

Yellowhead Flyway Birding Trail Association Inc.

# What's flying around....



## Guest Editorial: Refreshment in Nature Dr. Dongying Li

### Why Nature feels refreshing: The Attention Restoration Theory Perspective

*"I go to nature to be soothed and healed, and to have my senses put in order."*

– John Burroughs

Do you enjoy the refreshing feeling of walking in the woods, watching a crackling fire, or listening to the birds chirping? If so, have you thought about why the natural environment can be refreshing?

Drs. Rachel and Stephen Kaplan from the University of Michigan proposed the Attention Restoration Theory in the 1990s, which helps explain the mechanisms behind the restoring effects of nature. Their arguments start with the everyday tasks that we engage in, such as study and work. During these tasks, we need to focus our minds and block external distractions (e.g., someone chatting in the room) and ideas that come to mind (e.g., "I need to pick up groceries on my way home").

Our cognitive process that inhibits these stimuli needs effort and can get fatigued over time, making it increasingly difficult for us to concentrate. Being in nature, however, can replenish this inhibitory mechanism and therefore allow us to pay attention again. Nature contains features that the Kaplans call "soft fascinations," which captures our attention involuntarily. That is, when a breeze stirs leaves on a tree or raindrops hit the surface of a lake, we are drawn to the scenes without having to direct our attention with effort. During this period, our cognitive resources to inhibit distractions get replenished, and as a result, we feel restored. In a sense, just like we need healthy food for nutrients, we need doses of nature to sustain our attentional capacities.

### Cape May Warbler



Photo: YFBTA member Morley Maier

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Since the development of the Attention Restoration Theory, many researchers have tried to test this theory in various places and populations. They found relatively consistent evidence supporting that a walk in the forest, wilderness camp, or a few hours planting a community garden are restorative. My own studies demonstrated that students showed improved attentional performance after a short study break with a green window view.

When you feel mentally fatigued after a day's work, go out for a walk in a park or green space and feel the effects of attention restoration yourself!

## Let's Share the Beaches

Rebecca Magnus: Nature Saskatchewan

Summer weather has arrived, and that means opening up cabins and heading to the beach for some summer fun. But we aren't the only ones who enjoy the hot sand on a Saskatchewan summer shoreline! Piping Plovers are endangered shorebirds that make an annual migration from their wintering grounds to breed on beaches across the province, potentially including lakes such as Good Spirit Lake and Horseshoe Lake in the YFBTA region.

Piping Plovers, since 1985, have been classified as endangered yet and their numbers are still not secure. Less than 800 plovers were observed in Saskatchewan in the 2011 and 2016 international censuses. These numbers reveal an over 50% decrease from the 2006 census. There are factors that contribute to the Piping Plover's decline, such as flooding of nesting areas and the loss of nests from being trampled by wildlife, livestock or people and possibly pets. A number of human activities can also unintentionally destroy nests and young Piping Plovers.

First arriving on Saskatchewan beaches in mid-May, Piping Plovers form mating pairs and begin to make their nests. If you come across nesting plovers you will almost always hear them before you see them. Both adult plovers make distinctive "Peep" and "Peep-lo" calls. Piping Plovers are well adapted to blending into the beaches they nest on, and they can be difficult to spot. You can identify a plover using the distinctive black markings – a black band on their forehead and a single black band around their neck. Plovers also have a sandy body with white belly, orange legs, and an orange beak with a black tip.

It is easy to mistake a common Killdeer for a plover, but Killdeer are larger, browner in colour, and have two black bands around their necks (instead of one). Looks aren't the only thing that plovers share with their Killdeer cousins, as both species exhibit many of the same behaviours when nesting. These displays can include running away, while stopping to make sure you are following, and vigorously flapping one or both wings. This broken wing display is named accurately because the bird appears injured. It is an act. The bird will fly safely back to the nest once it has led a potential predator away.

Piping Plover nests are camouflaged in their sandy surroundings. Female plovers will lay four speckled eggs in a sandy cup lined with small pebbles. Parents, mainly the males, incubate the eggs for approximately 28 days.

Saskatchewan nests will hatch by mid-June. During this critical nesting period it helps to keep cattle, leashed dogs, and ATVs off the shoreline, while carefully travelling along shorelines.

Nature Saskatchewan delivers Stewards of Saskatchewan programs, a suite of volunteer-based programs aimed at conserving and enhancing prairie habitat for species at risk and other wildlife.



