

Algonquin Park 2012 Loon Survey

Loon Reproduction in Algonquin Park Since 1981

Year	# of lakes surveyed	% with nests/young
1981	121	38%
1982	184	28%
1983	237	21%
1984	298	34%
1985	210	37%
1986	216	35%
1987	261	43%
1988	260	40%
1989	240	41%
1990	248	40%
1991	201	50%
1992	203	39%
1993	232	43%
1994	183	46%
1995	223	45%
1996	219	42%
1997	173	45%
1998	175	42%
1999	190	33%
2000	216	44%
2001	168	39%
2002	143	41%
2003	120	46%
2004	144	41%
2005	156	40%
2006	147	41%
2007	138	43%
2008	169	39%
2009	146	40%
2010	138	36%
2011	134	51%

The haunting calls of the Common Loon symbolize Algonquin's wild country for many people. Nearly every small lake has a breeding pair and there are multiple pairs on the larger lakes. Unfortunately, there are environmental threats to loons throughout their range that could potentially affect numbers here in the Park. These include reduced reproductive success caused by acid precipitation, and loons dying during migration due to avian botulism.



Common Loon

In 1981, we began a project to help determine just how well loons were doing in Algonquin. Visitors and staff report the lakes where they see adult loons, their nests and young. On average, nests or young were observed on 40% of lakes where loons were reported during the 30 years from 1981 to 2010. Only a long-term monitoring program can distinguish real trends from normal yearly fluctuations and we need observations from as many lakes as possible.

Please give us a hand by reporting your loon sightings this year. Report forms are available at park offices and the Visitor Centre.

Demise of a Swallow

Barn Swallows nested commonly on buildings, bridges and culverts in Algonquin Park until about 15 years ago. Currently there are fewer than 25 pairs nesting in the Highway 60 Corridor. Barn Swallow numbers have declined dramatically here and throughout northeastern North America, along with other swallows, swifts, nighthawks, whip-poor-wills and some flycatchers. All these birds forage for insects in the air. Reasons for the decline of the Barn Swallow are currently under study but may include: changes in the timing of occurrence and the numbers of insects; more severe weather events due to climate warming that reduce the availability of insect prey during the critical nestling period; and habitat loss and pesticide use in the South American wintering areas.



Please report the date and location of your Algonquin Park Barn Swallow sightings at the Visitor Centre or by email to: archives@algonquinpark.on.ca

Welcome Back to the Peregrine Falcon!

It is with great excitement that we report the return of breeding Peregrine Falcons to the cliffs of Algonquin Park. Peregrine Falcon populations were devastated by the widespread use of a pesticide called DDT, and by 1963 were no longer found breeding in Algonquin Park.

A reintroduction program was initiated in 1977, and 64 young Peregrine Falcons were released over a 10 year period. However, to our knowledge, none of these falcons ever returned to Algonquin Park to breed.

A full half century after they last nested in the Park – these splendid raptors have returned. We would like to thank Daryl Coulson, Pembroke District Ecologist for the Ontario Ministry of Natural Resources,



Peregrine Falcon

Ann Brokelman

for discovering the breeding pair of falcons while exploring the park. You can help us track rare birds like Peregrine Falcons by reporting your sightings to the Algonquin Park Visitor Centre.

The Raven is available online and a limited number of complete sets of the previous year's Raven are available at the Visitor Centre and the main gates along Highway 60.

www.algonquinpark.on.ca

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The Latest on Algonquin's Wolves

Part of what makes Algonquin Park such a special place is the leading role it plays in the field of research. With two research stations and a research reserve – Algonquin's research capacity fulfills one of the original reasons why the park was created over a century ago. Newer legislation like the Provincial Parks and Conservation Reserves Act has further enshrined research as one of the main objectives for protected areas.

Of particular value for research is Algonquin Park's relatively healthy ecosystem, complete with a top predator – the Eastern Wolf. Over the last decade an enormous amount of research has been conducted on Eastern Wolves in Algonquin Park. Literally thousands of hours of work by dozens of researchers has been conducted – from the depths of the park interior to laboratories at Trent University in Peterborough, Ontario, covering a variety of topics from pup survival to genetics. We thought it fitting that this issue of The Raven share some of the discoveries about one of our most charismatic animals.

Wolf research is not new to Algonquin Park. Pioneering work was conducted under the leadership of Dr. Doug Pimlott from 1958 to 1965 and by Dr. John Theberge from 1987 to 1998. Over the last 11 years, wolf research in Algonquin Park has been spearheaded by Dr. Brent Patterson, a research scientist with the Ministry of Natural Resources and Ontario's "go-to guy" when it comes to research on wolves, Coyotes and deer. Under his leadership, a dedicated team of researchers have studied different aspects of Eastern Wolf biology. Here is a selection of some of their discoveries:



Eastern Wolf

Derek Meier



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.





