

# The Vankleek Hill & District Nature Society

## NATURE NEWS

December 2021



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### Holiday Greetings from the President 2021 : A Year in Review

We actually began our year of virtual meetings with an AGM in March. We have continued to meet with the same Executive Committee, ensuring our ongoing projects and commitments for the Nature Society are following Covid 19 protocol.

Our Nature Society has been represented at both the spring and fall Regional East Zoom meetings of Nature Ontario. We did not seek candidates for the modified Youth Summit this year, but certainly hope to rekindle that project as soon as conditions improve in the future.

We were very pleased with the virtual Turtle Conservation Centre tour we held for our May meeting. It was a dynamic experience to witness at their amazing site near Peterborough.

In August, Michele and David hosted a spectacular corn boil and pot luck supper. That same month saw us protesting at the Colacem site, calling for a revisit of the cement plant decision.

September brought our Fall Fundraising attempt in the parking lot of the arena in VKH. A robust display of plants, crafts, used items and books did tally an impressive cash total. Unfortunately, a second attempt a few days later at the Farmers' Market was met with heavy rain and limited sales. Both events represented brave and much appreciated efforts.

We have another fundraising event to organize and would appreciate your ideas. Claudia and Eric Deskin have gifted us a beautiful piece of art on their departure from our community. Please contact us if you have a strategy to suggest.

November brought us up to date with another AGM. Christine is to be appreciated for her tireless work with Christmas Bird Counts, the Bird Atlas Project and her maintenance of our website and FaceBook pages.

Our next virtual meeting will be on February 21, 2022 where we will meet with a research specialist who will inform us about bats.

We are grateful to all who have tried to follow our emails and who have participated in any of our activities. We ask for your patience as we work to serve the best interests of our Nature Society.

Whether it is from the wisdom of our elders or from the most recent technological device, it is clear that we must address the current needs of our environmental concerns. As members of the Vankleek Hill and District Nature Society, let us stay involved, informed, and intent on making changes that will lead to a healthier planet.

With Nature in mind,  
Best wishes for the New Year,  
Linda

# The Ontario Turtle Conservation Centre

*Submitted by Carol Hague*

On May 17, 2021, Wendy Baggs, the education co-ordinator gave us a virtual tour of the Ontario Turtle Conservation Centre, located in Selwyn, Ontario.

We were guided behind the scenes where comprehensive education and outreach programs have been offered. We saw how the staff try to treat, rehabilitate and release injured turtles brought to this Centre.

We saw examples of research projects performed in the area to further their conservation initiatives. We even met some live turtles and learned about their environmental challenges. It was a most informative and enjoyable experience.



Wendy Baggs' photo from The Peterborough Examiner  
<https://www.thepeterboroughexaminer.com/news/peterborough-region/2019/07/30/deadly-roads-habitat-loss-put-turtles-at-risk.html>

# Alison Logee and her friend Chelsea, the red squirrel

*Submitted by Joelle Claudon*

At the November AGM, Alison Logee, a Dental Hygienist from St. Eugene told us how her 7 year friendship with Chelsea changed her life.



Alison Logee's photo submitted to The Review

<https://thereview.ca/2021/08/12/chelsea-and-me-part-1-i-felt-something-special-had-come-into-my-life-that-day/>

Chelsea inspired her to write a children's book "The Treetop Tooth Shop"



Artwork for The Treetop Tooth Shop was created by Get Your Book Illustrations

<https://thereview.ca/2020/12/09/dental-hygienists-seven-year-friendship-with-tiny-red-squirrel-inspires-educational-childrens-book/>

# Corn Boil at David and Michele Stringer

*Submitted by Mary Higginson*

In August, more than a dozen members met for an outdoor BBQ and corn boil. It was the first time we had been together since our AGM of November 2019. There was a strong breeze and blue skies and our alfresco meal was perfect.

As always, David and Michele were wonderful hosts as we sat apart on the extensive decks. Our enthusiasm was noticeable. We could see forever, while we were home before sunset.