Photo: David Krughoff

Plovers on Shore is one of these targeted programs that conserves shoreline nesting habitat for Piping Plovers. Participants who manage shoreline that supports nesting plovers sign a voluntary stewardship agreement, showing their commitment to conserving this habitat into the future. We ask participants to report any plovers they have seen by filling out and returning an annual census card. In return, participants receive a variety of materials such as a gate sign, a species at risk calendar and newsletter each year, invitations to events with special guest speakers, and staff assistance with beneficial management practices or species identification.

If you think you have seen a Piping Plover, or think that you've come across a nest site, please call our toll free Hoot Line at: **1-800-667-HOOT (4668)** or email [outreach@naturesask.ca](mailto:outreach@naturesask.ca).

## Birding at Madge Lake

YFBTA members Cathy and Bob Brown

**Editor's note:** Cathy and Bob spent three weeks at Madge Lake in 2021. They were excited to develop the following list with observation and with the assistance of an "app" that relies on bird vocalizations to provide suggested identities.

JUNE 27 - JULY 18	
Madge Lake Birds 2021	
<u>Confirmed</u>	<u>Maybe</u>
Northern Waterthrush	Wood duck?
<del>Red-winged</del> Grebe	
Bald Eagle	31 Least flycatcher
Phoebe	Crowbird
5 Song Sparrow	Evening grosbeak
Tennessee Warbler	Redwing blackbird
Crow	35 Gull (Ring-billed)
Black-capped Chickadee	American Redstart
White-throated Sparrow	Chipping Sparrow
Common Loon	House Sparrow
<del>Junco</del> Pintaile	Scalp
Red-eyed Vireo	40 Blue Heron
Baltimore Oriole	Gray Catbird
Merganser	Blue-winged Teal
15 Mallard	Chestnut-sided Warbler
Blue Jay	Eastern Kingbird
Canada Goose	45 Golden-winged Warbler
Hairy woodpecker	Black-throated Green
Downy woodpecker	Indigo-bird Junco
20 Ruby-crowned Kinglet	Philadelphia Vireo
Blackburnian Warbler	Boreal Chickadee
Yellow-throated Vireo	50 Barn Swallow
House Wren	Swamp Sparrow
Pileated woodpecker	Mourning Warbler
25 American goldfinch	Yellow-bellied Sapsucker
Merlin	Yellow-rumped Warbler
Raven	55 Great-crowned Flycatcher
Turkey Vulture	<del>Flicker</del>
Common Yellowthroat	Ruby-crowned Kinglet
30 Wilson's Warbler	<del>Blue Jay</del>

### Will You Renew?

YFBTA is determined to be active in 2022, continuing with 2020 and 2021 initiatives (newsletters, reporting on nesting loons on Madge Lake and an annual Christmas bird count. YFBTA also hopes to return to social outings and some indoor gatherings.

Our mission is to encourage awareness of nature. Please consider supporting YFBTA with a membership renewal and/or by "gifting" a 2022 membership.

## Prairie Potholes and Swallows

Andrew Elgin

**Editor's note:** Andrew's article is reprinted below. It was taken from the Fall 2020 edition of Nature Saskatchewan's *Blue Jay* with permission.

Millions of wetland basins (wetlands, ponds, potholes, sloughs) are integral features on the northern prairie landscape. Though it is likely most readers of this article will be familiar with prairie pothole wetlands and their ecological importance, I would be remiss in failing to provide some background. The prairie potholes are glacially-formed basins that can be filled by precipitation, primarily snowmelt, forming wetlands which may contain ephemeral to permanent ponds (i.e., the open water within a wetland).



A female Tree Swallow, equipped with GPS tag (blue arrows) prepares to deliver insect prey to her nestlings.

Photo: Andrew Elgin

Prairie wetlands and associated ponds provide important habitat for many species of flora and fauna, including a diversity of birds; however, the prairie landscape has been heavily altered by human settlement and extensive agricultural land use, including the drainage and conversion of wetland basins.



Estimates suggest that 40 to 70 per cent of historical prairie wetland basins have been lost in Canada, though only rough estimates of wetland loss can be inferred from the limited historical information.

Nevertheless, remaining prairie wetlands can act as important biodiversity “hotspots” on the predominantly agricultural landscape of the Prairies.

Among the birds that make use of wetland ponds are Tree Swallows (*Tachycineta bicolor*), which are a member of the foraging guild known as “aerial insectivores,” a group of birds that capture insect prey while in flight. In general, Tree Swallows often feed on aquatic insects emerging from water, including wetland ponds, and aquatic insects are similarly prevalent in the diet of Tree Swallows nesting at sites with wetland ponds in southcentral Saskatchewan.

