



OUR MISSION

“To ensure the preservation of the character and biological biodiversity of Wagner Natural Area for Educational, Scientific and Research purposes.”

Friends of the Fen



First Yellow Marsh Marigold (Caltha palustris) of the season in Wagner Natural Area!

Those beautiful shiny yellow flowers with heart-shaped leaves can be spotted at the entrance of WNA and along the Marl Pond Trail.

Don't miss this spring spectacle, come visit us!

Photo courtesy of: Isabela Bernsdorf

WAGNER NATURAL AREA SOCIETY NEWSLETTER

Upcoming Event – Father’s Day Orchid Walk

What: Join us for a walk through the Marl Pond Trail to explore our rare orchids on a guided tour!

When: Sunday, June 16th, from 10 a.m. to 2 p.m.

Where: Meet at the Wagner Natural Area Parking Lot

Volunteering Opportunities!

What: Weed Pull

When: June 8, 9, 22 & 23

9 a.m. to 2 p.m.

Where: Meet at the Wagner Natural Area Parking Lot

Gloves and rubber boots are recommended. Gardening tools will be available for those who don't bring their own. Dress for the weather. Snacks and water provided. Let us know you are coming out by sending an email to info@wagnerfen.ca

Summer Student 2024

By Isabela Bernsdorf

Hello everyone! I am Isabela, and I am thrilled to be part of the Wagner Natural Area team this summer as an Environmental Project Specialist! If you are a WNA regular, you have probably seen me walking around, listening to birds, or taking photos this past May.

I grew up in southern Brazil, surrounded by the beautiful Atlantic Forest, which has some of the world’s richest biodiversity! The environment I grew up shaped my love for nature, and since I was a child, I knew I would be a biologist. I followed my dream and studied Biological Sciences and later got an M.Sc. in Zoology. My career journey has been diverse—I spent nearly three years teaching biology and science in Brazilian public schools, worked in a molecular biology lab focusing on ecotoxicology, and researched the impacts of road infrastructure on mammals for over two years.

In 2022, I decided to make a big change and live new experiences. I sold everything I had, got married, and moved to Canada with just a few boxes, determined to find my place in the world. That same year, I started studying Conservation Biology at NAIT, which has led me to face many challenges and live new experiences. In Canada, I had the lovely opportunity to volunteer a couple of times at the Edmonton Valley Zoo, which reminded me of how I like to connect with people!

I am very grateful for this job at WNA, and it means a lot because it shows that my life choices are on the right track! This summer, I will be working on a project using trail cameras sponsored by Parkland County to learn more about the local wildlife and share our findings with the public. Additionally, I will assist Andy with trail maintenance, invasive plant management, educational talks, and activities, and writing the summer newsletter.

I look forward to contributing to the important work at WNA and gaining valuable experience. Here is to a wonderful summer ahead!



Photo courtesy of: Isabela Bernsdorf, summer student

Support Us!



American red squirrel
Photo courtesy of: Isabela Bernsdorf

The Wagner Natural Area Society welcomes new supporters, volunteers, and all people interested in natural history and the preservation of the ecological integrity of this delightful natural area.

VOLUNTEERS / MEMBERS

People of all talents and interests are desired and welcomed to become more closely involved with the Natural Area and the Society.

Email: info@wagnerfen.ca

DONATIONS

All donations help maintain the integrity of the Natural Area and its surroundings, provide educational material, enhance visitor experiences, and support on-going research studies and surveys.

Please see page 14 for the donation/volunteer form.

Spring Clean Up 2024

By Isabela Bernsdorf

We would like to give warm thanks to all the volunteers who generously contributed their time and effort during our annual clean-up on May 4th! This year, we had one of our largest groups of volunteers in recent years, and we were thrilled to see the word about WNAS spreading.

