



Thickson's Woods Land Trust

Spring 2020
Newsletter 57

Signs of Spring in Thickson's Woods

April showers and a few days with double-digit temperatures have pushed the pussywillows along the Waterfront Trail to turn yellow with pollen, food for early bees venturing forth. Buds on young chokecherry saplings in the woods are swelling with the promise of pungent aromas as the leaves unfurl in May. Golden coltsfoot blossoms are pushing through heavy soil in a sunny glade on the south side of the woods. Leaves will follow later to produce food for next spring's blooms. By then fluffy parachutes will carry this year's seeds to some faraway exposed bank to begin a new colony. The miniscule magenta flowers of beaked hazel are already opening. You'll need a keen eye to spot these tiny three-millimeter blooms, but the reward is well worth the search.

Winter tree sparrows have been replaced by just-arrived chipping sparrows. The rich enchanting songs of fox sparrows ascend from the north valley where they scratch deep into the leaf litter in search of tasty morsels to fuel their flight northward to the margins of the boreal forest. Resident downy woodpeckers search out hollow drumming posts to assert their claim to nesting territory. The louder signals from returning flickers have a similar cadence, while the uneven, seemingly hesitant rattle of yellow-bellied sapsuckers provides a welcome if ephemeral change.

Now in mid-April, the first pine and yellow-rumped warblers and ruby-crowned kinglets have arrived. The presence of diminutive winter wrens is most often announced by their soft scolding chatter, but if you're lucky, you might see one dart across an opening, or hear its bubbly, joyful song. The lack of flocks of golden-crowned kinglets is concerning.

These diminutive trusting sprites are usually a regular part of April migration in Thickson's Woods.

Soon the patches of bloodroot in the middle of the woods will burst into brief bloom, to be followed by red, then white trilliums. Dog-toothed violets will dot the forest floor, but for dazzling yellow they can't compete with the flashy blossoms of marsh marigolds among the alders on the edge of Corbett Creek Marsh.

And most important of all, midges have appeared. Millions of these tiny flies that emerge every spring are the foundation of the food web that supports all avian life in Thickson's Woods Nature Reserve, just as krill does in the world's oceans. How many species are there? What are the intricate details of their life cycles? Answers to these questions will have to await research by some future postgraduate students. Anyone up for the challenge?



Ruby-crowned Kinglet (Mike McEvoy)

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A Voice from the Past

Dear Mr. Barry

I have recently read your article in *Ontario Nature* regarding the bluebird. Thought the following might interest you.

In 1911 two friends and myself spent an afternoon in High Park. It was a gorgeous day in fall, blazing sumac, etc.

We sat near the old wooden pavilion (where the new restaurant now is) & on the roof we saw hundreds of bluebirds (numbers not exaggerated) evidently congregating to fly, probably that night, for they kept together and only darted down to get seeds from thistles and goldenrod.

Although this was so long ago, I have never forgotten the beautiful sight and wish it could be the same today.

Sincerely,

Hilda McKay

The article Hilda refers to was published a half century ago. It's probable the bluebirds were feeding on insect life sheltering among the thistles and goldenrod. We share Hilda's longing for the days before the invasion of European starlings into Southern Ontario took over available nest sites, a time when bluebirds were part of every pasture and garden scene.

