simons

Continued from Page One...

we interacted with as children, finding them on the sidewalk after a rain, or encountering them under rocks and logs we turned over in curiosity. Despite being familiar, there is something foreign about worms, something strange about them. They have no legs, bones, and few features we can see on their bodies, and yet they are seemingly everywhere. Upon closer inspection, one will find that worms have small mouths at the "thick end" and a smooth band on the front end of the body. Lastly, the elongated body tapers to a flattened tail-end.

What many of us don't appreciate about worms is where they came from and how they got here. We see them almost everywhere and don't usually give them much thought because of it. To understand worms in Ontario, we need to go way back to a time when an ice sheet spanning the entire province had a thickness of nearly four CN Towers stacked on top of each other. There was nowhere for worms to live here at the time of the last ice age, about 11 000 years ago. There were worms in North America at the time, but south of the sub-continental glaciers, in places that never froze. Several millennia later, after the retreat of the glacier, there were still no worms – they had not colonized Ontario. But things would change, as Europeans began to arrive in North America. In ships that landed on the East Coast, people brought with them all sorts of items to the continent, like food, cloth, crops and livestock. In addition, they also sent goods back to Europe, like furs, timber and other natural resources, and they were all transported on sailing ships. A heavy ship sails with better control, so ships would be weighed down with cargo of little value on one trip but return it heavy with goods on the way home, using ballast. Ballast was often in the form of barrels of soil, dug up in Europe and, once there, they were dumped out. The soil contained all sorts of stowaways, from seeds of many invasive plants, insects, and, of course, worms. More soil was transported with agricultural crops and nursery stock. Even today, worms are transported in soil, nursery stock, across Canada. Worms are now found in every Canadian province and territory.

The sale of "Canadian" worms has been common place for decades. Photo credit: Peter Simons

Worms are active during the day, but in the soil, so we rarely see them. At night, however, we have a great opportunity to observe worms – go out with a flashlight and look on the ground. On a quiet night, you can even hear the worms moving in the dead leaves. They can be seen crawling over the ground's surface on cool, humid nights, but what are they doing? In many cases, the worms are foraging for food. A worm will emerge but keep its hind end in the burrow. They will fan out and search for food, which is primarily decaying vegetation. We don't normally see their mouths, but they do have one, and they "bite" dead leaves and draw them back to the burrow for consumption. Some species also feed in the burrow, consuming the soil itself. Digested material is excreted underground or on the surface of the soil, where it is known as "worm castings". These are full of nutrients that are readily available for plants, which is why gardeners are happy to see the little piles of worm droppings. The other activity worms may be doing on the surface is mating.

Common Earthworm. *Once native to Western Europe, this species is now spread across the world.*
Photo credit: Gerrit Oehm

Number of Species *– There are at least 8 documented species of earthworm's found in Ontario. The most widespread is the Nightcrawler. Worldwide there are over 6000 species of earthworms. Some species in our region have been documented living as long as 6 years.*
Some impacts *– In places where worms seriously impact forests, they have consumed much of the duff layer, reducing habitat for forest floor species like salamanders, ground nesting birds and many plants.*

Worm reproduction is rather interesting. Some species are parthenogenic, which means they can reproduce without a partner. A common myth is that a cut worm creates two new ones, but this is not true. Other species are hermaphroditic, which means any mature worm of the same species is a prospective partner. As with feeding, the hind end of the worm remains in the burrow, and the front end reaches out to feel for another worm. If close by, one worm may even enter the burrow of another, almost like knocking on their dates' door. When two receptive worms meet, they will line up their reproductive organs. After a mutual exchange of sperm, a cocoon of eggs is produced and deposited in the soil near its parent's burrow. Newly hatched worms will soon feed in the soil soon after hatching.