Thanks to our large team, we were able to cover an extensive amount of ground during the clean-up. The volunteers worked on various tasks, including removing barbed wire and fallen trees from Osborne Field, garbage picking at the parking lot and natural area limits, sweeping the picnic shelter roof, sweeping dead leaves, and removing Manitoba maple trees from Marl Pond Trail.

Your time and dedication have made a significant difference in keeping WNA clean and inviting for the summer ahead! Thank you again for your hard work!



Figure 1. Our volunteer group getting ready to do some work! Photo courtesy of: Lorelei Hironaka

Figure 2. Dave Ealey standing beside the garbage collected after our volunteer's efforts. Photo courtesy of: Isabela Bernsdorf

Figure 3. Isabela and Kiera, next to the barbed wire removed from Osborne field boundary. Photo courtesy of: Dave Ealey

WEED OF THE MONTH

Manitoba Maple (*Acer negundo*)

By: Isabela Bernsdorf

Overview: Although the Manitoba maple is not officially classified as a regulated weed, we treat it as one due to its invasive nature at Wagner Natural Area. This species is native to the prairie provinces of Canada, particularly in Manitoba and Saskatchewan, and extends into a small portion of the far eastern grasslands of Alberta¹. However, the Manitoba maple has become invasive in other regions of our province, particularly in southern and central Alberta. It is a fast-growing, short-lived tree with a dense canopy that can overshadow native plant species. In addition, as it grows, it tends to absorb large amounts of water and become waterlogged, compromising the stability of its trunk and branches, and increasing the risk of falling.

Habitat: Manitoba maple is a highly adaptable species that can tolerate different types of soils and grows well in full sun or partial shade. It can be found in lakeshores, stream banks, seasonally flooded sites (like WNA), and urban areas². It is also commonly planted on Alberta farms as shelterbelts³.

Life cycle: It is the only dioecious maple tree, meaning individual trees are either male or female. Pollination is primarily wind-driven, and successful fertilization leads to seed production. Male trees produce clusters of red flowers, while female trees produce yellow-green flowers that develop into seeds⁴.

Invasiveness: It produces a fruit known as "helicopter seeds" or samaras, which pose a significant invasive threat in our region. These fruits spin as they fall, allowing the wind to easily disperse them over considerable distances. A single Manitoba maple can produce thousands of seeds, contributing to its rapid spread. When these trees fall, they can sprout vertical branches and quickly grow back to full size. Additionally, birds and squirrels play a role in dispersing this species by feeding on the old samaras during the winter, further aiding its spread⁵.

Origin in WNA: It is believed that MM has been brought to WNA by the wind, which carried the "helicopter seeds" along the ditches alongside the Atim Rd to Wagner, or by nearby farms that used the trees as shelterbelts.

Prevention/Control: Do not plant MM trees outside their native range. Define the tree's distribution limits and monitor for flowers and fruits. Eliminate the trees by hand-pulling or digging up smaller specimens. Larger trees should be cut at the base or girdled. It is suggested to treat cut stumps with herbicide because they can resprout⁶.

Identification Features:



Size: up to 12-20 m and 75 cm in diameter.

Bark: light greyish-brown. Smooth on young trees, becoming deeply grooved and darker in older trees.



Fruit: V-shaped samaras or helicopter seeds hang in clusters from branches



Leaves: compound, 6-7 cm long, 3-9 toothed leaflets on a central stock

Flowers: Male flowers are red (like the photo), while female flowers are pale yellow-green. All flowers have 5 sepals and no petals.

Photos courtesy of: Isabela Bernsdorf

WILDLIFE SPOTLIGHT

POTENTIAL FIRST SIGHTING IN WNA HISTORY!

Belted kingfisher (*Megaceryle alcyon*)

By Isabela Bernsdorf

While seeking for a suitable location to deploy one of our trail cameras, Dave and I spotted a male belted kingfisher soaring over the beaver pond. This sighting may be the first record of this species in the Wagner Natural Area! The presence of the belted kingfisher also hints at the potential presence of small fish in our ponds, which would be a significant find.