Because Tree Swallows have somewhat “flexible” diets, they may “switch” to feeding on terrestrial insects in areas where aquatic insects are less available. Still, such a dietary switch is perhaps not without cost. Recent evidence suggests that not only are aquatic insects a source of energy for swallows, but these insects may also act as an important source of essential nutrients. In particular, aquatic insects can act as a dietary source for omega-3 long-chain polyunsaturated fatty acids, which may increase nestling Tree Swallow growth rates.

Similarly, greater availability of aquatic insects has been associated with improved fledging success for Tree Swallow nestlings. These findings collectively suggest that aquatic habitats, such as prairie wetland ponds, might be critical foraging areas for swallows provisioning their nestlings with insects as food.

My graduate research focused on the importance of prairie ponds as foraging habitat and a source of aquatic insect prey for Tree Swallows breeding in nest box colonies at four agricultural sites in southcentral Saskatchewan. Additionally, we examined whether the swallows at these sites were being exposed to agricultural pesticides commonly used on the Prairies, representing a possible negative impact on swallows’ diet quality.

One of these four study sites, at the St. Denis National Wildlife Area, was primarily dominated by grassland; two sites near Colonsay and Burr were dominated by cropland; and one site near Humboldt was “mixed,” with both non-crop cover and cropland near swallow nest boxes. The “availability” of wetland ponds also varied among sites; in particular, one cropland site near Burr had lower water cover than the other study sites, which was in part attributable to more extensive drainage. These study sites, with differing agricultural land cover (i.e., primarily grassland and semi-natural areas, cropland, or both) and varied densities of prairie wetlands, formed the backdrop for several research questions.

Prior results have suggested Tree Swallows on prairie sites were feeding primarily on aquatic insects that emerge from ponds, but it was not entirely clear whether swallows were relying on the ponds as sites to capture prey.

### Cliff Swallows



Photo: YFBTA member Morley Maier

Are breeding swallows taking advantage of ponds as areas to easily capture these newly emerged aquatic insects, or are they simply capturing aquatic insects that have traveled across the landscape? After all, swallows’ insect prey have wings, too. To investigate swallow habitat use, we tracked 24 adult female Tree Swallows over the course of a day (from 05:00 h to 22:00 h local time) using miniature GPS tags (Figure 1), weighing ~1.2 g and removed after tracking.

The data gleaned from these tags suggested that swallows were selecting ponds as foraging areas more than terrestrial habitats (primarily grassland or cropland); that is, swallows appeared to use wetland ponds disproportionately to pond availability on the landscape, in patterns consistent with foraging.

We asked whether there were differences in swallow diet quality attributable to the availability of wetland ponds and local agricultural practice; namely, we examined nestling swallows' omega-3 long-chain polyunsaturated fatty acid "status" and exposure to neonicotinoid insecticides, among other pesticides, using blood samples and diet sampling. We focused on exposure to neonicotinoid insecticides, in part, because they are widely used in Prairie Canada as a prophylactic seed treatment, and consequently, have been frequently detected in wetland ponds.

Our results suggested a pattern of lower omega-3 status in nestlings sampled from the most drained site relative to nestlings sampled at the other sites. More explicitly, these results suggested that wetland ponds (and presumably, aquatic insects) contribute to enhancing nestling swallows' diet quality, regardless of local agricultural practice (i.e., cropping or grazing). Interestingly, and perhaps concerning, we found that blood plasma from all sampled nestlings suggested exposure to the neonicotinoid insecticide Imidacloprid. Although there were some differences in plasma concentrations among sites (nestlings at the Humboldt site tended to have greater plasma Imidacloprid than those at the St. Denis or Colonsay sites), these differences were not clearly related to local cropping.

On the other hand, the concentration of another neonicotinoid, Clothianidin, tended to be greater in sampled nestlings on sites with cropland near nests compared to the grassland-dominated site. We further confirmed that these neonicotinoid insecticides, and several other pesticides, were present in some insect prey delivered to nestlings, strongly suggesting that these pesticide exposures were attributable to dietary intake. Though it is not yet clear whether swallows' exposure to various pesticides has negative impacts, such as impacts on growth or other toxic effects, these results confirmed that even insectivorous birds are among the non-target animals which may experience widespread exposure to neonicotinoids, among other pesticides.

