

F I E E D

Field Research in Ecology and Evolution Diversified

ALGONQUIN

2023



LETTER FROM THE EXECUTIVE TEAM

To be witness to a group of individuals (re)connecting with the land is a gift. To further be alongside the students and instructors as they engage in meaningful conversations and start to feel comfortable enough to share their authentic selves...that felt like wishful thinking just a few months back. Yet, spending a week in Algonquin Provincial Park seeing the students settle in the remoteness of the Algonquin Wildlife Research Station (AWRS) and give every workshop a try to their fullest capacity, we saw everything we had imagined for FREED come to life.

We saw students who were hesitant to enter the water try on waders and collect sediment samples during the aquatic ecology workshop. We saw students who were terrified of being near insects sweep their nets and stay up late searching for moths during an optional moth night. We saw students who had never camped before set up their tents and spend the night under a bright full moon, only to be greeted with a friendly moose the next morning. We saw students who were hesitant about connecting with others and being in social situations slowly open up throughout the week and even lead conversations about their specific interests.

Not only did students get a chance to try the workshops and explore new corners of ecology and evolutionary biology, we saw topic-specific instructors who led our workshops also come along for a learning journey. While they had expertise in their own field of work, the instructors gained as much as the students when they attended the workshops of their colleagues. So while we technically only had 14 undergraduate students, we had many more 'FREED students' who learned new natural history facts and picked up important skills throughout the week.

In total, we hosted **13 workshops** of which 3 were generously donated by our conservation partners. We were able to fundraise **\$60,000+** to ensure cost coverage for all students and instructors, in addition to honorariums for missed work and workshop planning. This event would not have been possible without the in-kind contributions of labor, material, transportation and experience which total **\$20,000+** by our estimates. By working with multiple partners, we had representation from career paths across conservation - from academia, non-profit, government, consulting, corporate, grassroots, and beyond.

To summarize the week, here are two of the quotes from our students that warmed our hearts:

- **"I'm not the weird one anymore! Everyone around me is just as excited about these animals as I am."**
- **"This is the most supported I have felt in my university education. Thank you for taking the time to explain that to me."**

We couldn't have asked for anything more. Thank you for your support in making this possible. We are thrilled to connect with you to recreate this magic time and time again.



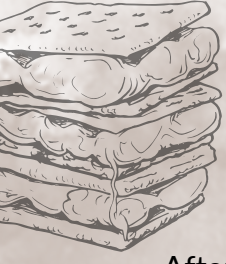
For our third event of the year, FREED returned to the Algonquin Wildlife Research Station in August 2023, where we welcomed 13 new undergraduate students from the University of Toronto. Spanning all three campuses and multiple disciplines, the FREED participants (or FREEDlings as we know them) were united by their eagerness to learn!

On day one, we had a chance to get to know each other over a warm campfire under the clear starry night sky. Come morning, the FREED team hit the water in a Learn to Canoe workshop by **Kevin Clute and Linda 'Lecko' Leckie** who demonstrated key paddling strokes and portaging techniques before leading us on a picturesque canoe trip. These canoeing skills came in handy later in the week during **Reta Meng's** turtle workshop, where we went canoeing to look for turtles, explored bog mats, and practiced telemetry.

This was not our last foray into the aquatic habitat! **Demiesha Dennis** and **Arlo Pescatore-Tardioli** taught us how to fly fish and **Rachel Giles** led an aquatic ecology workshop to learn more about how to study the magnificent small critters in lakes and rivers. The importance of invertebrates was reinforced in **Maria Tocora's** entomology workshop where the FREEDlings tested insect sampling methods and applied their new knowledge to invent and draw their own insect! It was incredible to witness these creative and artistic skills in action, especially during **Viviana Astudillo-Clavijo's** science illustration workshop. Students also learned how to effectively communicate their unique experiences through different mediums, with an emphasis on storytelling in the science communication workshop led by **Cylita Guy**.