Brook stickleback (*Culaea inconstans*) and fathead minnow (*Pimephales promelas*) were previously found in the WNA ponds in the early 90s by Wayne Roberts and Michael Jenkins (Spring of 1990 WNA newsletter). Roberts wrote that brook sticklebacks were found in Wagner Natural Area creeks and beaver dams and were an important diet component of water shrews (*Sorex palustris*) during the winter. However, they were restricted to areas with higher levels of oxygen. Since then, there have been no recordings of fish sightings in our newsletters.

Over the next few weeks, I will revisit this site multiple times to check the camera and look for fish activities. I am hopeful we will capture the kingfisher or any fish on video or snap a photo to document this remarkable moment. Stay tuned for updates!



Unfortunately, we did not have a professional camera during the sighting, meaning we did not take a good picture. The photo on the left is an illustrative picture of a belted kingfisher (not from Wagner).

Photo courtesy of: Shari McCollough

2023 Summer Student's Orchid Pollinator Project: Potential Pollinators of the Yellow Lady's-slipper and Small Round-leaved Orchid

By Kiera Coleman [article condensed from Kiera's year-end report by D. Ealey]

Purpose

Originally, I wanted to identify pollinators of three orchid species at Wagner Natural Area. Time constraints and poor weather conditions for my selected methods meant I was only able to gather data on pollinators of the yellow lady's-slipper (*Cypripedium parviflorum*) and small round-leaved orchid (*Galearis rotundifolia*).

Methods

Three study sites with varied site conditions were chosen from across WNA for each orchid species. Notes on surrounding vegetation, general soil moisture content, canopy and ground cover, and disturbance of selected orchid patches were recorded (see Site Conditions; Table 1). An approximate count of flowers for *C. parviflorum* and flowering stems for *G. rotundifolia* were obtained from original site photos. These counts were used to contrast with the number of seed capsules (or successful pollinations) counted after the orchids were out of bloom.

Pollinators were studied passively. A macro lens and teleconverter were used to photograph potential pollinators, and field notes taken on each visitor to the flowers. The camera used was a FujiFilm X-T5 camera body with an XF80mm F2.8 macro lens attached to an XF2x teleconverter. Generally, I left the camera in autofocus mode to better focus on the fast-moving insects. During each site visit I spent one to two hours watching for pollinators. Species were later identified from the photos using the following guides. These IDs were cross-referenced with photos from iNaturalist. The flower visitors that I did not photograph (or whose photos were of poor quality) were identified to the best of my ability. For the minute black scavenger fly (family Scatopsidae), I hunted through the fly key for the most similar looking family and used iNaturalist's identification tool to confirm.

Hoverfly key:

Miranda, G. F. G., Young, A. D., Locke, M. M., Marshall, S. A., Skevington, J. H., & Thompson, F. C. (2013). Key to the genera of Nearctic Syrphidae. Canadian Journal of Arthropod Identification, 23. <https://doi.org/10.3752/cjai.2013.23>

Fly key:

Marshall, S., Kirk-Spriggs, A. H., Muller, B., Paiero, S. M., Yau, T., & Jackson, M. D. (2017). Key to Diptera families—adults. In A. H. Kirk-Spriggs & B. J. Sinclair (Eds.), Manual of Afrotropical Diptera. Volume 1. (pp. 267-357). Suricata 4. South African National Biodiversity Institute. Retrieved August 18, 2023 from <https://www.nhm.ac.uk/our-science/our-work/biodiversity/manual-afrotropical-diptera.html>.

Bumble bee identification guide:

Neame, T., Ritchie, S., & Summers, M. (2023). Bumble Bees of Calgary: A key and illustrated guide for identification of the bumble bee species found in Calgary, Alberta (2nd ed.). University of Calgary. Retrieved August 18, 2023 from <http://hdl.handle.net/1880/113505.2>

Findings

All observations are of potential pollinators because I never observed pollinia stuck to any of the flower visitors.

