



# Cowling Arboretum

## Arboretum Program Review

Arboretum staff spent much of the academic year 2021/22 engaged in a program review. Reviews are intended to provide guidance on future direction for the work of departments. We worked with the College Office of Institutional Research to survey the faculty on their use and perspectives and gathered information during focus group meetings with faculty, staff and students. A review team came to campus in the spring and met with many people on campus, with partners representing organizations we work with, our volunteers, and public users. This team was uniquely qualified to help us evaluate our work, consisting of a representative of The Nature Conservancy who focuses on land management and the science that supports it, a biology faculty member from Luther College who manages their natural lands, and a Carleton alumnus, Audrey Barker Plotkin '92, who is the Forest Ecology Research Coordinator at the Harvard Forest.

The top recommendations of the review team included integrating the Arboretum into campus-wide strategic planning, developing and implementing an Inclusion, Diversity, and Equity plan specific to the Arboretum, building a new Arboretum facility in a location closer to the main part of campus, and expansion of staffing. Whether and how to act on these recommendations will now be taken up by the Administration and the Arboretum Committee, which is a mix of faculty and staff. The review team's recommendations will also contribute to the College's strategic planning process that is currently underway.

## Cowling Arboretum Mission

Provide opportunities for education and research.

Preserve and restore native plant and animal communities on College natural lands.

Provide opportunities for outdoor recreation and nature appreciation.



Samantha Sharpe '14

## Special Funding

*In addition to operating support provided by Carleton College, the Arboretum's programs are supported by grants and funds that have been established through generous gifts (listed alphabetically):*

Arboretum Restoration Fund

The Cole Family Memorial Arboretum Fund

George W. Megeath Fund for the Cowling Arboretum

Kuntz Family Fund through the Madison Community Foundation

The Puzak Family

Outdoor Heritage Fund

U.S. Department of Agriculture (Conservation Reserve Program)

Wright Arboretum Endowed Fund

*We thank the Arboretum's many benefactors who help make our work possible.*

## Arboretum Academics

Faculty use the Arboretum extensively for classes and scholarship. Faculty and staff from the following departments and programs report using the Arboretum for class work and other educational uses.

American Studies

Archeology

Art & Art History

Asian Studies

Biology

Cinema and Media Studies

Classics

English

Environmental Studies

European Studies

Gender, Women's & Sexuality Studies

Geology

German

Greek

History

Literary and Cultural Studies

Music

Physical Education

Political Science

German

Religion

Sociology and Anthropology

Statistics

Theater and Dance

### Other Programs

FOCUS Colloquium

Carleton Summer Science Institute

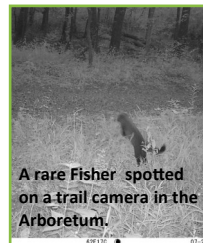
Minnesota Master Naturalist Programs

## Pine Plantation Conversion

A project to convert the remaining pine plantations in the Arboretum to native habitat started this past year. Planted in the 1950's with the expectation of timber production, the adoption of the current objective of restoring native plant communities makes these trees problematic. "Pine plantations eliminate the opportunity to do the fire management needed to maintain native plants and woodlands," said Matt Elbert, manager of the Arboretum. Pine trees were originally scarce in this part of the state, primarily found where they were protected from frequent fire by rocky cliffs above rivers. Invasive buckthorn and honeysuckle were removed this year using a large machine called a forestry mower. While most of the pines will eventually be harvested, we plan to leave a few of the larger ones to grace the entrance to the Arboretum near the Waterford Iron Bridge. Native trees including oak, hickory, black cherry, and hackberry will be planted to provide food and shelter for the wildlife in the Arboretum and will serve as a more accurate reflection of a southern Minnesota ecosystem.

## Ecology in the Arboretum

Visiting Assistant Professor of Biology John Berini uses the Arboretum for class projects whenever possible. Lab sections of Landscape Ecology and Population Ecology have students apply what they learn in the classroom to real life situations. Landscape Ecology focuses on exposing students to some of the tools that Ecologists use to evaluate how landscape patterns influence ecological processes. Students collect and analyze data for projects that look at how the diversity and abundance of tree species vary as a function of different landscape variables. They also look at spatial variation in Fisher habitat and learn how to incorporate a variety of landscape metrics into a spatially explicit habitat suitability model for these rare mammals.



