



# The Woodland Observer

## Nipissing Naturalists Club

### February 2015

Enjoy Nature!



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# The Geological Significance of Nipissing

*A follow-up to the presentation by Larry Dyke*

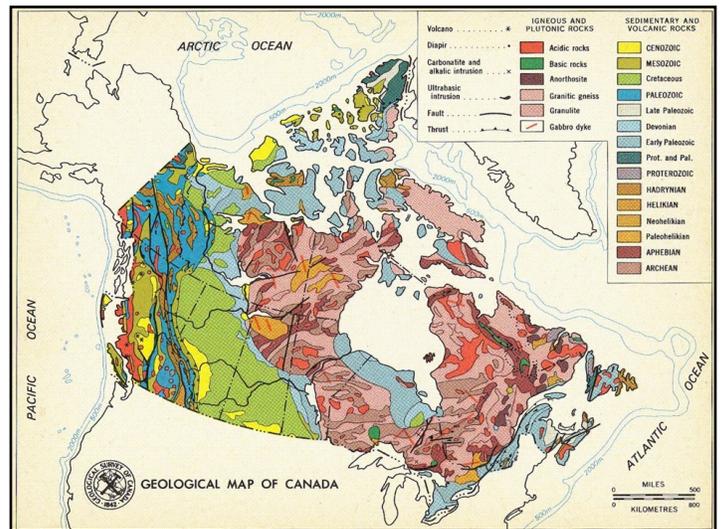
By: April Phelps

Mr. Larry Dyke came to speak to us about the Canadian Shield, Nipissing, and its historical relevance. As a retired member of the Geological Survey of Canada, Mr. Dyke brings with him decades of information, both local and international.

The presentation began with Mr. Dyke defining Geology in his perspective, explaining that the Geology as the “Study of Rocks and Minerals” really gives the science a disservice. The Earth is at least 4.5 billion years old, and Geology is really history of this Earth in its whole sense.

Dyke explained to the group that when we pick up a rock off the side of the road, we not only describe the contents of that rock, but we can also talk about how it relates to the rest of the Earth, how it got there, and why that matters to Nipissing. Mr. Dyke spent two hours on Tuesday December 9<sup>th</sup> 2014 putting North Bay in a Geological context. The following is the lesson he had for us:

The Canadian Shield is Earth’s basement. It’s the lowest level of rock that we can physically see. When the shield was formed, it had to have been formed 10-20 km below the Earth’s surface and is therefore the lowest time level that we can look at.



The above geological map of Canada shows the brown area as the Canadian Shield. The shield is very complex; at least five major crust forming activities went into its formation.