For the yellow lady’s-slipper (*C. parviflorum*), my most observed potential pollinators were hoverflies (family Syrphidae) accounting for 11 of 15 observations. Those insects photographed belong to the genus *Platycheirus*. It is possible the photos were all of the same individual because they were taken during the same monitoring period. I also observed one hoverfly several times that showed no interest in the lady’s-slipper. It was from the genus *Sphaerophoria*. Other potential pollinators included a green lacewing (family Chrysopidae), a bumble bee (genus *Bombus*), a small black and white bee species that I was unable to identify, and a burnt-orange coloured skipper with dark brown wing margins (family Hesperidae).

The only difference I noticed between my selected sites for *C. parviflorum* was that I never saw any pollinators at the site where the undergrowth was higher than the orchids. However, this site still yielded seed capsules.

There appeared to be very little pollinator success with *C. parviflorum*. I monitored roughly 250 flowers and counted only 19 seed capsules at the end of the study.

For the small round-leaved orchid (*G. rotundifolia*), my most observed pollinators were hoverflies (family Syrphidae) and flies of the superfamily Muscoidea. Both groups each contributed 5 of 16 observations. The hoverflies I photographed belong to the genera *Chrysotoxum* and *Helophilus*. Other visitors included a bumble bee (genus *Bombus*; likely *Bombus cryptarum*), three tiny black scavenger flies (family Scatopsidae), an ant (family Formicidae), and another unidentifiable small, dark bee species. I also observed that many mosquitoes tend to rest on the orchid’s flowers.

I did not note any differences between my study sites for *G. rotundifolia*. *G. rotundifolia* had what I consider to be high pollinator success. Of the roughly 260 flowering stems I monitored, 104 bore a total of 188 seed capsules.

Findings Summary:

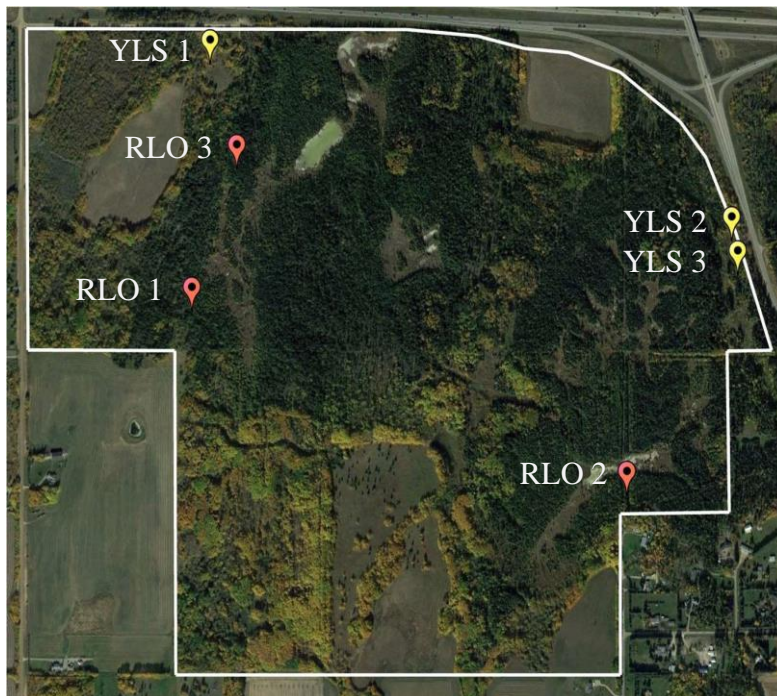
Yellow Lady’s Slipper	
Potential Pollinator	Tally
Syrphidae spp.	8
<i>Platycheirus</i> sp. (Figure 1)	3
Bee sp. (Figure 2)	1
<i>Bombus</i> sp.	1
Chrysopidae sp.	1
Hesperidae sp. (Figure 3)	1