Overall, the results of my thesis research support the retention and restoration of prairie ponds to support swallow populations in the Prairies. Our results suggested that, for Tree Swallows, wetland ponds appear to be critical foraging areas and a source of nutrient-rich aquatic insect prey. However, our findings also confirmed Tree Swallows are among several recently documented non-target organisms which are exposed to neonicotinoid insecticides, in addition to other pesticides. The apparent pervasiveness of neonicotinoids, along with their possible effects on non-target organisms, calls into question their extensive prophylactic use. From a personal perspective, I would suggest that these results argue for an improved balance between human needs and biodiversity conservation in the Prairie Pothole Region. Like prairie ponds, agriculture is now also a fundamental feature of the Prairie landscape, giving rise to social and economic factors (including the livelihoods of farmers) which must also be considered. In my view, neither drainage nor pesticides is the enemy of conservationists. I suggest it is rather the thoughtless application of these and other practices, without consideration of necessity or impacts on nature, which represents the primary obstacle to biodiversity conservation in agricultural landscapes. Though I would not claim to have the ultimate solutions to these problems, I do believe we are all better served by striving toward and promoting a greater balance between the needs of humankind and the preservation of natural ecosystems.

### Sociable Ravens?



Photo: YFBTA member Morley Maier

## I Don't Know Much About Bluebirds

YFBTA member Rob Wilson

Discovery of Bluebird ignorance began when I became aware of the approximately one hundred blue bird boxes that exist along highway # 47 and adjoining roads and trails between Springside and Buchanan. These nesting boxes, originally installed by Bill and Joyce Anaka, were , for many years , subsequently lovingly cared for by Val and Bob Edwards and Jim and Mavis Hryenkiw until the Hryenkiws re-located to Manitou Lake.

“Stewarding” was continued by Val and Bob Edwards who have recently been joined by volunteer YFBTA members (Morley Maier, president, Martin Phillips, Kenn Wood and me). The boxes, to remain as viable nesting sites, require annual fall cleaning, occasional repair (especially roofs) and eventual replacement.

During July Morley and I set out to conduct a drive-by-roadside-visual of box inhabitants. After checking 78 houses we had documented only one box supporting a Bluebird family. The houses have been set out in pairs as Tree Swallows, if they are first to find a box, will claim one of the pair. If there is a second box the swallows seem unbothered if Bluebirds claim that one. The swallows, however, will not tolerate a second swallow family within their defended territory. Knowing this, Morley and I had expected to see swallows at each of the 38 house pairings checked. We observed Tree Swallows at only three locations.

We encountered Val Edwards during the excursion. We expressed our surprise and disappointment with the small number of birds observed. Val pointed out that we had chosen a poor date to conduct this survey as birds of both species may have fledged. Val also mentioned that spring weather conditions can have severe negative impacts upon aerial insectivores (birds that capture food “on the wing”). Our region did experience deadly conditions in the spring that may have been fatal for some birds and may have caused other birds to re-locate.

Morley, Martin, and I returned in the fall to assist Val and Bob with annual box clean-outs. We discovered nests in most of the boxes.

We learned, again from Val, that Bluebirds will attempt a second brood in a season given favourable conditions. Swallows, on the other hand, nest only once per season. We noted that swallow nests and Bluebird nests, although similar, are unique to each species.

### Grandson, Jameson, Assists with Clean-out



Photo: YFBTA member Morley Maier

We realized that we really do not yet know, with out seeing the birds, how to confirm residing species for any particular box. Since nearly every box contained a nest we know that we missed most of the 2021 Tree Swallows and Mountain Bluebirds.

We realize that we have a very poor idea as to how many of the observed nests were Bluebird nests.

Based on our limited knowledge we think that the 2021 checked boxes were used by ten Mountain Bluebird families.

To this point I have learned that I don't know very much about Blue Birds. I intend to further my learnings and I will be delighted to continue my studies in the spring of 2022.