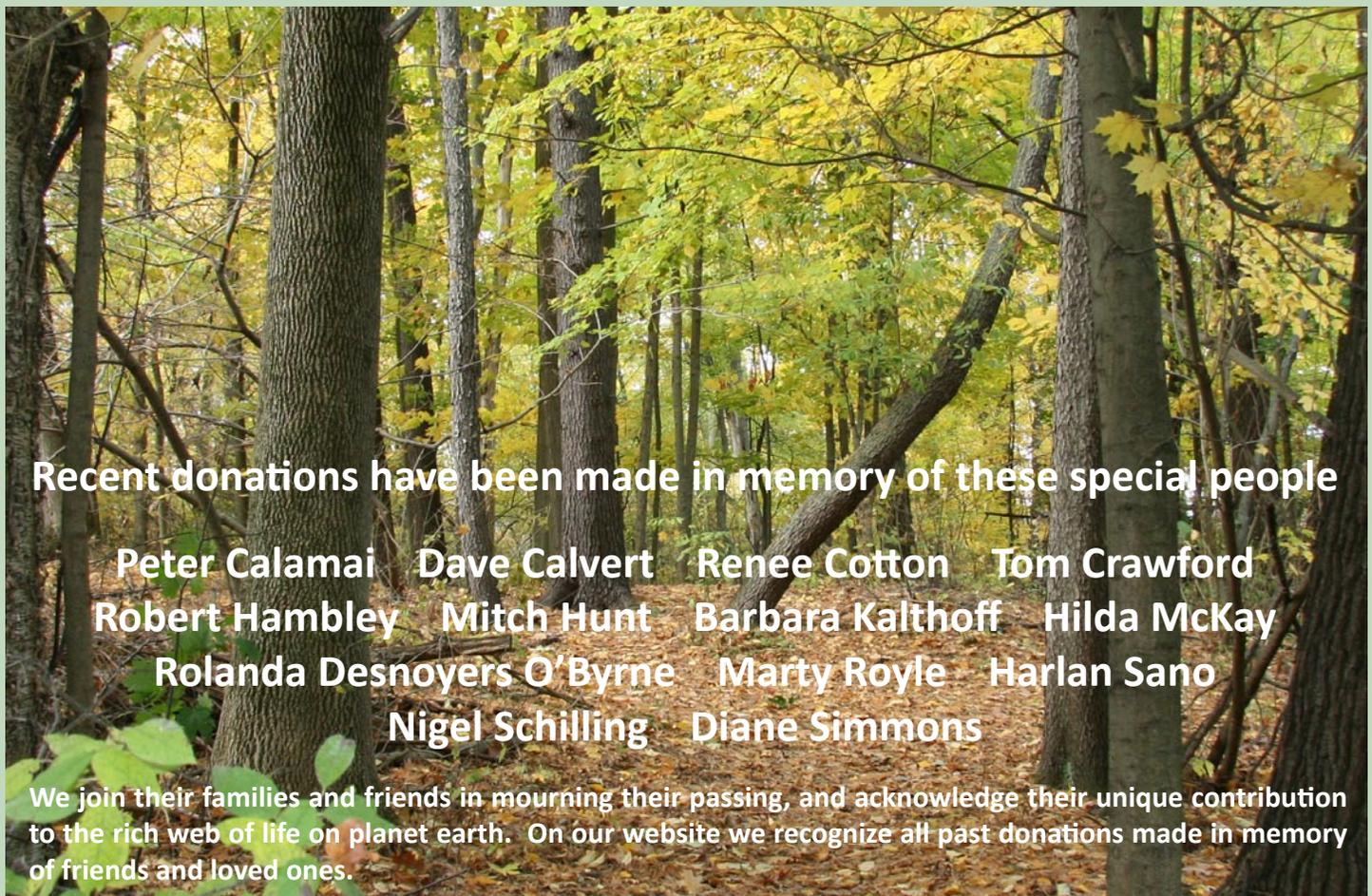
Fall Nature Festival

We hope the annual nature festival scheduled for Saturday, September 19 will be able to go ahead as planned, even if in a modified format. We'll let you know.



Earth Week Invasive Species Removal Workshop Cancelled

Due to the pandemic, the garlic mustard removal event scheduled for April 18 was cancelled. When the situation improves, anyone who would like to help out can contact us at 905-725-2116 or at nature@thicksonswoods.com to arrange to assist.



Recent donations have been made in memory of these special people

**Peter Calamai Dave Calvert Renee Cotton Tom Crawford
Robert Hambley Mitch Hunt Barbara Kalthoff Hilda McKay
Rolanda Desnoyers O'Byrne Marty Royle Harlan Sano
Nigel Schilling Diane Simmons**

We join their families and friends in mourning their passing, and acknowledge their unique contribution to the rich web of life on planet earth. On our website we recognize all past donations made in memory of friends and loved ones.

Great Expectations for a Baby Boom!

