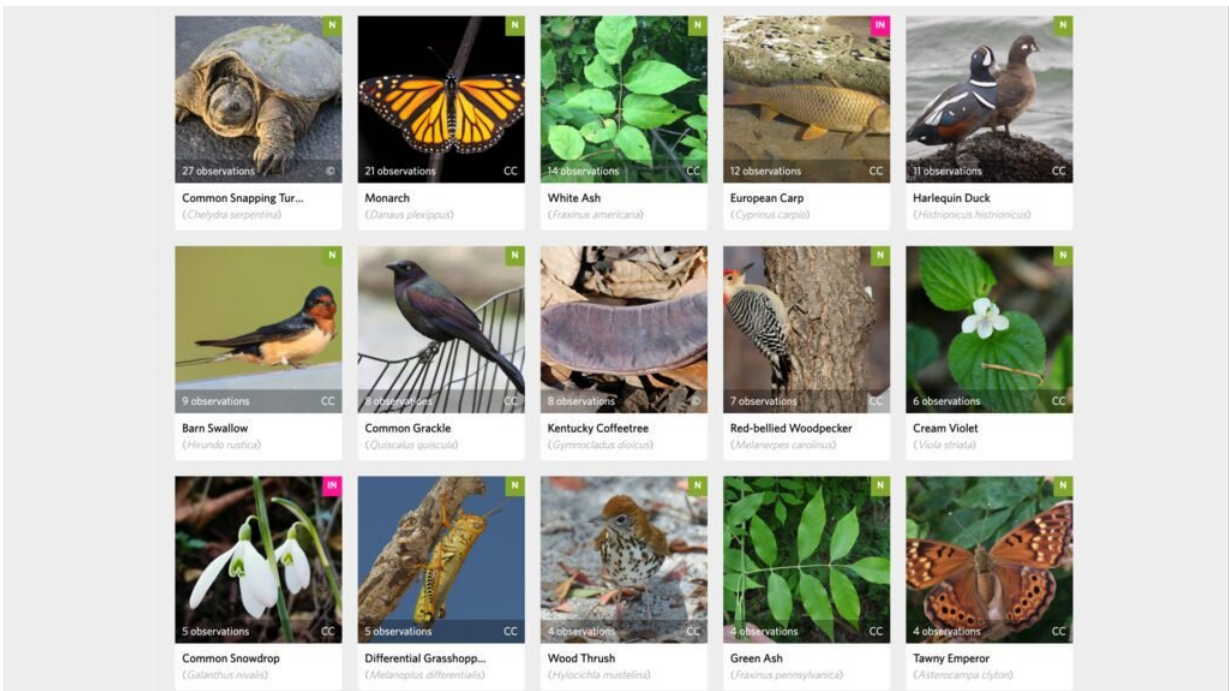


Western biologists crowdsource biodiversity data

April 21 2022, by Mari-Len de Guzman



Some of the wildlife at Western already recorded in the biodiversity inventory.
Credit: Brendon Samuels

The next time you find yourself walking across campus, take a moment to stop or slow down and observe the many living things that call Western's vast land their habitat. And while you're at it, take a picture.

It's a campus-wide, year-long crowdsourcing initiative, spearheaded by

Western's biology department, encouraging the campus community to submit pictures and observations of wildlife they might encounter on campus—from bees to birds and everything in between. The goal is to build a [biodiversity inventory](#) covering the grounds across Western and its affiliated university colleges, Brescia, Huron and King's.

Ultimately, the intent is to heighten awareness about maintaining and caring for biodiversity on campus, said Brendon Samuels, a Ph.D. student in the department of biology.

"There's quite an appetite for this at Western nowadays," said Samuels, a vocal environmentalist, whose previous active lobbying has brought attention to the dangers of birds crashing into glass windows across campus and throughout London, Ont. "There have been a number of initiatives in the past aiming to collect bits of data on campus. And these projects are done on a case-by-case, incidental basis, and then it doesn't get amalgamated into something larger or that useful."

Collecting all these siloed information and bringing them into a single, comprehensive database, where people can continue to add on to it will make for a more meaningful biodiversity [inventory](#), Samuels said.