### Editor's note: Interested in going to bat?

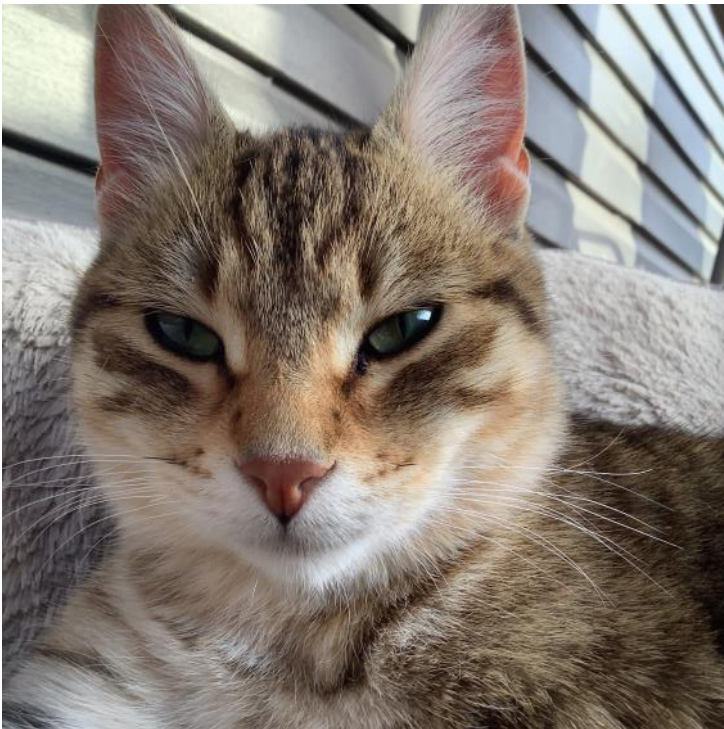
Our 2021 Issue 2 newsletter featured an article about the rescue of Big Brown Bats (Living Sky Wildlife Rehabilitation manager, Jan Shadick). She provided a few photos that may be viewed on our website [yfbta.com](http://yfbta.com).



## Young Writers' Corner

### Frogs and Salamanders

I am Addison Neal  
I wonder what I would be like when I grow up  
I hear my favorite music  
I see green and yellow trees  
I want a phone  
I am wonderfully weird, but in a good way.  
I pretend that I'm James Charles doing makeup.  
I feel joyful when I'm with friends.  
I touch my ipad screen with my Cheeto fingers.  
I worry about my school grades  
I cry when I don't get food from Burger King.  
I understand this project.  
I say hi to people I don't know.  
I dream of weird monsters that look like my brother.  
I try to draw frogs, but that usually does not turn out good.  
I hope we won't have to wear masks soon  
I am Addison Neal.



*Submitted by Addison Neal*

I am a student  
I wonder if there will be Circle Square Ranch.  
I hear the wind.  
I see all of the children going back to school.  
I want to succeed at cross country running.  
I am Jacob.

### Tiger Salamander



*Photo: YFBTA member Rob Wilson*

I feel the dew on the morning grass.  
I touch the rough bark of the trees.  
I worry about the salamander populations  
I am Jacob.

I say what I believe.  
I try to do well in school.  
I hope to get ribbons in cross country.  
I am Jacob Baron.

### A plea and an invitation from the editor

Preparation of newsletters has come to feel a little onerous. Members can help by submitting material (photos, articles, cartoons, digital links and/or reports of interesting "sightings").

Anyone willing to assist with varying editor-related tasks will be welcomed.

Hoping to hear from some folks.

## Black-headed Grosbeak

YFBTA member Bob Holtkamp

On October 7<sup>th</sup> around 7:30 a.m. my collie Gryffin and I were out for our morning walk at Logan Green Park in Yorkton. We walk there every morning. I am usually equipped with a backpack contain-



*Photo: taken from All About Birds  
(Cornell Lab of Ornithology)*

That way I can top up the 5 bird feeders at various locations around the park. This morning however I had forgotten my camera and only had my cell phone.



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As we neared the first feeding station by the bench at the south end of the trout pond I noticed a bird with a very large beak at the feeder. It flew to a nearby tree and sat on a branch. I could plainly see it was a Black-headed Grosbeak female or immature male. I reached for my cell phone and zoomed in the image but I was having difficulty finding the bird. It's not like using a real camera. So I decided I would go home after the walk and come back with a real camera and hopefully spot it again. I returned later that day with no luck after 45 minutes. No luck either the next few days. I did get to watch it until it flew away for about 10 minutes. Very exciting!

Some interesting facts about the Black-headed Grosbeak are:

...They hybridize with the Rose-breasted Grosbeak where their range overlaps.

...They are immune to the poison in Monarch Butterflies and in Mexico eat large numbers of these Monarchs.

...The young leave the nest after 11 to 12 days and stay on the branches for about 2 weeks until they are able to fly.

**Editor's note:** 2021 annual report of YFBTA's Loon Initiatives Committee c/w maps and photographs is available on our website:

[Yfbta.com](http://Yfbta.com)

### What's Flying Around: Newsletter Group Volunteers

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