Small Round-Leaved Orchid	
Potential Pollinator	Tally
Muscoidea spp. (Figures 5, 7, 9, 12)	5
Scatopsidae spp. (Figure 4)	3
Syrphidae spp.	3
Bee sp. (Figure 11)	1
<i>Bombus</i> sp. (Figure 13)	1
<i>Chrysotoxum</i> sp. (Figure 6)	1
Formicidae sp. (Figure 8)	1
<i>Helophilus</i> sp. (Figure 10)	1

Improvements

Of course, several things could be improved if this study were to continue. More frequent visits to the sites would be beneficial because the orchids’ short bloom periods pass very quickly. I believe monitoring throughout the bloom time to be more beneficial than monitoring for fewer longer periods to ensure that a broad range of pollinators can be observed. Depending on one’s camera, filming pollinators may also be of greater value than photos alone because one could more easily capture several angles of the pollinator. Naturally, capturing the potential pollinators would allow for further identification if that were of interest.

Monitoring Sites Map



SITE CONDITIONS* DATA - Yellow Lady’s-Slipper (*Cypripedium parviflorum*)

Patch	Soil	Canopy	Disturbance	Vegetation	Ground Cover	Notes
YLS 1	Dry	25%	None	Balsam poplar, common dandelion, common yarrow, fireweed, grass spp., paper birch, prickly rose, red-osier dogwood, tall lungwort, trembling aspen, willow spp.	Thick layer of grass and deciduous leaf litter	None
YLS 2	Moist	<25%	Animal trail <1m away	Arrow-leaved coltsfoot, balsam poplar, Canada thistle, currant sp., grass spp., goldenrod sp., horsetail sp., paper birch,	Thick layer of grass and deciduous leaf litter	Undergrowth is taller than the yellow lady’s-slippers

				prickly rose, red raspberry, white spruce, willow spp.		
YLS 3	Moist	>75%	Deer trail ~1.5 m away	Arrow-leaved coltsfoot, balsam poplar, bracted honeysuckle, Canada thistle, dewberry, goldenrod sp., Manitoba maple, perennial sow-thistle, red elderberry, red-osier dogwood, red raspberry, stinging nettle, three-flowered bedstraw, white spruce, wild sarsaparilla, willow spp.	Thin layer of mostly deciduous leaf litter	None

***Site Conditions**

Soil Moisture: Wettest to driest conditions

- **Wet-** Visible water
- **Damp-** Wet to the touch
- **Moist-** Noticeably humid but doesn't feel wet
- **Dry-** Crumbly, dusty, or hard with no noticeable moisture

Canopy Cover: Percent estimate of sky covered by vegetation; rounded to the nearest 25%

Disturbance: Proximity to and potential to be altered by animal uses

Potential pollinators: Yellow Lady's-Slipper (*Cypripedium parviflorum*)



Figure 1. YLS 1-May 30: Hoverfly | ID: genus Platycheirus



Figure 2. YLS 3-May 30: Bee *Note: Two in photo | ID: Bee sp.



Figure 3. YLS 3-May 30: Skipper | ID: family Hesperiidae

Pollinator Success: Yellow Lady’s-Slipper (*Cypripedium parviflorum*)

Patch No.	Approximate number of flowers in patch	Number of capsules on Jul. 14
YLS 1	150	10
YLS 2	40	3
YLS 3	60	6

SITE CONDITIONS DATA - Small Round-leaved Orchid (*Galearis rotundifolia*)

Patch	Soil	Canopy	Disturbance	Vegetation	Ground Cover	Notes
RLO 1	Damp	75%	Animal path runs through the patch’s centre	Black spruce, horsetail sp., moss spp., naked bishop’s-cap, sedge spp., tall lungwort, three-leaved false Solomon’s seal	Fine layer of needle and twig litter	None
RLO 2	Damp	75%	None	Black spruce, false toadflax, Labrador tea, moss spp., naked bishop’s-cap, paper birch, red-osier dogwood, sedge spp., twinflower	Thin layer of needle litter	None
RLO 3	Damp	75%	None	Black spruce, dewberry, false toadflax, horsetail sp., Labrador tea, marsh marigold, moss spp., mountain cranberry, naked bishop’s-cap, sedge spp., three-flowered bedstraw, three-leaved false Solomon’s seal	No litter layer	None