Our evenings were filled with activity too, as we caught moths and listened for bats in a workshop co-led by **Alexandra Israel and Brendan Boyd**. They both also led the early morning bird workshop where we got a chance to mist net and process birds. FREED wasn't just animal fun, as FREEDlings got to experience the wonderful world of plants too! In a forestry workshop, **Vanessa Nhan** led a mindful tree hike that covered identification and forestry management. **Jaime Grimm** continued this conversation in her workshop about invasive plants where she guided us through eye-opening discussion on invasive species and a demo of the Seek app.

Throughout the week, themes of connection to the land were continually integrated spurred by teachings from **Christine Luckasavitch** who talked about the Indigenous history of the land and the importance of developing a reciprocal relationship with our more-than-human kin. After a meaningful group reflection during our camping night led by **Maribel Terebiznik and Aranya Iyer**, FREEDlings individually expressed their thoughts through the writing prompt: 'Write a thank you letter to the land.' The responses were rich with experience and filled with insights, often citing experiences and connections we had all made throughout the week. We celebrated our last night of FREED with a scavenger hunt and an art gallery to showcase the work of the students. What a fun, full and fulfilling week!



EVENT SUMMARY

After months of anticipation and preparation, the first day of FREED was finally here. As FREED participants (FREEDlings) arrived, they were greeted with a free, brand new daypack full of field essentials from notebooks to headlamps. Once everyone was settled, we shared our first meal together as **Kevin Kemmish** and **Drayke Evans**, the AWRS managers and assistant manager led a camp talk to go over safety procedures and expectations for life at the AWRS. With suitcases unpacked and bellies full from the dinner prepared by **Farqd Barghash** and **Amanda Semenuk**, the AWRS head and assistant cook, the entire FREED team joined our inaugural campfire and s'mores. Together, we covered what safety for different identities in the field and wrapped up the night with instructors sharing some hilarious fieldwork fails.



Most photos in this report are taken by our lovely photographer, Samantha Stephens.

The next morning, the students got ready for a Learn to Canoe' session generously donated to us by the Friends of Algonquin Park. This hands-on experience was led by **Kevin Clute** and **Linda 'Lecko' Leckie** and started at the Lake of Two Rivers boat launch. Students first got a brief history of the creation and use of canoes, followed by a demonstration on the 7 key paddling strokes and portaging techniques. Out on the water, Kevin and Lecko set up games and also directed the group to create a 'raft' with all the 10 sleek, new red canoes side-by-side. One of our faculty sponsors, **Dr. Megan Bontrager** was also part of this raft, canoeing and learning alongside all the students! Eventually, Kevin and Lecko led everyone through a paddle to Pog Lake where we enjoyed lunch in the shade. On the way back, some students even got a chance to try the 'advanced' lesson of switching canoes while still being out on the water. Once back on dry land, we said goodbye to Kevin and Lecko for their great walkthrough of what was (for most) their first canoe trip.





Upon returning to the AWRS from our canoeing expedition, we all gathered down by Canoe Beach to meet with **Christine Luckasavitch**, Owner and Executive Consultant of Waaseyaa Consulting, to begin her talk on Indigenous history of the land. Connecting to our morning lesson in canoeing, Christine dove into the rich history of canoes, explaining their roots from Algonquin people using five species of trees to create birch bark canoes for transport and trade. She discussed the history of the colonization of the land, the displacement of Indigenous communities in the park, and how modern day initiatives exist to change the narrative into the future, including her current project working on another birch bark canoe build! Amongst questions and comments from FREEDlings and instructors alike, Christine cultivated within the group a larger awareness of surroundings and a greater appreciation of the land - this was a sentiment that we wanted to infuse for the remaining activities for the week.