In this all-encompassing, all-are-welcome-type of citizen-based [science project](#), no plant is too small or bug too big. If it's living and breathing, and it lives on campus, it goes into the database. The biodiversity inventory campaign welcomes all submissions from the campus community—using the [iNaturalist](#) app—and they can come in various forms: photos, [audio recordings](#), written observations, or all of the above.

One-day to one-year

When Samuels approached biology professor Timothy Hain with the

idea of creating a biodiversity inventory on campus, he was immediately onboard.

"I thought this was something that I could get my wildlife ecology students interested in," said Hain. "As an instructor, who's had a lot of undergrads in his classes, I'm also interested in engaging other classes, and some of the clubs on campus. I would love to be able to give some opportunities (for students) to build skills, gain their interests, and prepare them for careers later."

Samuels and Hain also acknowledged the help of Peter Baker, also a Ph.D. student in the department of biology, in organizing the initiative.

Hain said the initial plan was to conduct a one-day 'bioblitz' for the biodiversity inventory. A bioblitz is an event with a group of people—or citizen-scientists—focused on identifying as many [wildlife species](#) as possible over a period of time and within a specific area.

But the nature of things and, of course, COVID-19 presented a less-than-ideal scenario for creating a meaningful biodiversity inventory over a short period.

"COVID restrictions limited how many big groups we could have," said Hain. "Also, because our interest is in knowing how diversity changes throughout the year, we thought it might be better to make it a year-long project."

There is also a higher chance to spot more diverse and active species during spring and summer, he added.

Making it a longer project will also provide opportunities for more people to participate and contribute to the inventory at any time during the course of the year, Samuels said.

"If we develop a framework for how to collect the data and be out in nature and be safe about it, there's no reason why we can't be inclusive, so it's not just ourselves as the organizers, but clubs, committees, courses that are teaching in the field, as well as the affiliate campuses that might want to tie into the inventory," he said.

Samuels and Hain acknowledged the support of other faculties and units at Western during planning and development of the biodiversity inventory project, including the Faculty of Science, Facilities Management and the Sustainability Office, as well as affiliates Huron, Brescia and King's.

"It's exciting to have partners from across the university. The Sustainability Office has been really supportive and good advocates for this project," Hain added.

Out and about

The idea for the biodiversity inventory project is to help any member of the campus community interested in participating become wildlife ecologists in their own rights.

"It's really as simple as just taking a picture with your phone or camera," said Samuels. "If you don't want to take a picture, and you hear a bird outside, you can record the audio."

The group has created the Biodiversity Inventory at Western project in the iNaturalist app, and Samuels suggests it's the easiest way to add data into the inventory. The app, which was jointly created by the National Geographic Society and the California Academy of Sciences, will automatically identify the species users observe and share with the app, and provide information about that species. It also provides the iNaturalist community the opportunity to discuss the observations and

even confirm the species' information.

As with any interaction with wildlife, Samuels and Hain said people should exercise caution when conducting their observation, for the safety of both the observer and species.

"There's absolutely no touching. If you see a plant or an animal or fungus, take pictures of it, but don't touch it with your hands. There are a number of organisms on [campus](#) that are actually toxic for people. And we also want to be respectful of wildlife," Samuels said.

He also suggested that when posting about animals that are sensitive or at-risk, like an owl, that people obscure the location where they found them or do not disclose the location until a few days or weeks have passed to ensure that the animal has left and avoid any disruptions to their natural ecosystem.

Another caution: don't get too close to wildlife that are nesting as it causes them stress.

Keeping you distance is also the best way to take a wildlife photo, said Hain.

"The most interesting wildlife photo is one that shows the animal or plant doing the most natural things, and the way that you get that to happen is to keep your distance and let the animal not be alerted to you, but to actually behave how it would naturally. So, I encourage people to keep their distance and enjoy the animals safely."

Hain is looking forward to what will come after the [biodiversity](#) inventory project and how students can learn from it.

"I'm excited about having undergraduates start to systematically organize

these data, and maybe do some time-series analysis to see how things change throughout the year or across years. My hope is that this is a project that can continue for many years," he said.

Provided by University of Western Ontario

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