We'll have to stay on the paths in the nature reserve more than ever this summer. With luck and good rains, dozens of baby oak and hickory trees may be sprouting throughout the meadow and along the lakeshore bluffs. All compliments of Brett Woodman, an aptly named arborist from Waterloo who showed up with a big bag of acorns and nuts last fall, plus advice on how to plant them. Hopefully deep enough that busy grey squirrels haven't found and eaten them all!

We wish to thank Brett for so wisely taking advantage of the bountiful mast crop last summer and passing along this precious genetic harvest from stately trees he knows and loves. And thanks to Cathy Brailsford and Karen Schilling for giving them a good start in their new home--baby trees we can watch grow up into green groves of native hardwoods in decades to come.

Highrise Hazards on the Horizon

It's a dangerous business, highrise condos shooting up into the skies smack-dab in a major migration flyway. Reflective glass and nighttime lighting too often result in a rain of bird injuries and fatalities. Yet slowly but surely, designs for bird-friendlier buildings are being developed and adopted, nudged along by the Canadian Standards Association. With a cluster of condo towers scheduled to be built at Whitby Harbour, a mere mile as the crow flies from Thickson's Woods, it's crucial that they be as bird-benign as possible. We want to thank Whitby Mayor Don Mitchell for calling a meeting of parties involved to ensure the new towers are as state-of-the-art safe for birds as can be built. And thanks to Mike Mesure, co-founder and executive director of FLAP, for bringing his years of experience to advise on this critical life-and-death matter.

Learning from History: a More Rational Way to Interact with Nature

By Dennis Barry

Watching a YouTube video through a link sent by Phill Holder, about a revolutionary new approach to interacting with the land on an English estate, got me intrigued. I shared it with family and friends, and sent an email with the link to everyone on the Thickson's Woods mailing list.

A few weeks later Phill excitedly showed me a copy of a book about the project. Knowing he doesn't get that enthusiastic without a really good reason, I put the book at the top of my Christmas list. After the hustle and bustle of the holidays subsided, I opened the book and started to read. From the first page, I knew why Phill was captivated, and as I read further, I vowed to share the experience with as many people as possible. Hence the story below.

Wilding

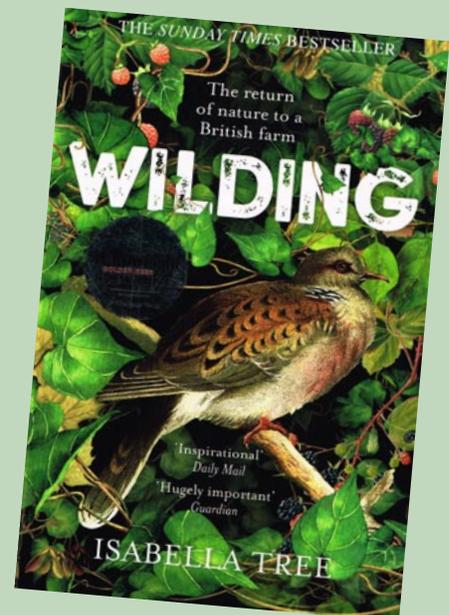
by Isabella Tree

A Book You Just Have to Read

Review by Dennis Barry

"Modernizing" the Farming Operation

Knepp Castle Estate in West Sussex, England, encompasses some 3500 acres, with a history dating back to the 12th century. The River Adur bisects the property and several of its small tributaries struggle to drain the heavy clay soil. Roads, trails and public thoroughfares crisscross the estate.



When Charlie Burrell and his wife, Isabella Tree, took over the property in 1987 after the death of Charlie's grandmother, they embarked on a plan to "modernize" the farming operation. Charlie's grandfather had long resisted the younger man's ideas for changes that Charlie felt would move the operation to profitability

Over the next twelve years the farm was converted to intensive agriculture. Traditional Red Poll cattle were replaced by more efficient milk producers. The dairy was modernized, new machinery purchased, and ever more quantities of expensive chemicals added to the land to support cereal crops. As was happening all over England, fields that had been pastures for centuries were plowed up and acres of scrub were uprooted to be planted to crops.

