



Algonquin Provincial Park Loon Survey

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, including reduced reproductive success caused by acid precipitation, and loons dying during migration due to avian botulism. In 1981, we began the Loon Survey to help determine 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 40 years from 1981 to 2020. Reports from 114 lakes in 2020 included observations of nests or young on 46 lakes (40%), right on the average. Only a long-term monitoring program can distinguish real trends from normal yearly fluctuations. 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 or email to:
wildlifesurveys@algonquinpark.on.ca**

Loon Reproduction in Algonquin

Year	# of lakes surveyed	% with nest/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
2012	128	48
2013	120	52
2014	152	41
2015	129	40
2016	117	44
2017	164	33
2018	152	41
2019	113	33
2020	114	40

CONTRIBUTE TO CITIZEN SCIENCE!

As of early 2021, the Algonquin Provincial Park iNaturalist project had over 51,000 observations of 3600 species!

Available on iOS, Android and at inaturalist.org



1. Upload a picture of any wild plant, animal or fungus.

2. iNaturalist's community and image recognition software will help you identify it.

3. Help out other naturalists by identifying their observations.

4. Every observation becomes part of a growing record of Earth's biodiversity.

By submitting your observations and photos to Citizen Science platforms like [iNaturalist.ca](https://inaturalist.ca), you can help park staff document biodiversity in the Park and even protect habitat. For more information join [iNaturalist.ca](https://inaturalist.ca), and check out Algonquin Provincial Park under projects.

iNaturalist Canada is run by the Canadian Wildlife Federation, the Royal Ontario Museum, and iNaturalist.org at the California Academy of Sciences.



Algonquin Visitor Centre

April 24 to October 31, 2021

Open Daily 9 am - 5 pm

November 1 to December 23, 2021

Weekends 9 - 5 pm, full services

Weekdays 9 - 4 pm, limited services

Museum • Bookstore & Nature Shop



Algonquin Logging Museum

June 12 to October 17, 2021

Open Daily 9 am - 5 pm

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

OntarioParks.com • algonquinpark.on.ca

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Canada Jays on the air!

by Matthew Fuirst

In winter, researchers from the University of Guelph arrive in Algonquin Provincial Park to begin the annual study of the Canada Jay. By then the landscape has been transformed into a snow-covered, icy wonderland. Lakes once echoing with loons are now frozen over and silent. However, the Canada Jay, a year-round resident of the boreal forests, remains in the Park, remarkably making great use of the winter conditions. For overwinter survival and late-winter provisioning of their young, Canada Jays rely on stored food that they place in lichens, under bark and in mosses. Many of you may be familiar with the Canada Jay, also known as the "whiskyjack" (derived from the Cree word, Wîskicâhk) or by its former common name, "Gray Jay". The Canada Jays of Algonquin are often sighted at popular locations such as Opeongo Road, the Mizzy Lake Trail, and Spruce Bog Boardwalk. These charming birds are most easily seen in winter, when most other birds have left. You may be wondering, how does this bird not only survive, but thrive in the Algonquin winter? Research on the ecology of this winter breeder, originally undertaken by a former summer naturalist, Russ Rutter (1899-1976) and then by now-retired Chief Park Naturalist Dan Strickland, is now in its 56th year.

Each February now, volunteers along with graduate students supervised by Dr. Ryan Norris from the University of Guelph, and Dan Strickland, start monitoring the breeding pairs of Canada Jays in the Park. First, they must make contact with all of the breeding pairs along the Highway 60 Corridor and begin searching for their nests. Canada Jays are leisurely nest-builders, taking 3 to 4 weeks to complete the task. It is very important (and rewarding!) to find nests while they are being built because, after that, it is extremely difficult to find them. Females lay 2 to 4 eggs around mid-March and then seldom leave the nest or do anything else that might catch our eye and help us to discover its location. In addition, each Canada Jay nest must be checked every 3 to 5 days to ensure that the jays have not lost their eggs to a Red Squirrel or some other nest-predator and quickly built a replacement nest.



Continued from Front Page...

As April rolls around, eggs begin to hatch after an incubation period of approximately 18 days. To band the chicks researchers must climb to the nests on tall ladders to access them – no small feat! Back down on the ground, and before they return the young birds to their nest, the researchers put a unique combination of coloured leg bands on each nestling. These bands not only provide each bird with its own unique name (such as ROYLBOSR—Red Over Yellow Left, Blue Over Silver Right) but also allow the researchers to monitor birds throughout their lifetimes, determining who mates with whom and how long individuals live.

When young Canada Jays leave their nest around the beginning of May they at first hide as much as possible, usually huddling together in a close-knit group. But by mid-

June when they have been out of the nest for about six weeks, they start to chase and fight with each other. Within about ten days the strongest youngster (usually a male) succeeds in forcing its weaker siblings out of the home territory. The dominant juvenile reaps the benefits of getting to stay with its parents but its ejected subordinate brothers and sisters will enjoy no such advantage. Some of the “ejectees” have been observed to form long-lasting associations with unrelated pairs that have no young of their own but, overall, the first-summer survival of ejectees is much lower than the dominant juveniles that remain with their parents. Still, it has been hard to know exactly what happens to most of the ejectees because they disperse to unmonitored territories outside of our Highway 60 study area. That means we have usually been unable to find

out how far they go and how many die, and how many actually find a new home.

Radio-tracking to the Rescue!