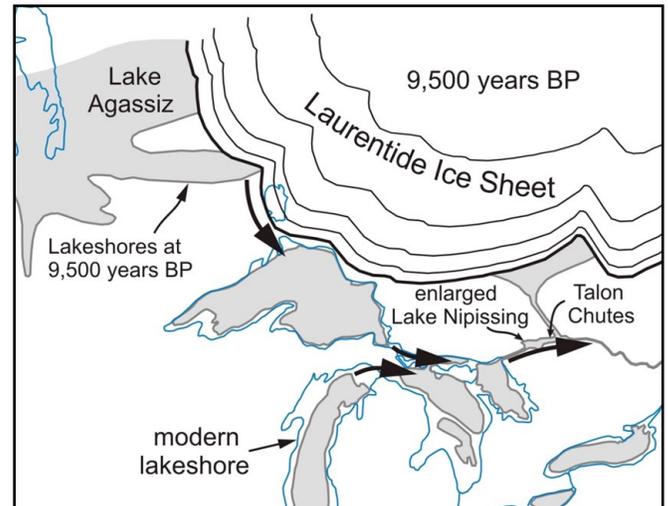
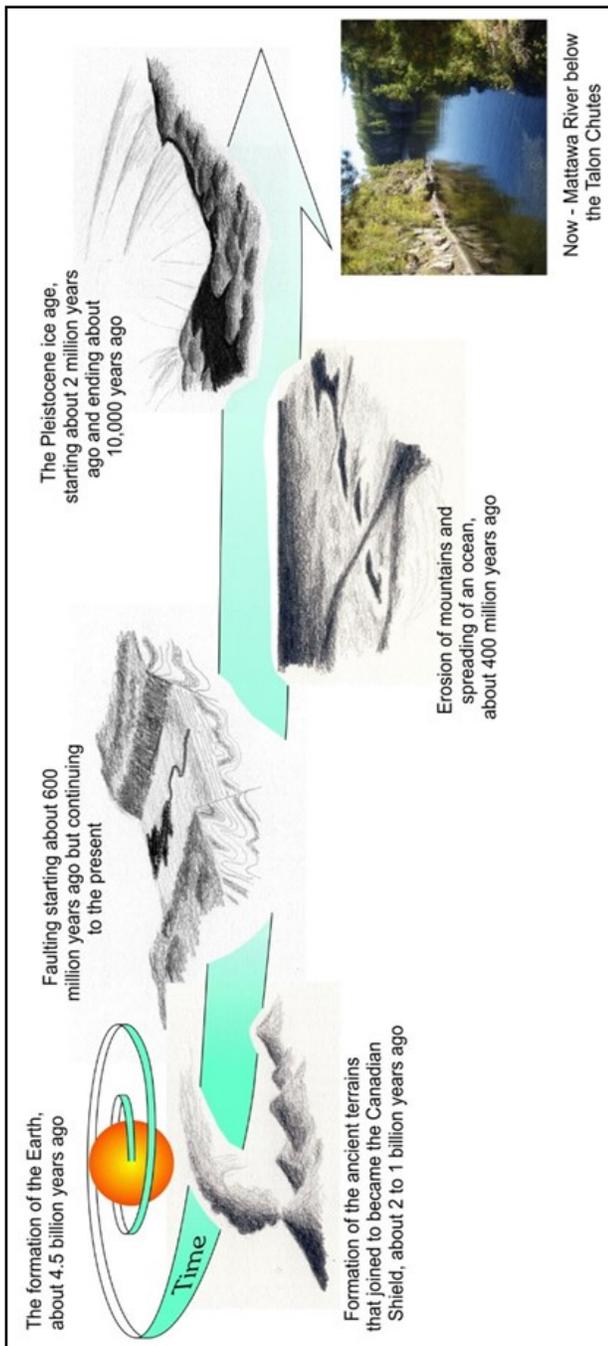
The green and blue areas are the flanks of the Canadian Shield – they can also be referred to as add-ons. The large green area – the Western Canada Sediment Basin – is mostly composed of hydrocarbons and is called the Apron; these are sediments that have shed from the Canadian Shield. For example: in Calgary, if we dug 6km down, we would again reach the Canadian Shield.

In the Mounties – the Cordillera – these add-ons are travelling up along the fault lines to the south. This same activity is also happening along the San Andreas Fault.

The red areas are the youngest rocks; it is intrusive granite that is aged at only 100 million years. We call this creation terrain, which is another add-on to the land formation of the Canadian Shield. The Appalachian Mountains are the very same concept.

Until recently, the oldest known rock formations in the world that we have seen were found in Nunavut and aged at 4 billion years. In Guyana, geologists have found rocks that have been dated to 4.2 billion years. It's absolutely amazing that we can find rock that can be dated to nearly the beginning of the Earth's formation.

The highway cuts that you see when driving in the area suggests that there was a lot of volcanic activity billions of years ago; for perspective, the volcanic activity that happened in BC was only 100 million years ago. The rock cuts show that magma was intruding and then crystallizing – as shown above in the Arrow of Time. Lake Nipissing – or the Laurentian Escarpment – indicates that an East to West fault line was happening subsequent to all of the crust formation. Some of the islands in Nipissing are the roots of some of those volcanoes. 350 million years ago rocks along the Ottawa river from Deep River east suggests that at one point, the whole area had been a shallow sea; fossil activity supports this. It is the ice age that really helped shape Canada and make it look the way it does today with the massive erosive activity of icebergs and the enormous amount of melt water.



The Laurentide Ice Sheet carried with it an incredible amount of water and sediment. With melting, it formed massive lakes such as Agassiz; Winnipeg still has lots of clay left from the sheet. With the left over clay and sediments, we know what the ice formation looked like 9,500 years ago but as we get closer to the present, we know a lot more detail. Because of the ice weight, the earth's crust in our area was depressed and therefore there was over 100 metres of water here. The land is still rising to this day from the ice sheet - approximately 20-30cm per century. In Churchill, it's rising as fast as 1 metre per century, so in some cases, it's quite noticeable.

...To be continued in March's edition of the newsletter

## Calendar of Events

### **Next General Meeting**

**Tuesday, February 10, 2015**  
**Cassellholme Auditorium @ 7:00 pm**

**Date: January 13, 2015**

### **Event: Nipissing Naturalists Annual General Meeting**

Thanks for everyone who came out to the annual AGM and potluck dinner! We had a great turn-out with delicious food and fabulous items up for auction. I'd also like to extend a special congratulations to the winners of the annual photo contest. There were some incredible photos!