After a full day of learning, the FREEDlings cozied up in the evening to enjoy a relaxing science illustration workshop with **Dr. Viviana Astudillo-Clavijo**, a UofT EEB alumnus who is currently a postdoctoral researcher at the University of Michigan. Viviana began the workshop highlighting the importance of foundations of art and even shared some of her amazing sketch work. Everyone then went outside for a short hike. Students settled right into the process of creating art, with many engulfed into their own worlds. Instructors also joined in to relax and create their own pieces. We then walked back to the classroom, where Viviana asked the students to draw some stills using taxidermized animals generously lent to us by the **Algonquin Visitor's Centre** collection. The workshop was wrapped up as the night approached us, and students went to bed after another fulfilling and long day filled with new adventures.





Tuesday welcomed us with sunshine and cloudless skies. FREEDlings split into two groups, swapping between workshops halfway through the day. Other workshop instructors tagged along as floaters, providing extra support while also having the opportunity to learn with the students! On the Two Rivers trail just along Highway 60, **Vanessa Nhan** (UofT MFC alumnus) who is a Forest Resource Analyst with Silvacom, took one group for a forest hike. She began the session with a moment of mindfulness, taking deep breaths while listening to the sounds of the forest and rooting in the present moment. Afterwards, she discussed the importance of treating the forest with respect and reciprocity, recognizing that the forest is home to many organisms and that humans are simply guests visiting their home. Embarking along the trail, Vanessa pointed out tree species in the forest with tips and tricks for identification based on morphological and environmental features. While stopping at different stands in the forest, the group learned about the history of forestry and land management in the park and how it has impacted the current forest composition and ecology. Vanessa ended the workshop by taking the group to visit a prescribed burn site at Mew Lake Campground. Looking over at the open habitat of blueberry, ferns, aspens, and fireweed, students enthusiastically participated in an open discussion around the importance of forest fires, the history of cultural burning, and the impacts of fire suppression on the landscape.

In the meantime, the other group joined the entomology workshop led by **Maria Tocora Alonso**, a PhD Candidate and Researcher at the University of Toronto. Maria's workshop began with an exploration of the diversity of insects, their morphologies and functions. Equipped with trays, vented tupperware, and insect nets, FREEDlings went out to do some collections of their own. First, Maria prompted students to look for insects. The group walked all around the AWRS, encountering many different critters and practiced various forms of collection like sweep netting and passive traps. Everyone was amazed at the diversity of animals that they found, how labour intensive it was to collect them by hand, and the usefulness of insects as bioindicators. As a final creative activity, students got a chance to put all their knowledge to use in designing their own insect, pulling inspirations from the ones they observed during the workshop. Some described their voracious eating habits with huge mandibles, while others described a "peppermint moth" that smells vaguely of a peppermint patty. This exercise showcased not only the artistic and creative talents of the students but also the morphological diversity that they had the opportunity to explore while in the field.





In the afternoon between the split entomology and forestry workshops, the students had a chance to visit the eastern side of the park by visiting Lake Opeongo for the 'Learn to Fly Fish' workshop. Led by **Demiesha Dennis** (founder of [Brown Girl Outdoor World](#)) with assistance from **Aldo Pescatore-Tardioli** (podcast host of [So Fly Fishing](#)), students learned about the basic equipment and practices of fly fishing, like how to tie flies safely. FREEDlings then individually got a chance to practice casting (without flies) and how to properly execute the '10-2' method. At the end of the workshop, Demiesha and Aldo directed the students to resources they could access to continue their journey into the fly fishing world. Demiesha emphasized how there are many online groups now for BIPOC individuals and how barriers to access can be overcome with community support. The pair also generously donated 2 fly fishing rod sets to the students. One set was awarded to the 'Most improved student' on the day of the workshop, and the second was one of the scavenger hunt prizes at the end of the week.