Many thanks for a really enjoyable event.



# Protesting at the Colacem Site

*Submitted by Joelle Claudon*

The August 17 protest against the proposed Cement Plant in L'Original was both heart warming and heart breaking. I felt good being surrounded by so many people of goodwill but sad also, knowing that the change of zoning had been approved and an appeal rejected.

There were various posters on display and one in particular touched me. It depicted two people and a tree being subjected to cement kiln emissions. The two characters were coughing and it looked to me that one of them was crying his heart out.



# Financial Report and Fall Fundraiser Sales

*Submitted by Jean Kronberg*

The Vankleek Hill & District Nature Society had a reasonable financial year in spite of the constraints of the COVID epidemic.

Membership revenues increased over the previous year with new members joining. Meetings were held virtually and did not generate revenue. However, two sales were organized, one in September at the Vankleek Hill Community Centre and one at the Farmer's Market in Vankleek Hill in October. Members donated plants and other items. The sales were successful in bringing in revenue. Cash donations were received also.

In summary, the financial year ended with only a small deficit, leaving the society with sufficient funds to run operations for the 2021-22 fiscal year.

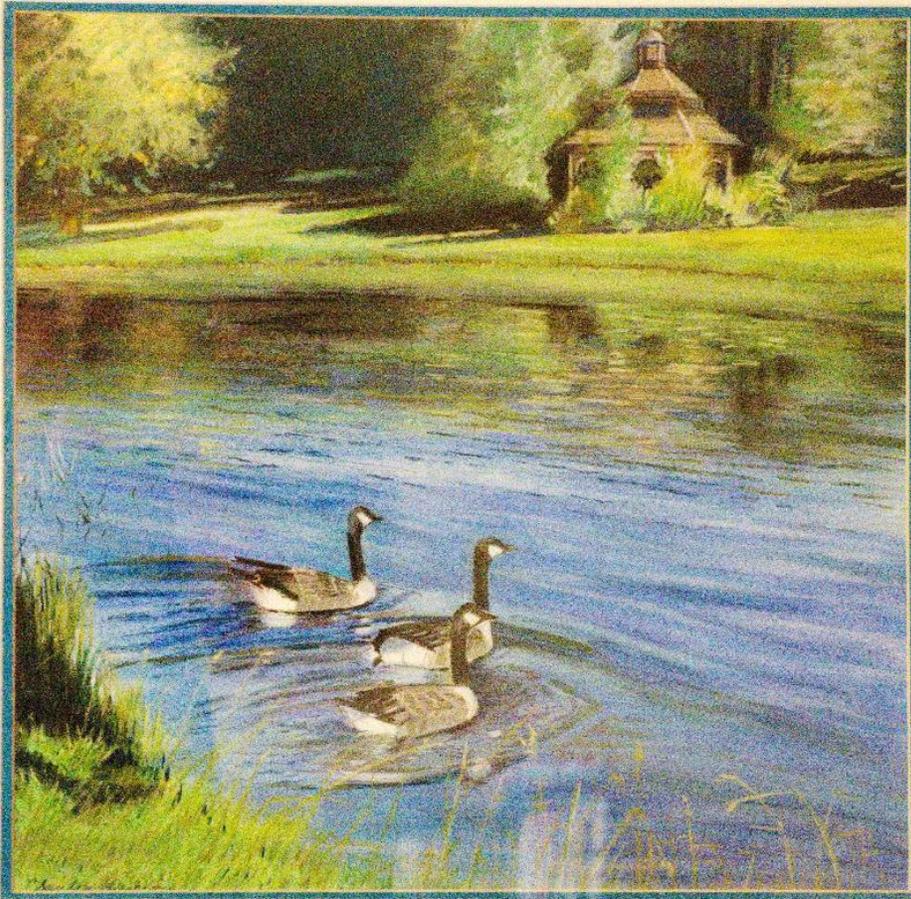
Members are reminded that membership renewals are due for the next fiscal year (\$10:00 per person) and can be sent to the Vankleek Hill & District Nature Society, PO Box 366, Vankleek Hill, ON, K0B 1R0. Please include any changes to your mailing or email address or phone number. A tax receipt will be sent to you by e-mail.