Dr. Brent Patterson with a radio-collared wolf. Jeremy Inglis

deer specialists, while other packs use both. Packs using moose tend to select young or very old moose; healthy adult moose are difficult for Algonquin wolves to prey upon. Many other factors influence prey selection as well – but regardless – the fact that these wolves are adapting to different diets is good news for their long term survival. In a world of changing climate, adaptability is important!

Pup Survival

Previous research suggested that wolf packs in Algonquin might be losing most of their pups due to disease or other factors. As part of his master's research, Ken Mills radio-tracked over 50 pups from 13 wolf packs and showed

They really are different!

Many studies involving hundreds of genetic samples indicate that the Eastern Wolf is a distinct species from the larger Grey Wolf and the smaller Eastern Coyote. Perhaps most interesting is that Algonquin Park is the primary range of the Eastern Wolf. Though these wolves are found elsewhere in Ontario and western Québec – the majority of the 'wolves' found outside Algonquin Park are actually hybrids (crossbreeds) between Coyotes, Eastern Wolves, and larger Grey Wolves. Algonquin Park is the largest, and primary, stronghold for the Eastern Wolf.

Getting a Taste for Moose

Studies in the 1960's and 1990's showed that wolves in Algonquin Park were primarily eating White-tailed Deer. This made sense during the 60's when deer were much more common than moose, but during the 1990's moose were very abundant in Algonquin, leading researchers to dub these wolves 'deer specialists' because of their continued preference for deer, despite moose being abundant. Karen Loveless's recent Master's thesis demonstrated that in late winter some wolf packs in Algonquin Park become moose specialists (particularly packs in western Algonquin), some remain



Six week old wolf pup. Brad Steinberg

that about 2/3 of Algonquin wolf pups were surviving to their first birthday, and those that didn't typically died from natural causes. Furthermore - almost 20% of wolf pups left their packs and struck out on their own at a much earlier age (as young as 15 weeks old) than ever recorded for wolves. More recent work on pup survival in western Algonquin Park, conducted as part of John Benson's PhD research comparing Eastern Wolves with hybrids outside of the Park (see *Importance of Algonquin Park as a Source of Eastern Wolves*) showed considerably lower pup survival, with many pups starving to death or even being

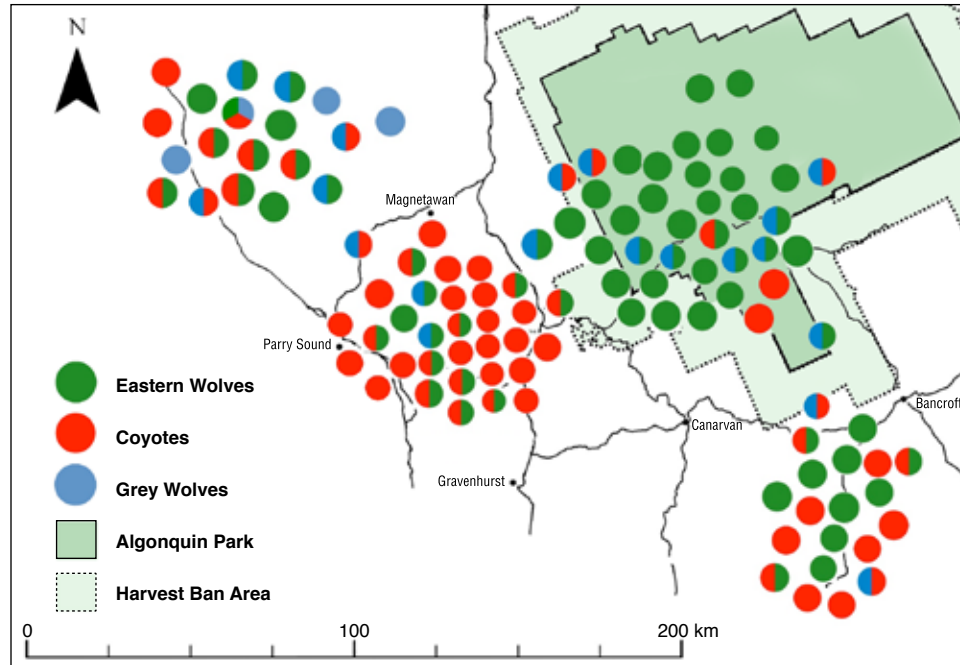


Figure 1: Each circle represents the location and genetic composition of an individual captured and sampled across four study areas, including Algonquin Park. Circles indicating hybrids have two or more colours.

cannibalized. Researchers believe that lower pup survival in the west versus eastern parts of Algonquin Park are related to food availability – there are generally more deer and beaver in the eastern part of Algonquin.