On Wednesday, the FREEDlings once again split into two groups. One group followed **Jaime Grimm**, a PhD student at the University of Toronto, to learn about invasive species. Jaime first introduced the concept of an invasive species, their ecological and societal impacts, and common species found in Ontario. She highlighted the language used around invasive species, such as "alien" and "eradication" which often holds a negative connotation. She used this conversation as a gateway to encourage participants to think about the relationship that we hold with all living things in the natural world. At Cache Lake Jaime led a ceremony and appreciation of place, passing around tobacco to participants to give thanks to the Creator and the plants and animals we were observing. Everyone in the group took a moment to connect with the place, approaching the nearby lake or standing under massive red and white pine trees, to express their personal appreciation for their surroundings. Despite the rain and dreary cold weather throughout the day, FREEDlings excitedly explored hikes using the Seek by iNaturalist app to find non-native and invasive species. The workshop concluded with a delicious snack - homemade garlic mustard pesto made by Jaime!



The other group followed **Reta Meng**, a PhD student at McMaster University, to learn all about freshwater turtles and radio telemetry at Wolf Howl Pond. Reta started the workshop with an introduction on the life history, behavior, and conservation of freshwater turtles in Ontario. She then read a passage from *Gathering Moss* by Dr. Robin Wall Kimmerer, in which Dr. Kimmerer described her experience walking barefoot on bog mats. Reta built off of the vivid imagery in the reading to prepare the students for the upcoming bog mat hopping portion of the workshop! As the group got the canoes ready to go, students formed groups of two to rotate through three stations. Reta led the radio telemetry portion, where she hid two Blanding's Turtle plushies (affectionately named Joe and John) among the bog mats, each equipped with a radio tag. The students learned how to use a radio telemetry unit, and each student had the opportunity to track down the 'turtles'! The two other groups canoed around the beautiful pond, checking baited hoop net traps for turtles, and hopping the bog mats to observe sphagnum moss and pitcher plants. Each student had a chance to rotate through all three stations, to provide a comprehensive learning experience!



In the evening, we joined a science communication workshop led by **Dr. Cylita Guy**, UofT EEB alumnus, children's book author, and lead data scientist at Assurance IQ. Cylita's workshop was interactive and engaged FREEDlings to identify jargon in science writing, highlights the different mediums we can use, shared perspectives in storytelling, and provided guidance on how to best document their week at FREED. Students formed small groups during these interactive discussion sessions where students came up with kooky stories about their time at FREED so far. It was a wonderful end to a busy day!

On Thursday, students had an early start for the workshop co- led by **Alexandra Israel**, Research lead for the Native Bat Conservation Program at the Toronto Zoo and **Dr. Brendan Boyd**, postdoctoral researcher at York University. Earlier in the week, both had led an optional moth and bat night for the students though their main workshops was focused on birds. Alex first walked the FREEDlings through the basics of beginner birding including the anatomy of a bird, and tricks for identifying bird silhouettes. She also talked about learning more about the relationships that Anishinaabe communities had with birds, especially through learning bird names.

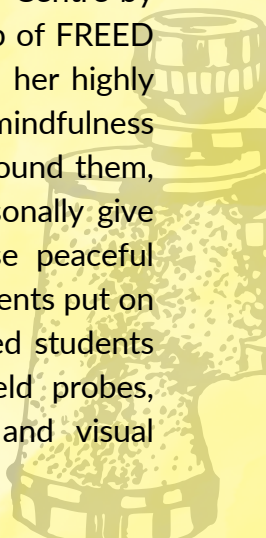




In the meantime, Brendan had set up mist-nests near the bog and excitedly came in to inform everybody of the birds caught in the latest net round. Students got to hold species like the red-eyed vireo, bay-breasted warbler, and black-capped chickadees. Brendan carefully taught the students how to take the basic measurements of the bird and how to safely handle these animals to prioritize the birds' safety and wellbeing. Students were thrilled at the opportunity to see migratory birds up close and nearly everyone got a photo with the stars of the show!