# Farewell to Eric and Claudia Deskin

*Submitted by David Stringer*

We are very sorry to see Eric and Claudia Deskin leave Hawkesbury and move to a new home in Ottawa. They have been generous in hosting social events for the Nature Society at their lovely home and garden. Claudia is a talented artist and has kindly donated one of her paintings to the Nature Society to be used as a fund raiser. The beautiful, framed painting shows three geese swimming on a pond. The realism of the ripples in the water is quite amazing. Thank you very much Claudia. We wish Eric and Claudia much happiness in their new home.



# In Memory of Doreen Russell

*Submitted by Darryl Waite, President of the Vankleek Hill and District Horticultural Society*



Doreen Russell, a longtime member of the Vankleek Hill & District Horticultural Society passed away on October 31st. She will be sorrowfully missed by her family and many friends. We remember her for giving grace at our potluck suppers and for her smile. Also, for a helping hand at many of our functions. Doreen was our Centennial Committee chairperson for our 100<sup>th</sup> Anniversary in 2007 and was also part of the very first "Beautification Committee" in the fall of 1993. She, along with Gisbert Rosenstein, Jim Christie, Willy and Margaret Zerter made up the committee to create Mill Street Park in Vankleek Hill next to the arena.

## Nature Society Bench on the Boardwalk of the Alfred Bog

*Submitted by David Stringer*

Unfortunately, the bench which the Nature Society installed on the boardwalk of the Alfred Bog in 2018 has been vandalised. One arm has been broken off and plaque in English in memory of Leo Durocher has been defaced. The plaque in French is undamaged.

Next Spring, we plan to install a single bilingual plaque. We will also replace the arm which was broken off the bench.

The bench provides a very pleasant place to sit and to enjoy the beauty and peacefulness of Nature.



# Bees, bees bees everywhere!

*Submitted by Louise Leblanc Mazur*

As the expression goes, busy as bees! I have accidentally become a beekeeper!

Three years ago I was fortunate to catch a healthy swarm of bees late in the summer. They settled in a swarm box we had put out. All summer long, there was no activity then suddenly, in September there they were. Late in the season but strong all the same.

My mentor and I transferred them into their new home, a Langstroff hive box and moved them to a sheltered spot in the paddock. We made sure they had enough stores for the winter and left them to hibernate. They survived the winter and the hive is now three years old. We have noticed that the fruit trees, wild apple trees and all plants in general are healthier and more productive since their arrival.

It was a steep learning curve for me and with the help of mentor and best friend, we ensured that the hive was healthy and productive. The focus the first year was to make sure the hive thrived and grew. They came through healthy and strong. They survived their second winter with flying colours and continued to grow the second summer. This last season, I was able to harvest my first crop of honey. It was a difficult summer this year with droughts, heat and pest management. A careful balance is required to make sure that the hive has enough stores and are healthy without pests to survive the winter.

Hopefully next year, we will be able to expand my bee yard to two hives which will be plenty for us both management and harvest wise. Beekeeping is exciting and fascinating but has its ups and downs. Losses are difficult and heartbreaking but the successes are worth it!

Photos by KK: Beekeeping - the queen flew onto my hood and her attendants followed.  
The Queen in in the centre of the bee circle near the top of the frame





**February 21, 2022**

# **Become a Backyard 'Batter': How to Spot and Support Ontario's Bats**

*Submitted by Carol Hague*

The talk will familiarize attendees with the bats of Ontario and the threats they face, such as White-nose Syndrome. You will learn about the Willis bat lab's research that increases knowledge used to protect bats and how you can support your local bat population.