Potential pollinators: Small Round-leaved Orchid (*Galearis rotundifolia*)



Figure 4. RLO 1-June 3: Tiny black fly | ID: family Scatopsidae

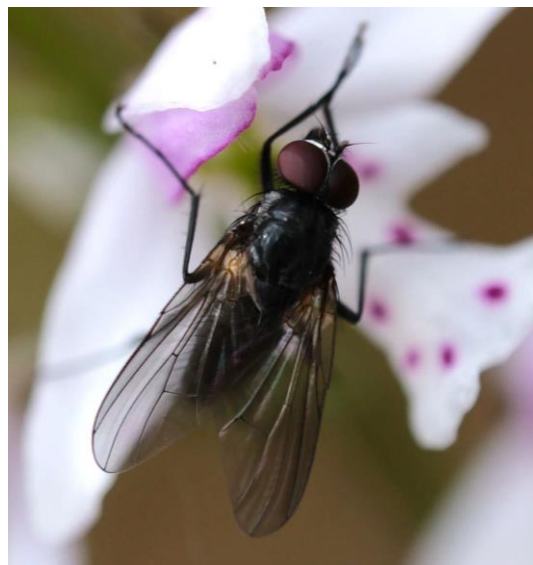


Figure 5. RLO 1-June 3: Fly | ID: superfamily Muscoidea

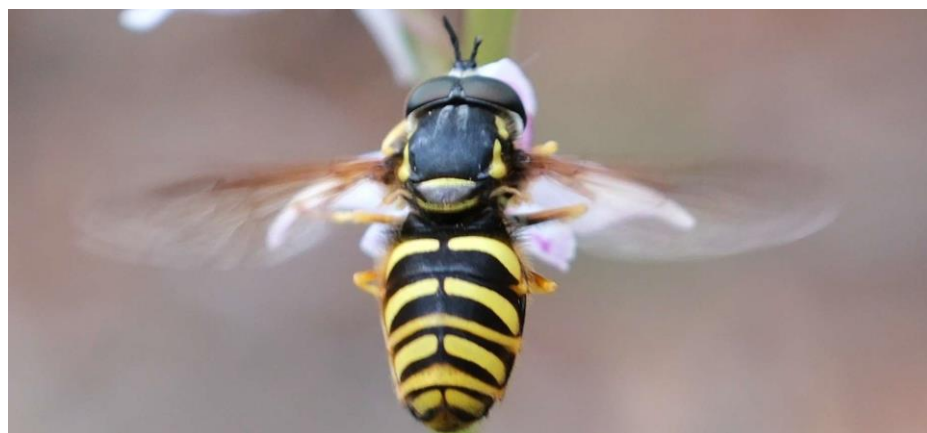


Figure 6. RLO 1-June 3: Hoverfly | ID: genus *Chrysotoxum*

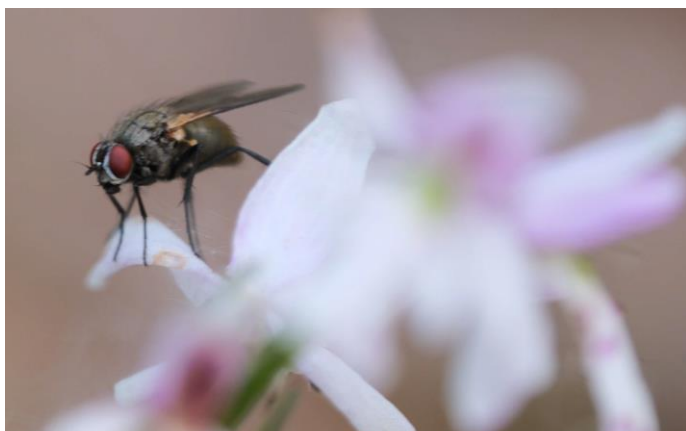


Figure 7. RLO 1-June 10: Fly | ID: superfamily Muscoidea