After lunch and a Behind the Scenes tour of the Algonquin Visitor Centre by Acting Chief Naturalist **Peter Simons**, we hosted the last workshop of FREED with **Rachel Giles**, a PhD student at the University of Toronto led her highly anticipated aquatic ecology workshop. She started with a short mindfulness session, where she encouraged everyone to listen to the water around them, take stock of their own sense of belonging on the land, and personally give thanks to the lessons the water was preparing for them. These peaceful moments were followed by bursts of laughter and giddiness as students put on a pair of waders to walk into the water. Afterwards, Rachel guided students through commonly used field sampling techniques such as YSI field probes, sediment collection, surface water sampling, depth sampling, and visual observation.



Rachel prompted students to think about “what do the fish think”, an idea initially put forward by Dr. Zoe Todd and asked them to think about what we can learn about the land and water from these more-than-human beings. This discussion was followed by a zooplankton sampling and benthic invertebrate sampling session where FREEDlings got to try ‘kick and sweep’ with D-nets. Finally, students identified the benthic macroinvertebrates they collected. With help from our faculty sponsor **Dr. Celina Baines**, students sorted through the benthic substrate, flipping through dichotomous keys while trying to ID them. After all this excitement, students were ready for a relaxing camping that lay ahead.



Camping took place on Whitefish Lake, courtesy of Ontario Parks. Everyone pitched in to get our campsite set up, many learning how to set up a tent for the very first time. With shelter up, and fire crackling, there were giggles-abound as the group huddled around our campfire, and ate more s'mores than what might be believed as humanly possible. We used this time to engage the students in an activity highlighting the importance of story-telling and meaning-making for nature interpretation. As the night fell and the stars gleamed on the clear sky, we all retired back to our tents and the warmth of our sleeping bags.

In the morning, every single FREEDling helped get the fire set up and breakfast cooking. **Aranya Iyer**, FREED co-director and WWF-Canada conservation researcher, along with **Marief Terebiznik**, FREED co-director and Ontario Parks program intern led a reflection activity with the prompt 'If you were to write a thank you letter to the land, what would it say?' It was a moving session set up by the FREED instructors who weaved thoughtful considerations about the land and our relationship to it in their various workshops. After a heartfelt group talk filled with insights and wisdom, we headed back to the AWRS for our final day of activity.

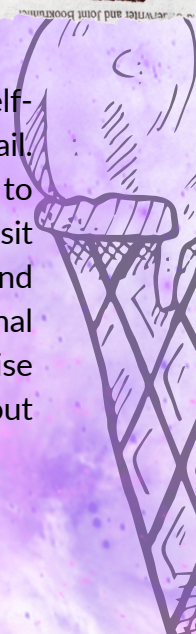
With all the workshops out of the way, all that was left were some fun shenanigans! One of the events we planned was a scavenger hunt, where instructors and AWRS staff submitted questions and prompts related to their area of expertise and students had one hour to run around AWRS to complete different tasks. Prompts included 'make a piece of jewelry with natural materials found in the forest', 'find an animal mom with her young', and 'bring Farq d a spider to be rated on a scale of 1-10 based on coolness'. Winners were granted the privilege to pick prizes first, which really brought the competitive spirit out for all the students as a nice, fun wrap up to our hectic week!



The last evening of FREED was a grand showcase of FREEDling excellence. The historic AWRS cookhouse was decorated with the artwork that was created by the students throughout the week. Photos hung from twine, art pieces were displayed on tables, and everyone enjoyed some relaxing time together as trays of baked goods (made by the wonderful AWRS cooks) circulated. As it got harder to stay awake, one-by-one we headed off to bed on our final night at FREED.



Students made the most of their last few hours on their final day at the AWRS by self-organizing a sunrise paddle on Lake Sasajewun and an afternoon hike on the Bat Lake Trail. The early morning paddlers were blessed with a calm lake until they needed to rush back to the beach just as hail started to pour. For the hiking adventure, students got a chance to visit and learn about the salamander project at Bat Lake and spent some time flipping over logs and rocks to find these awesome amphibians. After packing up, all students gathered for a final goodbye at the Lake of Two Rivers ice-cream shop. It was a sweet ending to an otherwise bittersweet afternoon as we all said goodbyes, and made plans to keep in touch throughout the school year!



