PETER FERGUSON

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 39 years from 1981 to 2019. Reports from 113 lakes in 2019 included observations of nests or young on just 37 lakes (33%), notably below 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.

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

Many sharp-eyed readers of *The Raven* noticed there wasn't a Volume 61, No. 1. Due to COVID-19, that issue was not printed, and that is why Volume 61 began on No.2. We are continually impressed by our readership! Thanks.

ALGONQUIN VISITOR CENTRE

HOURS OF OPERATION

Open Daily
9 am - 5 pm (full services)

Museum • Bookstore & Nature Shop WiFi

WINTER HOURS — October 26, 2020 to December 23, 2020
Weekends 9 am - 5 pm (full services) • **Weekdays 9 am - 4 pm** (limited services)

Algonquin Logging Museum *- Open 9 am-5 pm until October 18, 2020.*
The 1.3 km trail with outdoor exhibits is available year-round.

Publications

THE BEST OF THE RAVEN Are you a fan of The Raven? The Friends of Algonquin Park are pleased to present The Best of the Raven, Volume 1 (from 1961 to 1992), Volume 2 (from 1993 to 2000) and new this year, Volume 3 (2001 to 2009). This publication is the third book in this series, which compiles informative essays from Algonquin Park's famous educational newsletter, The Raven. Written in a warm, engaging, and thoughtful style this edition, Volume 3, features 97 articles published between 2001 and 2009 on a wide variety of Algonquin Park related topics.

For more information on reptiles in Algonquin:

REPTILES AND AMPHIBIANS OF ALGONQUIN PROVINCIAL PARK The 31 reptile and amphibian species of Algonquin are seldom seen but all are fascinating and several play important roles in the Park's ecology. This book presents all our turtles, snakes, frogs, and salamanders, and highlights the world-class, long-term research conducted on them here in Algonquin.

Available at the Algonquin Visitor Centre Bookstore, Logging Museum & Park offices or online at algonquinpark.on.ca

CONTRIBUTE TO CITIZEN SCIENCE!

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

- Upload a picture of any wild plant, animal, or fungus
- iNaturalist's community and image recognition software will help you identify it
- Help out other naturalists by identifying their observations
- Every observation becomes part of a growing record of Earth's biodiversity

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

Over 20 000 observations of over 3 000 species in Algonquin Provincial Park in 2019

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ONTARIO PARKS Algonquin

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The Tell-Tale Shell

An update from the Turtle Project

By David LeGros & Patrick Moldowan

In the past, here at *The Raven*, we have written about some of the interesting findings from the long-term Turtle Projects at the Algonquin Wildlife Research Station, such as *The Secret Love Life of Painted Turtles* (Vol. 56, No. 2, 2015) and *Echoes from the 80's* (Vol. 60, No. 3, 2019). However, today we share with you the story of the death of a turtle, and an interesting series of events following her death.

Each turtle has a story to tell and following nearly half a century of continuous research with hundreds of turtles there are a lot of stories. This story starts in Mew Lake where an adult female Snapping Turtle was first captured back in 2013. She was marked and given the tag A396–her official entry to the long-term turtle research project. During the intervening years, biologists came to know "A396" as a bit of a risk taker. For example, she had us biting our nails nervously as she made multiple road crossings and selected a nest site alongside the highway. She also had a taste for fine fare: We once carefully extracted the serrated fin spine of a bullhead catfish that was lodged in her throat. Fortunately, she was no worse for wear. She also gave us the slip many times by sneaking out of traps when we were distracted, but she kept coming back (after all, it's hard to resist the temptation of fish guts). Upon her last capture, in 2017, her carapace (upper shell) measured 27.5 cm, and she weighed in at 5.05 kg. Not a giant, and not part of the project

Snapping Turtle laying eggs.
PHOTO: THOM DERNOGA

A dramatic photograph of the Northern River Otter and A396 just before her death at the paws of this aquatic weasel on Mew Lake, February 2020. PHOTO: GERRY WEBB

for a really long time either, but turtles like A396 do have much to teach us about growth, longevity, movements of individuals and more. What was particularly special about A396 was that she was a "known-age turtle", or nearly so. Given the slow growth rate and long-life span of turtles it can be difficult to accurately age turtles; however, A396 literally grew up with the study. Accurate counts of her growth rings, her body size measurements, and reproductive history indicate that she was 21~23 years as of 2020. A turtle with such a well-known history is an invaluable contributor to "filling in the blanks" about turtle biology and, ultimately, assisting in our understanding of the conservation of this imperilled group of animals.

Snapping Turtles hibernate underwater. The trick is finding a place where oxygenated water will bathe over the turtle so it can "breathe" through its cloaca for the winter, but also a place that is sheltered from predators or getting washed away by strong currents. Presumably, A396 had found such a place every winter leading up until 2020. On March 18th of this year, a River Otter found A396. In her winter torpor, she was powerless against the mammalian predator that hauled her from the lake on the ice and killed her. This is part of nature, but as we have seen in *Echoes from the 80's*, even rare otter predation events can have long-lasting impacts on a population. A396's final moments were captured by a number of photographers. Although disturbing for many, otters are rarely caught in the act, so scientists were very interested in seeing the images. As it was late winter, and the ice would soon melt, researchers did not retrieve the remains but planned to collect them upon their return in early spring.

By May 2020, turtle researchers and staff from the Algonquin Wildlife Research Station were producing content for social media, as they couldn't be in the field due to social distancing and public health measures. Some of the content featured the tragic story of A396. A social media follower, [name withheld] reached out to ask what the best method was of preserving a turtle shell they had found. [Name withheld] would eventually admit that they had not only collected a turtle shell from Algonquin Provincial Park, but they had actually retrieved A396's remains from Mew Lake!