Figure 8. RLO 2-June 5: Ant | ID: family Formicidae

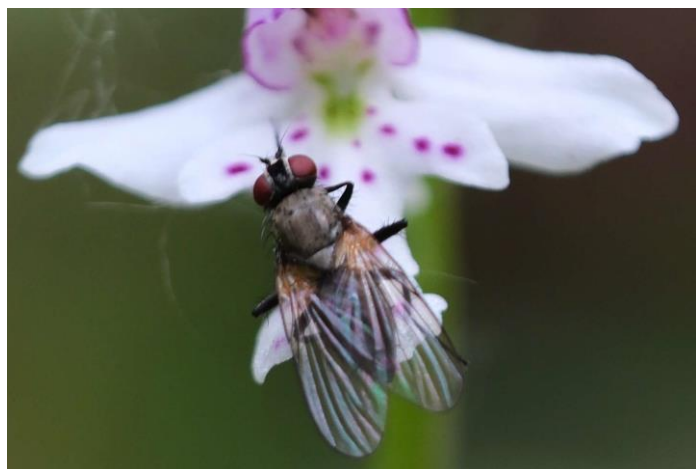


Figure 9. RLO 2-June 5: Fly | ID: superfamily Muscoidea



Figure 10. RLO 2-June 5: Hoverfly | ID: genus *Helophilus*



Figure 11. RLO 3-June 12: Bee | ID: Bee sp.

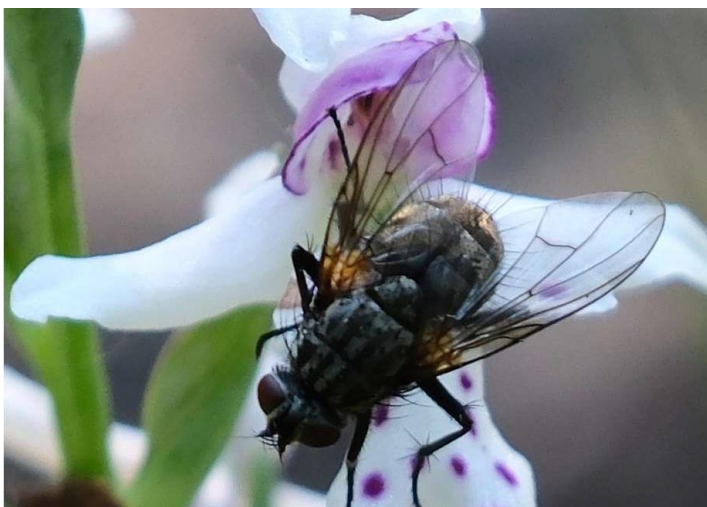


Figure 12. RLO 3-June 12: Fly | ID: superfamily Muscoidea

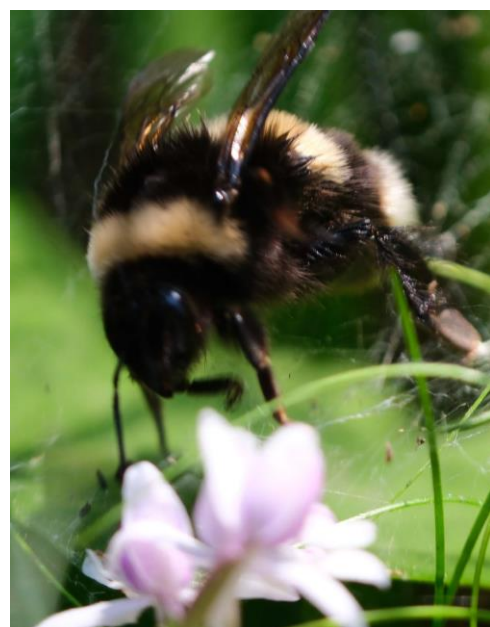


Figure 13. RLO 3-June 12: Bumble bee | ID: genus *Bombus*; likely *Bombus cryptarum*