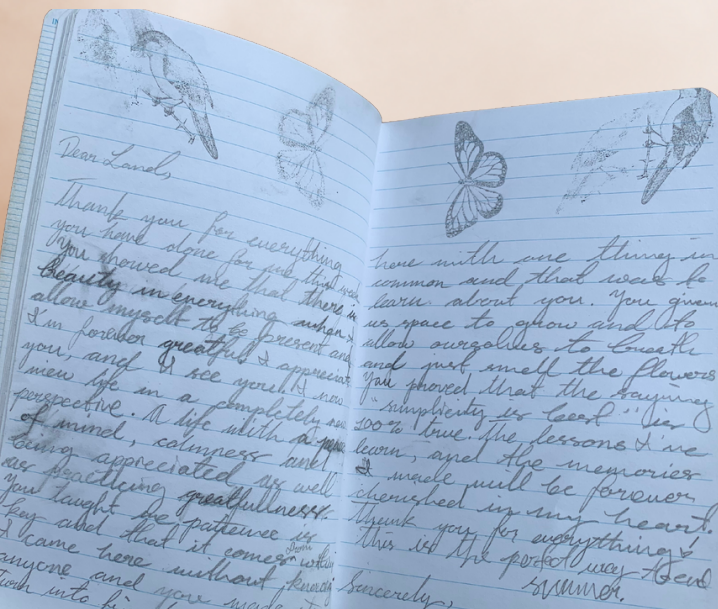
A FREED student's Letter to the land



Dear Land,

Thank you for everything you have done me this week. You showed me that there is beauty in everything when I allow myself to be present and I'm forever grateful and appreciate you, and I see you. I now view life in a completely new perspective. A life with a peace of mind, calmness and being appreciated as well as practicing gratefulness. You taught me that patience is key and that it comes from within. I came here without knowing anyone and you made strangers turn into friends. We all came here with one thing in common and that was to learn about you. You gave us space to grow and to allow ourselves to breathe and just smell the flowers. You proved that the saying "simplicity is best" is 100% true. The lessons I have learned and the memories I made will be forever cherished in my heart. Thank you for everything! This is the perfect way to end summer.

Sincerely,
Ephrata

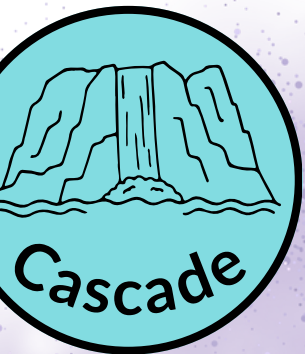


Thank You

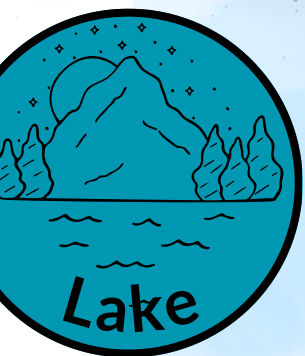


Whether it was donating field gear, finding storage space, in-kind contributions of labour or materials, each and every contribution helped to make FREED a success. Direct funding helped to support pay for our participants, instructors, and executive team; donations of field gear/materials facilitated the wonderful workshops led by our outstanding instructors, and other in-kind donations enabled us to accommodate students with different needs. Your support is felt in many ways and we appreciate you so much!

- Rodd family
- Emmett Snyder
- Anonymous individuals
- Jackson lab
- Cyr lab



Established 1921



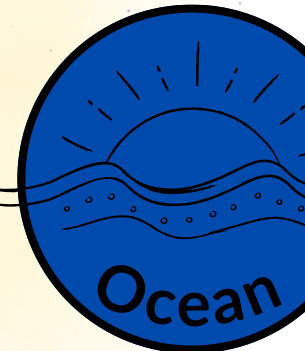
ARC'TERYX



DILLON CONSULTING



TD Friends of the Environment Foundation



Partners



F  E E D



SEE YOU NEXT YEAR!