Let us state clearly, for all to see, that it is unlawful to remove a natural or historical object from a provincial park, no matter how fascinating it may be. Secondly, the collection of marked wildlife remains can be detrimental to long-term research projects. Leave it where you find it but please report it.

[Name withheld] had taken the remains hundreds of kilometres away from Algonquin. Apparently, the remains were starting to smell very bad. A determined researcher was in correspondence with [name withheld] and convinced the individual to give up possession of the remains—they would do the right thing.

As the smell of A396 grew ever stronger, [name withheld] found themselves wanting to be rid of the remains. Perhaps the shell and bones had become a reminder of the wrongness of taking a research projects' study animal? Unfortunately, [name withheld] would not be coming back to Algonquin for some time, but the biologist, concerned for the integrity of the remains for scientific research, sought return of the A396 as soon as possible. At the time, Ontario was under a lockdown and surely returning a turtle carcass was not "essential". What to do?

The AWRS biologist and a park naturalist cooked up a plan. Ontario Parks is a vast network of parks across the province. We have colleagues all over that are devoted to the protection and appreciation of parks and protected areas. Was there a park naturalist nearby that could stomach the smell and handle the remains with dignity? A series of text messages were sent to a friend and colleague naturalist from a park close to the home of [name withheld], telling the story of A396 and what happened to her since her death. The local park naturalist jumped at the opportunity to help make the situation right. The wheels were in motion to get the remains of A396 back into a provincial park, just not yet Algonquin.

On the day that [name withheld] brought the remains to the local Ontario Parks location for transfer, they commented on the awful smell. As they pulled up, they placed the shell and coffee tin containing the remains at the park gate, seemingly relieved to relinquish A396, and then hastily departed. The remains of A396 were put into the deep freeze for short-term storage while awaiting repatriation to Algonquin. We looked forward to her return.

We don't want to give readers the impression that the park visitor [name withheld] was acting out of ill intentions. This person is very interested in studying and photographing wildlife but being familiar with the park rules is key for everyone to protect our cherished natural areas. They also came clean and did the right thing.

The biologists were very interested to have the remains returned to inspect the damage caused by the otter. It may be possible to learn about predator-prey interactions from the marks left behind. Also, as she had not been measured since 2017, the intervening growth data are useful. The data gained from measuring what is left of A396 will give researchers an idea of growth rates of other turtles in her cohort and reveal interesting information hidden in the bones of these animals. Turtles of known age can be used as surrogates for understanding the biology of extinct animals. For example, paleontologists are hopeful that looking at growth lines on the bones of turtles may provide clues to aging individuals of long-extinct dinosaurs.

DATE	LOCATION	CARAPACE LENGTH (cm)	MASS (kg)	NOTES
June 25 2013	Mew Lake Culverts	26.75	4.1	
June 23, 2014	Mew Lake/Hwy 60 shoulder			First known nesting
August 14, 2014	Mew Lake	26.9	4.8	
August 3, 2015	Mew Lake	27.1	5.9	
August 9, 2017	Mew Lake	27.5	5.05	
July 1, 2018	Highland Backpacking Trail			Reported by campers; turtle probably travelling to nesting site
March 18, 2020	Mew Lake			Reported killed by an otter on the ice.
Unknown date, spring 2020	Mew Lake			Shell found by Park visitor and taken home.
May 29, 2020	[unnamed provincial park]			A396's remains returned to Ontario Parks staff. Awaiting repatriation to Algonquin.
June 13, 2020	[unnamed provincial park]	28.0		Algonquin Park staff picked up A396's remains, and she was returned to Algonquin the following day.

In life and death: the history of A396.

Mew Lake is a familiar sight for many visiting Algonquin. Just like any lake, it is home to many unseen stories. This was also the home of A396. PHOTO: SARAH LAMOND

Lastly, natural items belong in nature, and such artifacts from provincial parks have legal protection. Ontario Parks operates on five main pillars: Protection; Ecologically Sustainable Recreation; Heritage Appreciation; Scientific Research; and the guiding principle of Ecological Integrity. Ecological Integrity means keeping all the pieces and parts of Nature to ensure its proper functioning and trying to restore these if needed.

You might be thinking "its just one turtle shell, what's the big deal"? Algonquin Provincial Park sees over a million visitors a year. If each of us took one small item, it would have big impacts, perhaps ruining the aesthetic of the place for us, but potentially degrading habitat or removing important resources altogether for many other species. For example, bones, including turtles' shells, are very important. The turtle spent a lifetime accumulating those minerals from food and water and concentrating them in its bones. Upon death, those elements are returned to the landscape, and other organisms can absorb and use them. No matter if they are rodents chewing on bones for calcium and phosphorus, vegetation growing up from the corpses' stains on the ground, or birds using hair to line their nests, all these elements return to the Earth. The body does not own these elements, it simply borrows them, and it must give them back one day. If that item is hanging in your den or hiding in a box in your house, you have impoverished that landscape, ever so slightly. Imagine if we all took something.

The story following the death of A396 had a few twists and turns. This turtle travelled much farther after death than it ever did in life, and most turtles never even have any words devoted to them at all. While her travels are not done yet, A396 has given us a lot to reflect on. The past several months cooped-up indoors have highlighted our need for spending time in nature. As park visitors, we should strive to be a neutral to positive force on the landscape—we are but visitors here, nature lives here. The elements of the Park are best enjoyed where you found them, except one—memories! We encourage Park visitors to collect all the mental and photo memories they can while they are visiting Algonquin Park for later enjoyment.