Kaleigh Norquay has worked with bats since 2008 when she was hired as a research assistant for a project that investigated the reasons wind turbines impact bats. Following her masters that focused on hibernation timing in bats, she was hired as the lab manager for the Willis lab at UWinnipeg. Now she coordinates field work and public outreach, trains staff, contributes to the Neighbourhood Bat Watch and leads winter bat count expeditions. She is passionate about research that supports bat conservation.



<https://www.uwinnipeg.ca/biology/people/faculty-staff/kaleigh-norquay.html>

"I am the lab manager for the Willis bat lab in Winnipeg, Manitoba. Our research focuses on small mammal physiology and ecology, with a focus on bats and I have been a member of the lab nearly continuously since 2008"

<http://blog.healthywildlife.ca/bat-monthly-featured-contributor-of-october-2020/>

# The Climate Change Crisis

*Submitted by David Stringer*

## **Introduction**

There are numerous crises affecting the world today. Amongst these are climate change, the pandemic, political unrest, pollution, refugees, food insecurity, loss of habitat and biodiversity. Hopefully, most of these crises will be solved by science, by cooperation between nations and by appropriate action. Climate change, however, appears to be much more difficult to solve. Many nations and peoples have not yet recognised the seriousness of this crisis and the threat it has to our planet.

Deniers would argue that climate change occurs naturally and has always taken place over the past thousands of years. This is true but the climate change which we have today is different and is undoubtedly due to human activity.

Human activity, mainly due to the use of coal, oil, and natural gas, are the primary drivers to climate change. This use of fossil fuels results in the emission of heat-trapping greenhouse gases into the Earth's atmosphere. This is causing global warming, or an increase in temperature on the Earth's surface and is also causing an acidification of the oceans.

The temperature on the Earth's surface is a fundamental measurement for describing the climate. For most of the twentieth century, the temperature was constant except for the occasional spikes up or down. However, starting around 1990, data from weather stations in several parts of the world, and from ice cores, show that the temperature began to increase significantly. The yearly increase has been continuing since then. Unless urgent action is taken, temperatures will continue to rise, possibly at an exponential rate. Although the annual temperature increase is small, the incremental affect is devastating. This will affect human lives and ecosystems. Many animal and plant species will not be able to adapt.

The recently occurring forest fires, droughts, destructive storms, and flooding are a further indication that the climate is changing. If the Earth's surface temperature continues to increase, there will be more loss of ice in polar regions. There will also be more loss of permafrost. This will allow huge amounts of entrapped methane to escape to further increase the rate of global warming. Clearly it is very urgent that climate change be controlled!

## **The Greenhouse Gases**

A greenhouse gas is any gas which has the property of absorbing infrared radiation and re-radiating it back to the Earth's surface. Carbon dioxide, methane and water vapour are the most important gases and to a lesser extent ozone, nitrous oxides, and fluorinated gases. Carbon dioxide is primarily related to the burning of fossil fuels. Methane is emitted from wetlands, from landfills, and from agricultural practices including livestock, and from the transportation of fossil fuels. Water vapour is a naturally occurring greenhouse gas, unrelated to human activity, and is relatively short-lived in the atmosphere.

Greenhouse gases emissions can also be approximately broken down by the economic activities which led to their production as follows:

- 25% due to the burning of coal, oil, or gas to produce electricity.
- 24% due to agriculture (cultivation of crops and livestock), forestry and other land uses.
- 21% due primarily to the steel, cement, and petrochemical industries.
- 14% due to burning of fossil fuels for road, rail, air, and marine transportation.
- 6% for the burning of fuels to heat buildings or for cooking in homes.
- 10% from other sources not directly associated with electricity or heat production.

### **United Nations Conventions - Kyoto (1997), Paris (2015), Glasgow (2021)**

The first meeting of the United Nations Framework Convention on Climate Change was held in Kyoto, Japan in 1997. The Convention asked countries to limit and to reduce greenhouse gases in accordance with agreed individual targets. The Kyoto Protocol set binding reduction targets for 37 industrialised countries. A system of international emissions trading was established which would allow countries which had emission units to spare, to sell their excess capacity to countries which were emitting more greenhouse gases than their targets. This was the start of carbon trading. Although the Protocol was successful for being the first international agreement of its kind it was doomed to failure because, the primary emitters of greenhouse gases, the USA and China failed to sign binding targets.