## Interview with Summer Research Assistant: Avery Blumenthal

Avery Blumenthal '23, an Environmental Studies major, was our Summer Research Assistant this year. Avery helped with ongoing plant related projects, such as establishing native plants and eliminating invasive species. He also managed the trail camera project, cataloging the species appearing on them. "It was great to get out there consistently and see the Arb



change over the summer," he said. He appreciated the freedom of being able to work independently, as well as being able to influence the course of the Arboretum by collecting data that will be used to inform management decisions. He noted the rewarding, but complex nature of land management and the number of people that it takes to keep the site in good condition, saying "If you're a visitor to the Arb, you wouldn't necessarily think about all the work that goes on."

## Cole Student Naturalist Program



### Student Naturalist Featured Seniors

**Cassie Cunniff '23** has roots in several different states, including Ohio, New Jersey, and Illinois. Exploring places like national parks ignited a passion for the outdoors, as well as for providing more widespread access to the natural world and protecting public lands. In the past, Cassie has worked at a nature center providing trail stewardship, as well as at a summer camp teaching environmental science and leading backpacking trips. Cassie is interested in pursuing environmental interpretation and conservation, in order to allow more people to enjoy and understand the natural world. As a Student Naturalist, Cassie has worked to help both her peers and the Northfield community discover and understand the exciting ecosystems that are in their backyard.

**Walt Li '23** grew up in the highly populated city of Guangzhou, China. Even though he was surrounded by concrete and steel, the smallest trace of plants and animals sparked his interest. He finds sheer delight in observing and learning about living organisms, or simply just entering into nature. Walt can tell you about almost all plants and animals in the city he lived in, and his acquaintance with them provided him a sense of belonging. After coming to Carleton, Walt became excited to learn about the local plants and animals in the grand wilderness of Minnesota and share his excitement with other people.

### Providing for our students' spiritual needs

One of the ways that the Arboretum has worked to support students is to provide space for outdoor religious practices. This year, at the request of the Indigenous Peoples Alliance (IPA) student group, a location was established for the use of our Indigenous students. A location was carefully chosen to maximize privacy and accessibility, working with guidance from Meredith McCoy (Turtle Mountain Band of Chippewa) Assistant Professor of American Studies and History, and with advice from members of the Prairie Island Dakota Community. Prairie Island community leaders Franky Jackson, Barry Hand, and Paul Dressen provided a traditional blessing for the space. With the help of the Art Department sawmill, benches were built from red cedar logs. While anyone is welcome to use the space, IPA asks that if a visitor finds someone already at the space, please assume that person is in prayer and avoid disturbing them. Marcy Averill (Turtle Mountain Band of Chippewa), Indigenous Communities Liaison, shared "The IPA students and I deeply appreciated the space as we were able to start the academic year with a group gathering to smudge and pray together. In a subsequent gathering we discussed how the space can be enhanced with signs, medicine plants, and how to make the space even more equipped for prayer. Some of the students more recently shared that they frequented the space while the weather was mild and the site was not yet snow-covered."

### Prairie Bush Clover Research

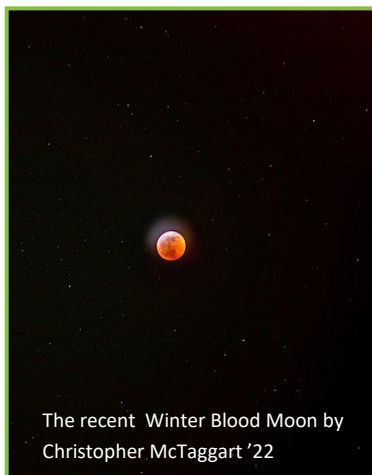
Stephan Zweifel, Professor of Biology, and his students have recently undertaken a new project at Carleton owned McKnight Prairie. Over the summer, they collected samples from the uncommon Prairie Bush Clover, *Lespedeza leptostachya*, to see if it was hybridizing with the more common species *L. capitata*. Prior genetic studies indicated that hybrids did not exist at McKnight, but Arboretum staff had observed what they felt were hybrids.



Since Prairie Bush Clover is a rare plant, hybridization could impact this population. With the permission of the Minnesota Department of Natural Resources, small samples of leaves were collected over the summer and their DNA tested to determine if any hybrid organisms were present. Zweifel comments that "Involving our students in research projects that have a real-life connection is a fantastic means of teaching and inspiring the next generation of scientific leaders." The results of this work could help determine the most effective management of this rare species at McKnight. Stay tuned for the results of this important research!