The Mycorrhizal Web of Life

About the time the financial crisis at Knepp reached the breaking point, Ted Green came to consult on the health of "The Knepp Oak," one of only a very few ancient oaks still remaining in England. After a childhood running wild in the woods, Ted by his 60s was recognized as the premier authority on ancient oaks, and was serving as custodian of the royal oaks in Windsor Great Park.

Ted got very excited when a chest-high measurement of the great oak, a circumference of seven metres, pegged its age at about 550 years. He surmised that with proper care it could last another four centuries.

But proper care meant making major changes in how the land beneath and around the old oak, and



A magnificent English Oak (*eik*)

the tree itself, were being treated. Our predisposition to "tidying up" trees and their surroundings to make them conform to human views of what a "healthy" tree should look like is the exact opposite of what's needed. Older trees often let limbs droop to the ground to provide added support against storms. Leaves and fallen branches left on the ground decompose with the aid of earthworms and other invertebrates to provide much needed nourishment.

Ted's prognosis for several nearby much younger oaks was less hopeful. "It's ploughing that's doing them in," he said, "and everything that goes with it." Oaks have roots that extend up to two and a half times the radius of the crowns and stay close to the surface to access oxygen, especially in heavy clay soils such as those at Knepp. By compacting the soil, livestock and machinery damage the roots and destroy spaces where oxygen would normally collect, thus suffocating the trees.

And most important to the health of trees is the symbiotic relationship between them and mycorrhizae in the soil. Mycorrhizal fungi help trees acquire nutrients. In return, trees supply them with carbohydrates the fungi cannot produce themselves. The mycorrhizal filaments are a minute one hundredths of a millimeter in diameter, but form networks extending far beyond the reach of a tree's roots to access nutrients inaccessible to trees on their own.

And it's not just trees that have such symbiotic relationships. Key nutrients such as phosphorous, abundant in sea water, are present in only miniscule amounts in soil. Recent studies have revealed that more than 90 percent of all land-based plants require mycorrhizal help to acquire enough of such nutrients to survive. And mycorrhizal networks are now believed to extend perhaps continent-wide and connect plants of many different species.

It's little wonder, then, that such delicate, intricate networks can be damaged or destroyed by cultivation, and by the ever-increasing quantities of chemical fertilizers, pesticides, herbicides and fungicides that bombard them today.

A New Direction

But by the end of the Millennium, despite Charlie and Isabella's best efforts and hard work, the farming operation was still losing money and the family had built up a mountain of debt. This financial crisis forced them to rethink their relationship with their land.

The cattle, milk quotas and machinery were sold and most of the cropland rented out to Charlie's uncle, who was still trying to make a go of farming.

By this time there was a growing concern across Europe about the devastating effects of intensive agriculture on the land and the soil. A program named the Countryside Stewardship Scheme was established to try to reverse some of those impacts. Its mandate was 'to improve the environmental values of farmland across England.' Charlie received a grant to restore the 370 acres surrounding the house to permanent pasture. Unfortunately, the rest of the land still suffered the ravages of intensive crop horticulture.

Acquiring a supply of native seed stock was extremely difficult and expensive, since almost all native meadows in England had been destroyed in the relentless push to factory farming. Since plants native to the area had evolved to survive in a nutrient-poor environment, the accumulated chemical fertilizer residue had to be reduced. This was done by cultivating the ground, allowing regrowth from the existing seed stock, then spraying the resulting vegetation with herbicide twice during the summer.

That September the native seed mix was planted. Over the next two years the area was mowed twice during each growing season, with the plant material left on the ground so seeds could fall there. At that point Isabella and Charlie felt that the nutrient level had been lowered enough so that native plants could compete with those sprouting from remaining commercial varieties.

By the summer of 2002 a profusion of native wildflowers covered the ground. As if by magic swarms of butterflies, bees, grasshoppers and a myriad of other insects appeared, taking advantage of the now welcoming habitat.

The Return of Herbivores

In order to recreate the historical pastoral state of Knepp, Charlie and Isabella knew they would need grazing animals to keep the grass down and prevent succession to brambles and scrub. For several reasons they decided on fallow deer. Two hundred were imported from a nearby reserve. Over the following years the deer settled in and became part of the changing landscape.