A second United Nations Convention, involving representatives from 197 nations, was held in Paris in 2015. At the conclusion of this Convention, the Paris Agreement was established to address targets for the global warming situation. The targets for the Agreement were to limit the temperature increase to 1.5°C above pre-industrial levels by 2030 and to achieve net-zero carbon dioxide emissions (balancing emissions by removing carbon dioxide) by 2050. Since then, only a few smaller countries have met the targets of the Agreement. In fact, carbon emissions continued to increase.

A third Convention on climate change took place in Glasgow in October and November of 2021. It was realised that the goals set in Paris were not being met. The Glasgow summit put in place a new series of procedures and agreements to meet the goals. Amongst these agreements are:

- Countries meet regularly to report on whether they are reaching their pledged targets.
- The use of coal should be 'phased down'. (China and India are the largest uses of coal which is responsible for 40% of annual CO<sub>2</sub> emissions).
- Leaders from 100 countries promised to stop deforestation.
- 100 countries agreed to cut 30% of methane emissions by 2030.
- Wealthy countries agreed to support "clean" technology such as renewable energy.

But the painful reality from the Glasgow conference was that the world is failing to meet the goals set in Paris. Drastic actions, not just words, are needed in the future.

### **Countries Emitting the Most Carbon Dioxide**

In terms of annual emission of CO<sub>2</sub> in 2018, the top four countries were China (10.06 gigatonnes (GT)), United States (5.41 GT), India (2.65 GT) and the Russian Federation (1.71 GT). Canada ranked eleventh and emitted 0.56 GT.

## **Biological Ways of Removing Carbon from the Air**

The most efficient way to remove carbon is by biological processes. This form of carbon sequestration or storage occurs through increased rates of photosynthesis by carrying out appropriate land-use practices such as reforestation and establishment of new forests.

By accumulating partially decayed biomass, wetlands, peatlands, and muskeg are especially effective as natural sinks for the storage of carbon. 20-30% of the world's soil carbon is found in wetlands. Unfortunately, natural wetlands also emit a large amount of methane.

Modification of agricultural practices is also a recognised way of increasing biological carbon sequestration. Soil can act as an effective carbon sink if it is not tilled annually. Planting annual crops depletes the soil of carbon, whereas perennial crops, such as hay fields, have larger below-ground biomass. In general, perennial grasses use a greater fraction of carbon to produce the root system. Other agricultural practices which are beneficial for carbon storage include the use of composted manure as a fertiliser, leaving harvest residues on the fields, using perennial crops in rotation, using cover crops, and switching to organic farming. The length of the growing season, however, affects the practices which could be used.

Since soils are estimated to contain a huge amount of organic carbon, agricultural strategies can play a very important role in controlling climate change. When land is farmed conventionally, with extensive chemical fertilisation, pesticides and heavy ploughing, the soil tends to lose its organic matter. Trapped carbon is then leached back into the air. Carbon farming, on the other hand, will regenerate the soil and will capture carbon emissions. A switch to carbon farming will require a radical change in farming practices and, in the short-term, will incur loss of revenue due to declining yields. But crop yields will inevitably decline if global warming continues to occur.

## **Technological Ways of Removing Carbon from the Air**

Technological methods of removing carbon from the air have been developed. One such method is the Orca project in Iceland. This project was developed by a Swiss company, Climeworks. It is currently the largest carbon capture plant in the world. It is located on a lava plateau and is powered by geothermal energy. It takes carbon dioxide out of the air and pumps it 1000 metres down into basalt rock. The gas is then mixed with water and slowly turns into stone as it cools. A plant of this type is very limited geographically since it can only function at locations where geothermal energy and basalt rock are present. The cost of the plant is reported to be \$15 million. It captures only 4000 tonnes per year of carbon dioxide.