### Theater in the Arboretum

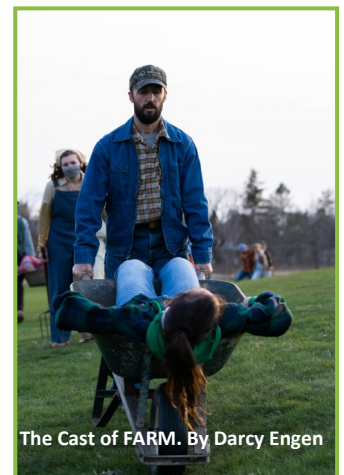
The Theater Department produced a play performed in the Arboretum, FARM, produced in collaboration with Minneapolis based Sod House Theater. This was an experimental performance, incorporating movement, poetry, and music, without a specific story line, but rather a series of events to provoke the senses and conjure images of farm life. The cast included Carleton students from all years and majors, local musicians, and a staff member who drove a tractor in the performance. There were some worries about rain in dress rehearsals, but luckily, the weather cleared up by opening night. Outdoor staging presented both opportunities and hazards, as participant Sidra Michael '23 said "Doing theater in the Arb was definitely a learning experience! Working with the lighting from the sun could pose a challenge as we never knew exactly what the conditions were going to be like. It really made communication and flexibility important. Nothing could beat the natural backdrop of the Arb in the evening with the beautiful landscape, fresh air, and setting sun!" This opinion was shared by staff member Tony Stoeri, who said "I felt welcomed into the Arb in a way that helped me forge a new connection with and understanding of that landscape."



The recent Winter Blood Moon by Christopher McTaggart '22



The new Indigenous spiritual space. Photo by Marcy Averill



The Cast of FARM. By Darcy Engen

**St. Olaf and Carleton Collaboration**

While our sports teams might see St. Olaf as competitors, we see them as collaborators, at least as far as natural lands management goes. This year Carleton signed an agreement with our friends up on the hill to assist each other with land management work. In addition to sharing equipment, we share staff when more “hands on deck” are needed,



Photo by Wesley Braker

such as for prescribed burns or seed collecting. Since each institution has a fairly small staff for natural lands work, it has been very helpful to swell our numbers when a project needs doing. During the spring and fall we have traveled back and forth to assist with burns, and our summer student crews worked together on seed collections. We expect to continue to find ways to expand on this collaboration in the future.

**Carleton Receives Grant Funding for McKnight Prairie Work**

This past winter term, the Arboretum received a Conservation Partners Legacy Grant from the Minnesota Department of Natural Resources to fund brush control at McKnight Prairie. While we have worked extensively at McKnight since it was acquired, invasive brush continues to be a problem. This project will increase the habitat quality for a variety of animal and plant species at McKnight. Brush can overshadow prairie plants, preventing them from getting the sunlight that they need, and reduce the amount of available habitat for prairie animal species. This project will help to reduce the cover of species like buckthorn, sumac, and aspen, improving McKnight Prairie.

**Lower Arb Entrance Sign**

We received funding this year to create a new sign to mark one of the entrances to the Arboretum. This sign features information about history and habitats, and a trail map, and is located at a convenient jumping-off point for exploring the Lower Arboretum trails. The sign also includes our land acknowledgement and expresses thanks to the Wahpekute and Mdewakanton bands of the Dakota Nation for their long stewardship of this land we appreciate so much. Illustrations for the sign were created by Sylvie Stanback '18 and depict local plants and animals. We hope that this new addition will encourage even more people to get out and explore the Arboretum. This sign was funded by the Flamm family to honor the memory of Dudley Flamm, father and husband, who loved skiing and walking in the Arboretum. Generous donations make this, and many other Arboretum projects, possible. We feel fortunate to have such a dedicated community devoted to our work.



Sylvie Stanback '18

**Arboretum Aperture**



First Visit by Lane Maitland '23



Winter in the Arb by Julian White-Davis '23



Snow Day by Christopher McTaggart '22



Prairie Restoration by Geoff Bynum '25

**For additional information, contact the Arboretum Director or visit our website, Facebook, or Instagram page:**

**[www.carleton.edu/campus/arb](http://www.carleton.edu/campus/arb)**

**[www.facebook.com/carletonarboretum](https://www.facebook.com/carletonarboretum)**

**carletonarboretum on Instagram**

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Download the Arboretum Aperture photos featured in the Annual Giving Calendar at <https://www.carleton.edu/giving/annual/calendar>