### **Upcoming Speakers/Events**

**Date: February 10, 2015**

#### **Speaker: David Moore**

David Moore is a trained social anthropologist, who studied in the UK and who has carried out ethnographic fieldwork in Peru (for a M.Litt. in Quechua) and Bolivia (for a D.Phil. in Social Anthropology). After leaving England in 1986, he moved to Denmark and lived 18 years in various parts of Denmark. For the last three years of his time in Denmark, with his Canadian partner, Laurel, he had a very small sheep farm on the island of Møn, on the Baltic Sea. When in 2005 he moved to Canada, David and Laurel set up and ran for five years a small alpaca farm in Tweed, Ontario. In 2011, David and Laurel moved to ru-

ral Powassan, and enjoy the sight of wolves, coyotes, deer, beaver, moose, black bears, otters, skunks, foxes, white tailed hawks, owls, and snapping turtles at various parts of the year. David continues to work in development worldwide.

**Topic: Mining and indigenous peoples - Canadian miners operating in Peru and British Columbia compared**

**Date: March 10, 2015**

#### **Speaker: Joseph Boivin, Nipissing University**

**Topic: Asleep at the switch: how seed dormancy helps some plants to survive**

Find out what evolutionarily benefits some plants obtain by producing seed. Some of these seed producing plants have seed that goes dormant. How does seed dormancy occur and what benefit does it confer on a plant? Our relationship with seeds, agriculture's green revolution, and the use of genetic engineering will be presented, raising questions about how best to grow crops and feed over 7 billion people today and possibly 9 billion people in the next 40 years.

**Date: April 14, 2015**

#### **Speaker: TBA**

**Date: May 12, 2015**

#### **Speaker: Lesley Lovett-Doust**

**Topic: Endangered Species—Endangered Spaces: The ecology of the Eastern Prickly Pear Cactus, an Endangered Species in Canada**

#### **Monthly Bird Bash — Saturday & Sunday**

Spend some time observing our local birds and report on how many species of birds you see. Contact Dick Tafel for details [rtafel@sympatico.ca](mailto:rtafel@sympatico.ca) or 705 472-7907.

#### **Birdwing Meeting**

Fourth Tuesday of each month at 6:30 pm  
Bird watching topics will be discussed. Meet at the library (auditorium). Contact Dick Tafel at 705 472-7907 or email [rtafel@sympatico.ca](mailto:rtafel@sympatico.ca)

## The search for Canada's national bird takes flight

By: Corinne Arthur

What do a peacock, an Andean condor, and a crimson sunbird all have in common?

Well, apart from the obvious answer that they are all birds, they all also happen to be the national birds of countries. A little known fact is that Canada is one of the only countries not to have selected a national bird. The Royal Canadian Geographical Society is hoping to change that by launching an online poll where Canadians can vote on their national bird of choice. The Society then plans on lobbying the government to officially recognize the chosen winged creature during the sesquicentennial celebrations in 2017.

Since the search has begun, there have been many suggestions put forward as to what bird may best represent our nation. Voters have been debating what image of our nation should be portrayed through the choice of a winged emblem. Should we choose a bird that exemplifies curiosity, aggression, resourcefulness, friendliness, compassion, sociability, nobility - or a combination thereof? Suggestions include the loon (Ontario's provincial bird), the raven (due to its resourcefulness), Canada goose (due to its aggressive attitude) and gray jay (hardy, adaptable and widespread across Canada's Boreal Forest).



For all you bird-nerds out there (myself included), here's a little trivia game I like to call "Match the Country with its National Bird".

**Answers will be provided in the March edition of the newsletter.**

**Insert the corresponding letter of the national bird from the left with its country on the right:**

A. Kiwi	___ South Africa
B. Andean condor	___ New Zealand
C. Hoopoe	___ Australia
D. Gryfalcon	___ Nepal
E. Eurasian wren	___ Mauritius
F. Emu	___ South Africa
G. Dodo bird	___ France
H. Andean cock-of-the-rock	___ Panama
I. Harpy eagle	___ Peru
J. African fish eagle	___ Luxembourg
K. Goldcrest	___ Israel
L. Gallic rooster	___ Ecuador, Colombia, Chile, Bolivia
M. Blue crane	___ Namibia, South Sudan, Zambia, Zimbabwe
N. Golden eagle	___ India
O. Peacock	___ Afghanistan, Germany, Mexico
P. Himalayan monal	___ UK
Q. Goldcrest	___ Bahamas
R. American Flamingo	___ Iceland

If you are interested in voting, please log onto Canadian Geographic website to do so. The address is provided below. Not surprisingly, the current leader is the common loon, but there's still plenty of time to add your input!

Reference: <http://www.theglobeandmail.com/news/national/race-is-on-to-pick-the-national-bird-of-canada/article22594632/>

To vote:

<http://www.canadiangeographic.ca/nationalbird/>