At the urging of Ted Green, a visit was arranged to the Oostvaardersplassen in the Netherlands, a 23-square-mile reserve where revolutionary management practices using grazing animals were

showing amazing outcomes. An economic downturn in the early 1970s had led to the abandonment of a large area designated for industrial development. A shallow lake on part of the property was colonized by Greylag Geese that arrived in thousands to spend several weeks during their annual molt. Their foraging kept encroaching vegetation from completely clogging the water areas and resulted in a varied wetland that attracted a great variety of other life.

In an effort to keep forest regeneration from overtaking the drier portions of the reserve, a variety of large herbivores were introduced. The aim was to choose species that were native to Europe in earlier times, or least the closest matches available. Frans Vera, the force behind the Ootvaarderplassen project; related their discovery that animals when left to their own devices have a fundamental influence on the evolution of a landscape. By choosing a mix of species that forage on different vegetation types and in different ways, they would manipulate the habitat for maximum diversity.

Encouraged by what they learned, the family prepared a much bolder plan that would see the whole Knepp estate returned to a wild condition. Charlie had grown up in Africa and had experienced the vast herds that roamed the grasslands and savannahs there, so was open to the idea of trying to recreate a self-sustaining ecosystem in Sussex.

His proposal to English Nature detailed plans to introduce red deer, Heck cattle and Exmore ponies, in addition to European bison, wild boar and European beaver. Charlie knew this radical scheme would encounter resistance, but hoped that such an approach would at least get a middle-of-the-road compromise approved for a start.



An Exmore Pony (*Flexigraze CIC*)

Wild boar are omnivores. They perform the same function as hyenas do in the African savannah by cleaning up the carcasses and skeletons of dead animals, thus returning essential minerals to the earth. Grubbing for tubers and roots aerates the soil and opens it up for seed germination. Charlie wanted to leave animal carcasses on the land. Removing them has the same detrimental impact as carting away dead leaves and branches from under trees.

Turning the Corner

While English Nature was hesitant to approve funding for Knepp, further funding from the Countryside Stewardship Scheme allowed additional land to be removed from intensive crop production. A landmark change in European farm policy making non-crop lands eligible for agricultural subsidies meant more land could be converted. Isabella and Charlie felt sure neighbours having similar financial problems would be eager to join their move to naturalizing, but were disappointed at the lack of response.

Nevertheless they moved forward, bringing in a herd of old English longhorns, then some Exmore ponies, and two Tamworth sows and their piglets. These choices were necessary compromises given the interaction with the public the roads and trails at Knepp create, and the reluctance of English Nature to approve species such as wild boar.

English longhorns proved self-sufficient, requiring no extra feed beyond what they could glean from the land. Here in Durham Region, the Yellowlees family from Cartwright Township have begun building a similar herd. Dennis told me recently how efficient they have become at clearing fencerows of unwanted invasive trees and shrubs such as Manitoba maple. The bull is powerful enough to push over surprisingly large trees so that the rest of the herd can reach the higher foliage. Similar to what elephants do on the African savannah.

At Knepp the Tamworth pigs had the biggest impact on the landscape. They immediately began tearing up the unploughed edges along roadways and around buildings, areas that still had edible roots and invertebrates long since eradicated from the sterile soils where crops had been planted. Huge areas were churned up, exposing bare soil where a variety of seeds soon sprouted into plants, many of which were now rare or threatened in the rest of England. With them came insects, many now equally rare. With a renewed food source, birds soon followed, including

skylarks, which had declined by 75 percent during the last quarter of the 20th century.



Skylark (Stan Parrott)

What's Next?

The South Block of the estate, some 580 acres, was next to get a reprieve from the burdens of factory farming. Charlie managed to convince the Countryside Stewardship Scheme that allowing the regrowth of some scrub would be beneficial. Twenty-three English longhorns were released into the area and left to their own devices.

Nature Knows Best

Attempts to get approval to naturalize the largest remaining portion of Knepp, the South Block, met with constant delays and bureaucratic red tape. Over the next five years, field by field, crop production was discontinued. Since there was no money to buy expensive seed to plant the 1100 acres, it was simply left fallow.