Wildlife tracking technologies are constantly advancing, and one of the most widely used techniques is radio telemetry. Since the 1960s, scientists have used radio telemetry to study the movements of animals. How does this technique allow researchers to locate animals you might ask? Radio telemetry uses radio frequencies given off by a transmitter to determine the location of an animal. In our case, we are tackling the question of what happens to Canada Jay ejectees by using a miniature “backpack” harness to attach a light-weight radio transmitter to nestling jays while they are still in the nest—which, of course is well before the family groups break up in June. Then, even if an ejected Canada Jay disperses many kilometres from where it was hatched,

researchers can then use a handheld antenna and portable receiver to track it down. As the receiver gets closer to the transmitter, the receiver will make louder beeps, indicating the bird is close by – a game of hot and cold! Once located, a GPS point can be taken to mark where the bird was seen. This technique allows researchers to triangulate where Canada Jays are even when they are far from their original starting point.

In order to study the movements and fates of juveniles after they leave their home territory, University of Guelph PhD candidate Matthew Fuirst, is using radio telemetry to track juveniles during dispersal. Since 2017, Fuirst, in collaboration with previous graduate students Alex Sutton and Nikole Freeman, has radio-tracked 54 juveniles. By tracking these juveniles, we have begun to get a better idea of how far these young birds actually travel. Most juveniles appear to move an average of 2 to 5 km away, but a few have travelled as far as 15 km. Some are dispersing to vacant breeding spots but most, as noted above, settle on new territories where the local breeders don’t have a dominant juvenile of their own. Interestingly, many of the birds are moving to high-quality territories (with high densities of Black Spruce), but a few are travelling through high-quality territories and settling in suboptimal habitat. The exact causes of this process still need to be investigated.

Locating these juveniles is nothing short of a challenge. Navigating to these juveniles is often a lengthy adventure into the backcountry of Algonquin. Juveniles are frequently able to be tracked on foot, but there are many occasions where canoes are needed to find these birds. In the hilly areas of the Park, we need to hike to the top of a hill in order to get a good signal for where the bird might be. It is a demanding task often aggravated by surprise rainstorms, black fly swarms, and heavy winds. Worst of all, sometimes a juvenile disperses so far that we cannot find it through a ground search. Fortunately, there is a way to get around this difficulty. If a juvenile has moved out of our normal detection range, we can use aerial telemetry to track the birds by plane instead!

Another great benefit of using radio telemetry to track Canada Jays is that it is helping us to get a better idea of their summer behaviour in Algonquin. Most research on the Canada Jay has been focused on the winter breeding of adults but what do they feed on and what habitats do they use in summer? In the summer of 2020, Matthew Fuirst and University of Guelph undergraduate student Joschka McLeod radio-tagged 12 adult jays to find out. From early May until the end of July, all tagged adults were tracked twice a week to get fine-scale estimates of habitat use. Some readers might be familiar with a bird often seen along Opeongo Road named GOYLBOSR (pronounced Goyle Bozer), who is at least 6 years old and named for his coloured leg bands (Green Over Yellow Left, Blue Over Silver Right). GOYLBOSR is one of the “tame” birds in the Park and is often observed following snowshoers during the winter in search of snacks. However, few people report sightings of GOYLBOSR in the

spring and summer. Where is he going? From our tracking this summer it appears that he doesn’t go far, but that he might be using different habitat as insects, berries, and other sources of food become available in the forest interior and wetland edges.

During the upcoming season we will be deploying more radio transmitters on juveniles and adults. How can you help? If you encounter some Canada Jays, try to take note of their colour bands and whether they have a radio transmitter wire projecting past the tip of the tail. Such observations can be extremely valuable because even though we are able to track each tagged bird, sometimes we are unable to relocate individuals. If you would like to report a Canada Jay sighting or are interested in any further information on the jays such as an updated list of banded jays, stop by the Algonquin Park Visitor Centre. You can also contact Dan Strickland (perisoreus1@gmail.com) or Matthew Fuirst (mfuirst@uoguelph.ca).



1. A Canada Jay nest approximately 6 metres up in a Black Spruce. To withstand the cold Canadian winter, nests are lined with feathers, moss, lichen, and cocoons. The white exterior of this nest is cotton that was offered to the jays by researchers searching for nests during the construction period. Photo by Matt Fuirst.

2. Nestling Canada Jay being outfitted with a radio-transmitter “backpack”. Photo by Nikole Freeman.

3. University of Guelph PhD candidate, Matthew Fuirst, banding a nestling Canada Jay, April 22, 2019. Photo by Matthew Fuirst.

4. A yearling Canada Jay in fall with a radio transmitter “backpack” attached. These transmitters are difficult to see and often only the antenna is visible. Photo by Alex Sutton.

5. GPS locations of the breeding male (GOYLBOSR) along Opeongo Road. The black dots indicate each sighting of GOYLBOSR during the summer and the stripe-filled outline represents the maximum boundary within which this bird moved. Map by Joschka McLeod.

6. Aerial telemetry allows researchers to track the jays by air when following them on foot becomes too difficult. Here you can see a modified antenna attached to the wing of the plane. Photo by Matthew Fuirst.

The “Fatal Attraction”

The winter of 2019-2020 had high winter finch abundances along the Highway 60 Corridor of Algonquin Park. Large flocks of Red Crossbills, White-winged Crossbills, and Pine Siskins were seen consistently through the winter. Many birds, including winter finches, are attracted to roads where they consume sand and road salts in order to satisfy digestive needs. Unfortunately, the birds aren’t able to recognize the threat of a fast-approaching motor vehicle, which leads to a case of “fatal attraction” on the highway. During the 2019-2020 winter, over 50 Red Crossbills and White-winged Crossbills were found killed along the roadsides of Algonquin Park, many of which appeared to be yearling birds likely inexperienced with the risks of oncoming traffic.



An adult Red Crossbill hit by a car in March along Highway 60 in Algonquin Park. Photo by Matthew Fuirst.

These car strikes can be avoided by slowing down and honking your horn if you are approaching a flock of birds on the road.