The ubiquitous Dew Worm or Nightcrawler (*Lumbricus terrestris*), purchased for fishing bait, comes from somewhere, but where? There isn't a worm farm, but it's not far off. Most of the worms used for bait in our province are collected in southern Ontario, on farms. Several dozen worm pickers arrive at night, ready to pick. The worm pickers are a well-organized and equipped crew. They wear powerful headlamps to light their way and find the worms, but it is important not to shine the light directly on the glistening worm, as it will detect the light and quickly disappear back down their burrow. Once they locate a worm, they reach down and quickly nab the squirmy creature, and deposit it into an empty container attached to one of their legs. After that, they will dip their fingers into the container attached to the other leg, which contains sawdust to dry out the worms' mucus now on the fingers of the picker. This sounds pretty easy, and really it is, but this was the capture of only one worm. A picker may spend most of the night bent over, searching and picking. Under perfect conditions, a single picker may collect over 20 000 worms in a night!!. The ideal conditions for picking worms are under overcast skies with temperatures above freezing, but below 17C, with little wind to dry out the worms. The area west of Toronto to Windsor abounds with farms and offers excellent worm habitat. It is estimated that 500-700 million nightcrawlers are picked annually for the fishing bait industry from southern Ontario, which has a retail value of over $230 million dollars. You might think that worms could be collected in the way and scale described here almost anywhere, but the truth is pretty much all bait worms sold in North America and Europe are from southern Ontario. Abroad, they are marketed as Canadian Nightcrawlers, which is ironic, as they are not even native to our country, or even the continent! The humble worms collected on farm fields in southern Ontario are shipped all over, and you have probably purchased some from a gas station, convenience store or bait shop.

Soil degraded by night crawlers.The worms have consumed all leaf litter, leaving only worm castings, the most recently fallen leaves, and woody debris.
Photo credit: Matt Bowser, USFWS

Worms are great fishing bait and helpful for the garden. However, we cannot forget they are not only alien to Canada but are also invasive. But what is the problem with worms? Worms can reach very high densities and consume vast quantities of these dead leaves. Despite our forests producing literally trillions of leaves each year that eventually fall to the ground, they are meant to decompose at a slow rate, sometimes taking years, which provides homes and food for countless species. On a chemical level, these leaves release important elements like potassium, calcium, phosphorus, and nitrogen, which are essential for plant growth. Once worms enter a landscape, they feed on this debris, speeding up decomposition, and reducing the duff layer (the depth of dead leaves and other debris), altering the cycle of nutrients in our fields and forest. This shift in the function of our forests has been linked to reduced young tree and shrub survival from lack of nutrients, such as maples, birches, violets, and sarsaparilla. A shrinking duff layer also means less habitat for insects and invertebrates, and even salamanders and small mammals that live on the forest floor. These organisms are important in forest food webs and support many other species.

A healthy forest floor with lots of leaf litter due to the absence of worms. Photo credit: Ontario Parks

We don't know the extent to which worms have colonized Algonquin, but we do know there are many areas that are difficult to access for people, so worms should also have a hard time getting there, and they may not be there yet. There are very few areas in southern Ontario that do not yet have worms. It is estimated that individual worms travel about 10 m per year through natural dispersal but are easily moved by humans for much longer distances. We want to prevent worm introductions, particularly to the backcountry, and we need your help to do it.

If you are using worms in Algonquin:
- **Do not release or discard unused worms in nature. Dispose of them in the garbage.**
- **Do not litter; pack out the containers.**
- **Do not move or dump soil to different places; it may also contain worms, cocoons, or seeds of invasive plants.**

The secret to fishing is understanding the habits and ecology of fish, the timing of feeding, food preferences and seasonal habitats. As we learn more about how forest habitats support the lakes nearby, we know that they are connected. The link between an angler's annual trip and the loss of the duff layer in the forest is a bit of a leap, but this story is linked by worms. There are so many threats to wild places, many of which we can't do much about as individuals, but preventing the spread of worms and other invasive species is something we can all do. Earthworms do not spell disaster for Algonquin, but they are just another non-native piece that erodes the wild character of the park.