In Isabella's words, "The result was far more exciting than anything we were doing elsewhere." In all but the wettest areas thorny scrub began to blossom. Then thousands of oaks began to sprout in the sheltering edges of the scrub. Isabella's detailed description of the symbiotic relationship between oaks and the jays that planted most of them is fascinating and entertaining reading, alone worth the price of the book.

Here in Ontario in sandy areas of the former Darlington Township in Clarington, abandoned Christmas tree farms grew up to Scots pine scrub. As the pines died out, hundreds of red oaks that had nestled in their shelter, probably planted by blue jays or red squirrels, were freed to push up into the sunlight to create a new oak forest.

“As we were about to discover,” Isabella recalls, “scrub is one the richest natural habitats on the planet.” Again she takes us back to medieval times to recount the myriad uses of the components of scrub, from rose hip jelly to birch wine, from blackthorn walking sticks to juniper for pencils. Thorn fences kept livestock from destroying woodlots, and thorny scrub was so highly valued as a tree nursery that in 1768 a law was passed in the New Forest, sentencing anyone damaging thorn and holly scrub to three months forced labour, with lashes of the whip at the beginning of each month.

Modern Misconceptions and Prejudices against “Wilding”

As more and more “modern” humans become divorced from the land and from nature as they crowd into larger and larger cities, the value of letting nature evolve in the best way possible has become taboo. We’ve been brainwashed by chemical companies selling herbicides and machinery suppliers selling weed whackers into believing we’re “bad people” if we don’t keep our lawns weed-free and neatly trimmed, and our trees pruned like bonsai specimens.

Another modern myth is that we’ll all starve if we don’t keep increasing food production using every available inch of land. In fact, farm subsidies and advances in plant ecology already mean that the world produces more food than we need. Small farmers and those tilling less productive land can’t compete as commodity prices drop. As well, huge volumes of food are wasted each year at all levels of the food network.

As the Southern Block at Knepp reverted to what used to thrive there, neighbours and passersby were appalled. While they assured the university student interviewing them as part of her MA study that they favoured conservation and loved wildlife,



Purple Emperor (*Our Breathing Planet*)

what was going on at Knepp didn’t fit their concept of how these things should happen.

Comments such as, “It’s turning into quite a mess,” and “It looks like it’s totally abandoned, like nobody cares for it anymore.” Or, “It looks like the land is for sale and the farmer has died.”

People complained to the local council about how disgraceful it was that this storied estate was being allowed to degrade to such an extent. But the loudest complaints were about all the “weeds” that were being allowed to proliferate.

Species Back from the Brink

In 2009 the first ravens to nest at Knepp in a hundred years took up residence in a tall tree just outside Charlie and Isabella’s bedroom window. This was an omen of things to come. Isabella devotes a chapter each to weave tales of the return of Purple Emperor butterflies, Skylarks and Turtle Doves. She’s an extremely evocative and talented writer with many books to her credit. To try to summarize these stories in my limited prose would only deprive you of the pleasure of living those tales through Isabella’s eyes.

How life at Knepp has evolved, both for humans and for the flora and fauna, is equally fascinating.

An inexpensive paperback version of *Wilding* is available on line from Chapters/Indigo. It’s one of the most captivating books I’ve ever read. I’m sure you’ll find the experience equally engrossing.

Wildlife Resilience

As the Knepp saga demonstrates, given an opportunity, nature will respond in rapid and often unexpected ways. All too often, however, such openings are created by the folly of humans.

I recall walking along a narrow road near the Canal Zone in Panama. On one side was degraded fields; on the other a lush tangle of tall rainforest trees and vines. The fields were largely silent, but from the forest came the loud resonant whoops of howler monkeys, soon answered by similar vocalizations from a half dozen more distant troops.

What made the difference? The forest was too dangerous for humans to enter due to unexploded bombs and artillery shells from times when this area had been used for military training exercises.

Stories abound of wildlife that have repopulated the demilitarized zone between North and South Korea.

Since the Chernoble catastrophe, birds and other animals have taken over the no-go zone, building their numbers to utilize habitat degraded and abandoned by humans.



Turtle Dove (Stan Parrott)

But it's time we humans set aside more areas where nature can find its own course to heal the earth. We can only hope the Knepp experience will be repeated many times over.