A Naturally-Regulated Population

In 2002, the Ontario Government banned the hunting and trapping of wolves in townships around Algonquin Park in response to concerns that Algonquin wolves were being killed when they left the safety of the Park. Much of the research described here stemmed from the research team's original objective of assessing the effects of the hunting and trapping ban on the long-term survival of the park's wolf population. Between 2002-2011 the team monitored the fate, movements and behaviour of over 300 radio-tagged wolves in the park. The data clearly show that though wolves lived longer after the ban, the population and size of wolf packs in Algonquin Park did not increase. However, the population shifted from one where

wolves were mainly killed by humans to one that is 'naturally regulated', existing at a level suitable for the number of prey available to wolves in the park. Furthermore, as described below, protection from humans seems to help park wolves minimize hybridization with Coyotes.

Family Matters!

As part of her PhD research, Linda Rutledge showed that while the population of wolves in Algonquin Park didn't change after the ban, wolf packs certainly did. Before the ban on harvesting wolves, Algonquin wolf packs regularly 'adopted' other wolves (and occasionally Coyotes) to make up for animals that had been shot or trapped while outside the park. This increased the risk of 'gene swamping' from Coyotes or Grey Wolves by giving them a chance to breed instead of the Eastern Wolves that had been killed. After the ban, adoption rates dropped significantly, restoring the natural social structure of Algonquin wolf packs and making them more resistant to the influx of Coyotes or Grey Wolves.

Importance of Algonquin Park as a Source of Eastern Wolves

As mentioned earlier, the dominant type of animal shifts abruptly from Eastern Wolf in the Park, to Coyote and hybrid west of the park (Figure 1). Across this hybrid zone in and adjacent to Algonquin Park, research by PhD candidate John Benson found greater wolf ancestry in individuals occupying areas of higher moose density and fewer roads, whereas individuals with greater Coyote ancestry tended to live in areas with more roads and fewer moose. Having identified "Algonquin-type" Eastern Wolves outside of the park, the team next wanted to evaluate the ability of Eastern Wolves to persist in these unprotected landscapes. So for the second component of Benson's research, the team monitored and analyzed the survival of Eastern Wolves, Grey Wolves, Coyotes, and hybrids in and adjacent to Algonquin Park. They found that adults and yearlings survived very well in Algonquin and the surrounding harvest ban area (>80% annual survival), but survival was lower outside this protected area where wolf and Coyote hunting and trapping was allowed. The most common cause of death outside of Algonquin was hunting and trapping by humans, whereas natural causes (e.g., mange, wolves killing other wolves) were most common in Algonquin. Furthermore, outside of the park, Eastern Wolves were more likely to be shot or trapped

than Coyotes, Grey Wolves, or hybrids in the same area. Overall this research suggests that Eastern Wolves in the region surrounding the Park mostly originate from Algonquin, and because they grow up in a protected area, they are naive to the dangers posed by humans when they leave the Park. High mortality outside of the Park leads to lower densities of Eastern Wolves, which in turn makes it more difficult for Eastern Wolves that have dispersed from Algonquin to find other Eastern Wolves to mate with outside of the Park. They often end up mating with Coyotes, Grey Wolves, or hybrids. The opposite is true in Algonquin; in the Park they are able to find other Eastern Wolves with which to mate. This may be what helps maintain the distinct population of Eastern Wolves in the park.

This summary represents but a snippet of the hard work and published research that has been produced by park researchers on wolves – but it demonstrates how essential research is in informing Park Managers and wildlife experts how best to ensure wolves remain a key part of the Algonquin Park ecosystem. If you'd like to learn more about the Eastern Wolf in Algonquin Park, please speak to a park naturalist, or seek one of these references:

- *The Raven Talks About Wolves*
- *Mammals of Algonquin Provincial Park*
- Link to the Patterson Research Lab's website: <http://people.trentu.ca/brentpatterson/Index.htm>

Join Us for a Wolf Howl in August!

Thursdays in August (and in September before Labour Day) are designated as possible wolf howl evenings. During a Public Wolf Howl we take visitors, in their cars (on rare occasions, we walk), to a location where we have heard a wolf pack the previous nights...so that you get a chance to hear them too!

Each Public Wolf Howl begins at the Outdoor Theatre with a presentation about the history of wolves and wolf howling

in Algonquin, and participants receive instructions specific to that evening's wolf howl.

Check any bulletin board, online, or with the Visitor Centre at (613) 637-2828 on Thursday to see if a Public Wolf Howl will be held that evening.