Pollinator Success: Small Round-leaved Orchid (*Galearis rotundifolia*)

Patch No.	Approximate number of stems in patch	Number of capsules on Jul. 14
RLO 1	40	18 on 9 stems
RLO 2	130	109 on 52 stems
RLO 3	90	61 on 43 stems

Migratory Bird Day

By Isabela Bernsdorf

Wagner Natural Area Society was present at the Migratory Bird Day 2024, organized by Big Lake Environmental Support Society (BLESS), on May 11, 2024, at Lois Hole Provincial Park. This year's theme was "Protect Insects, Protect Birds." It was a very fun and exciting event! Andy and I talked to a lot of people about our natural area and our ongoing projects and had the opportunity to invite people to participate in our future events.

I was pleased to meet two lovely Brazilian ornithologists who had just arrived in Canada and shared their interest in learning more about WNA and Alberta ecosystems! I also had the opportunity to listen to John Acorn's talk, "Alberta Birds, 100 Years Ago: Fascinating Account of Stansell's Lost List," which was very informative about Alberta bird's conservation history.



Display used to represent WNA in the Migratory Bird Day at Lois Hole Provincial Park on May 11, 2024. Photo courtesy of: Isabela Bernsdorf.

MEMBERSHIP – WAGNER NATURAL AREA SOCIETY

Support / Donate / Volunteer

For more Information about Wagner Natural Area or the Society and about field trips and other activities, go to wagnerfen.ca.

Wagner Natural Area is a Registered Charity. Donations will help maintain this very special area; \$20 or more are receipted for Income Tax purposes, CRA B/N119287522 RR 0001

Society's annual fee is \$10 for Supporting Members and \$15 for Voting Members. Voting Members are key to run WNAS; must qualify through nomination. See website. The Society's fiscal year is January 1 to December 31.

Annual fee (Supporting \$10/Voting 15): \$_____

Donation: \$_____

TOTAL: \$_____

May the Society CONTACT you by: **EMAIL: Yes /No**

PHONE: Yes / No

Email Address: _____

Phone: _____

If you can **VOLUNTEER** to help with the Society with maintenance of the Natural Area (circle): **Yes**

Name(s): _____

Mailing Address: _____

Mail this form with cheque/money order, payable to Wagner Natural Area Society, to:
Treasurer, Wagner Natural Area Society, 30531-118 Ave., Acheson, AB T7X 6M5

Or scan the completed form and pay online. Submit your membership/donation by Interac bank transfer to treasurer@wagnerfen.ca [May 2024]

Bibliography & References

¹ Agroforestry & Woodlot Extension Society. (N/A). *Native species database: Manitoba maple*. Available in: <https://www.awes-ab.ca/species/manitoba-maple/>

² Government of Canada. (2015). *Manitoba maple*. Available in: <https://tidcf.nrcan.gc.ca/en/trees/factsheet/81>

³ Alberta Agriculture and Food. (1992). *Shelterbelts in Alberta*. Agdex 277/20-2

⁴ Johnson, D., Kershaw, L., MacKinnon, A., & Pojar, J. (2017). *Plants of the Forest Western Forest: Alberta, Saskatchewan & Manitoba Boreal and Aspen Parkland*. Partners Lone Pine, p.32.

⁵ Government of Ontario. (2023). *Manitoba maple*. Available in: <https://www.ontario.ca/page/manitoba-maple>

⁶ City of Toronto. (2013). *Controlling Invasive Plants*. Urban Forestry.