Even in the brief time people have been staying indoors during the recent epidemic, there are reports of animals moving onto playing fields and into other spaces people have temporarily abandoned. Maybe this pause will allow us to consider sharing the earth more equitably with the myriad of other life forms that call this planet home.

Thanks to Stan Parrott for his amazing photographs. You can see more of Stan's photographs at www.flickr.com/photos/stanparrott47

Gifts That Will Last Forever

Metres of the nature reserve have been saved in the name of:



David & Lisa Hiscox & Family
Dennis Barry & Margaret Carney

Thank you to everyone who gave a friend or loved one a share in this living legacy
—a gift that will last forever!

On our website we recognize all past donations made to honour friends and loved ones.

Lance-tipped Darner (*Ed McAskill*)

News from the Matt Holder Environmental Research Fund

by Phill Holder

Unfortunately, due to the current situation with the pandemic, it's not possible to conduct any research until further notice.

I'm sorry to say this includes our Birders Breakfast in May. I have had many emails from disappointed people who wanted to check out Kite binoculars that would have been on display there. While the owners of Kite Optics are currently dealing with on-line sales, they have committed to coming to the Reserve as soon as the pandemic is over. For more information, please contact me.

While we are all suffering during this crazy situation, I can only wonder what the impact will be on Corbett Marsh. Presumably there will be less pollution from surrounding industries, one positive result.

Fungi Survey

To have mushroom expert Richard Aaron come to Thickson's Woods for another fungi survey, on October 29, was enlightening to say the least. This time he brought along Tony Wright, and between them they added 30 fungi species to the ever-growing checklist, all photographed by Mike McEvoy.

It was a lot of fun accompanying Richard and Tony. They are full of information and good humour. I try to keep up, but am learning that fungi is a fascinating but complicated subject involving colour, shape, size, age and location. Mycologists have my utmost respect for their skills, not just in identification, but finding sometimes tiny fungi the size of a pin head in the most unusual places. Our checklist now has 109 species and we look forward to adding more this year.



Tony Wright getting serious finding fungi the size of a pin head
(Mike McEvoy)



Blue-stain Fungus / Green Stain
Chlorociboria aeruginascens
(Mike McEvoy)



Scutellinia erinaceus
(Mike McEvoy)

Butterflies

American Snout, *Libytheana carinenta*, is a rare to uncommon breeding migrant which usually appears in small numbers in SW Ontario. It gets its name from its incredibly elongated mouthparts that resemble the stem of a leaf. Two thousand nineteen was a significant year for this remarkable butterfly as the southern population exploded, with many butterflies migrating northward into Ontario.

Dennis Barry and Margaret Carney saw this intriguing butterfly zipping about their garden, but it wasn't until August 25 that Margaret got close looks at it on a zinnia flower. Such an exciting event, a first for Thickson's Woods.



American Snout - new for Thickson's Woods Nature Reserve (Mike King)

Giant Swallowtail (Mike McEvoy)

Annual visitors to the reserve in increasing numbers. A resident counted 10 individuals in one day.



For the past several years, Giant Swallowtail butterflies have been appearing more frequently and in greater numbers in Ontario. Northern range expansion, probably due to global warming, may be the reason we are seeing more of these beautiful insects. They are now annual visitors to the Reserve, and Dennis and Margaret had them daily in their garden during the summer of 2019, often seeing three together. In September, one Thickson's Woods resident counted a

remarkable 10 individuals in one day - quite a record! With so many sightings we hope to find Giant Swallowtail caterpillars around the Reserve this year.

A checklist of butterflies of Thickson's Woods has been compiled over the years, through casual sightings, and observations during butterfly counts. With the addition of American Snout, there are now 39 species on the list.

See our updated web site at www.mattholderfund.com

My Experience with Ontario Nature

By Natalie Rae

Growing up, I spent a lot of time outside and developed a love for the natural world. My family and I frequented Thickson's Woods, and I learned a lot about the different species inhabiting the area. I also saw the impact of invasive species, habitat loss and human pressures on the environment firsthand. Although the reserve is surrounded by a built-up area, a wide variety of species thrive there because of the people who insist it be kept protected. This has inspired me to work to protect the critical habitats that we have left in the province.