Clearly this is an extremely small amount of captured carbon compared with emitters such as the proposed cement plant at L'Orignal, Ontario which will emit approximately 790,000 tonnes of carbon dioxide each year. It is difficult to understand why the Canadian and Ontario governments are allowing this plant to be built when the Canadian government has made such strong pledges at the Glasgow conference to meet the Paris Agreement and to control climate change.

A Canadian company, Carbon Engineering, is currently building a commercial-size plant in Texas for capturing carbon from the air. This plant promises to be much more effective than the Orca plant because it is estimated to remove 500,000 tonnes of carbon dioxide per year. The plant is projected to be operational in 2023. A pilot plant of the same type has demonstrated that the captured CO<sub>2</sub> can be converted to a fuel. The cost of capturing the carbon is very high at US\$94 to US\$233 per ton

depending on energy costs to run the plant. Thousands of these plants will be required, world-wide, to help control climate change.

There are also several start-up companies looking at methods to capture carbon dioxide directly from flue gases. Other companies are doing research into captured carbon utilisation. This is a growing technology investigating ways in which the captured carbon dioxide can be used. One possibility is for use in the food and carbonated drinks. Another option is for use in the manufacture of synthetic fuels.

It is encouraging to learn of the research being done on technological solutions but, in general, these solutions for removing carbon remain far more expensive than natural solutions such as planting trees and modifying agricultural practices.

### **Renewable Energy**

Renewable energy includes hydro-electric power, wind turbines, solar farms, and geothermal energy. Biomass (a material that is derived from organic matter such as wood, crop waste, dead plants, animal remains) can also be considered as a renewable energy source. It is burned in power plants, but various harmful pollutants are emitted into the air.

At present, the approximate percentage of the world's electricity being generated from renewable sources is 29%. The percentage component of the various forms of renewable energy is approximately:

- Hydro-electric 57%
- Wind turbines 19%
- Solar farms 10%
- Biomass 9%
- Geothermal 5%

The question is whether renewables alone will be sufficient to meet the world's energy needs in the future. There are conflicting viewpoints on this question so there is no easy answer. But it is good news to learn that the cost of wind turbines and solar farms is decreasing, and the yearly growth of renewables is increasing. But there are also negative factors to be considered regarding renewables. For example, large amounts of energy are required for the mining and manufacture of renewable components. In addition, because renewables have a finite life, there are pollution problems involved in disposing of enormous quantities of used renewables such as batteries, solar panels, and blades of wind turbines.

### **Nuclear Energy**

Nuclear power provides approximately 10% of the world's electricity from about 440 reactors. Although there have been three severe accidents with nuclear reactors, the root cause was found to be human error in operating the reactor rather than an error in the design of a reactor. Nuclear power is now considered to be a safe, low-carbon energy source, comparable to hydropower and wind in terms of its influence on climate change. It has been technologically proven that nuclear waste can be safely stored in deep underground caverns. In the future, nuclear power will probably become a more widely used option for generating electricity.

## The Economy

At present, economic growth depends on fossil fuels and on resource extraction. If this persists, climate change will take place unabated resulting in an ecological disaster. Wealth will be concentrated in the hands of an extremely small percentage of the population. We must accept that, if climate change is to be controlled, it will not be business as usual. Economic growth must shrink because enormous resources are required to control the climate.

## What Can Individuals Do?

There are many things that individuals can do to help combat climate change. These include making your voice heard to those in power, taking part in non-violent protests, having discussions with family and friends, eating less meat and dairy and eating more alternatives, driving less, flying less, reducing energy use, planting trees, cutting consumption and waste, and avoiding the purchase of items from those countries which contribute most to global warming.

Some of these choices require a fundamental change in our lifestyle. It is important to act now. Future generations and the health of our planet depend on our actions and on the actions of those in power around the world.