In 2017, I began getting more involved in environmental advocacy and attended my first ever youth summit through Ontario Nature. This experience surrounded me with like-minded individuals who shared a similar passion for the environment. Throughout the weekend, I was provided with a variety of opportunities to share my own ideas, and was also able to learn what other individuals were doing to work towards a more sustainable future. At first, these things were small: reusing items wherever possible, avoiding single-use plastics, and becoming more aware of the natural world that surrounds me. This led to a greater understanding of the human impacts on the environment, and I was able to collaborate and work with other youth to develop ideas on how to minimize them. That year, I joined the youth council. I have now been on the council for three years, and throughout this time I have been provided with opportunities to get involved by conducting invasive species removals, garbage clean-ups, native species/pollinator plantings, and outreach events in my community.

Being a part of the youth council has changed the way I perceive our natural environment and has inspired me to apply to programs with a mission to give youth the opportunity to create real environmental change. Two summers ago, I got accepted to a program with the Student Conservation Association. I spent five weeks dedicating my time to trail maintenance and conservation work on the west coast of Canada. While working alongside park rangers, I learned how easily humans can damage fragile habitats, and also what is being done to protect these wild places. Working to preserve our parks showed me how big an impact we can have when we set our mind to a global issue. Many others from the council have also taken part



2019 Youth Summit Children in the Woods.

in important initiatives. For example, my friend Jacob Bowman has studied a variety of threats that face brook trout in an urban stream. Through the youth council, he was able to obtain knowledge on environmental advocacy. This later led to him conducting research on the impacts of urban development on the inhabitants of the creek, and he has been involved in the youth science fair (CWSF) all around Canada, displaying

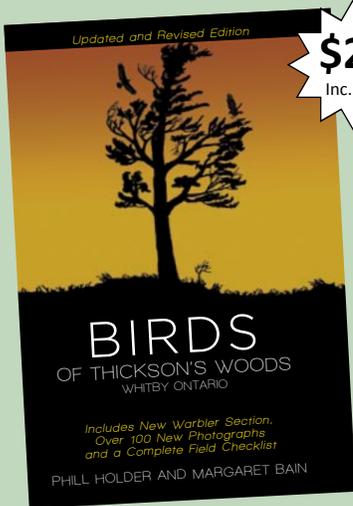
his studies of the effect of road salt on brook trout. Overall, I joined the Ontario Nature Youth Council to ensure I could contribute to the environmental change we need, and my experiences with the council have made me a more confident environmental leader. I look forward to continuing to work with youth council members to advocate for the natural world, locally and globally.



Youth Summit - Youth Council 2019 (Noah Cole)

Thickson's Woods Land Trust has sponsored Natalie to attend the Youth Summit. The first time she came with her family to help with garlic mustard removal, nearly ten years ago, she was eager to get her hands dirty. She's been a regular helper ever since.

It's rewarding to see how she's grown as a writer and as a champion of conservation.



\$25
Inc. Tax

Birds OF THICKSON'S WOODS Second "Field" Edition

Revised and updated with over 100 new photographs. A new warbler section includes large photographs of each of the 38 recorded species, showing differing male and female plumages. Includes a Field Checklist and Trail Map.

This completely revised second edition, designed for use in the field, documents 323 species of birds that have been seen so far in the Reserve. Illustrated with exceptional full colour photographs of each species, including status and the specific dates of the rarities seen, this is a must have book for all birdwatchers.



**Order your copies at www.mattholderfund.com/shop
or contact Dennis Barry at 905 725 2116**

Yes, I want to help protect Thickson's Woods Nature Reserve. It's a very special place!
We need spaces where plants and animals can thrive and people can relax in nature.

Here is my tax-deductible contribution of \$ _____ Date _____

Name _____ Address _____

City _____ Prov/State _____ Postal Code _____ Tel. _____

e-mail _____

Cheques can be payable to Thickson's Woods Land Trust.

Mail to: Box 541 Whitby, ON L1N 5V3 (Charitable Registration # 0674382-52-13)