

SEAS Masters Project: Bee Campus USA

April, 2021

Campus-as-Lab Summary

Project Overview

Goal: Tap into the potential for campus green spaces to support pollinators.

- Assess and enhance pollinator habitat
- Develop guidance for ongoing management
- Expand outreach and education to celebrate achievements and build awareness
- Establish a support network to champion these efforts via Bee Campus USA certification program

Outcome

- Prepared Ann Arbor campus for Bee Campus USA certification
- Created GIS map of pollinator habitat
- Installed pollinator garden at U-M Museum of Natural History
- Recommended how to enhance community engagement

WHERE WE CAME FROM

Baseline conditions of pollinator conditions and habitat → Used to estimate the effects of proposed changes in land management and design

Need for a Comprehensive Pollinator Plan

WHERE WE'RE GOING

Continue integrating pollinator awareness, habitat assessment, and enhancement into curriculum.

Increase visibility of U-M's commitment to biodiversity and native landscaping through projects and events.

WHAT'S NEXT

Momentum is building around developing biodiversity metrics for Ann Arbor's campus.

Future project ideas: install more gardens, evaluate existing and potential areas, and coordinate engagement events.

PARTNERS

- Co-sponsored by Grounds Services (Facilities & Operations) and the Office of Campus Sustainability
- SEAS faculty (project guidance)
- U-M Museum of Natural History (provided space for native pollinator garden installation)
- County Farm Park (plant sourcing)



SEAS students install native pollinator garden near the U-M Museum of Natural History.

Diag-Composting & Recycling Education Station (Diag-CARES)

September, 2024

Campus-as-Lab Summary

Project Overview

- Mobile waste station for active engagement with the U-M community at outdoor Zero Waste events
- Promotes “learning by doing”
- Station includes weather-resistant waste bins, custom platform, and custom signage
- Student leads worked with operational staff to develop a plan for storing, reserving, and using the station

Outcome

Core mission: Educate people about the importance of proper waste sorting, thereby reducing waste to landfill.

The station can be reserved for zero waste events on Central Campus.

Stored in a highly-trafficked area for student interaction when

WHERE WE CAME FROM

The vision for this project came from two students who saw an opportunity for greater engagement at the point of waste disposal during zero waste events on campus.

Project funded through a \$15,000 grant from the Student Sustainability Coalition

WHERE WE'RE GOING

Enactus, a student-run consulting group, is engaged to collect data on the program's effectiveness. The Diag-CARES station, which is positioned in a high-traffic area, is being monitored for trends regarding usage, waste collection, and student awareness and receptiveness.

WHAT'S NEXT

Students can partner with OCS to gather metrics such as diversion and contamination rates and use the bin for creative engagement.

OCS is exploring the potential to launch another station on North Campus.

PARTNERS

Technical support: MDining and the Office of Campus Sustainability (OCS)

Ongoing support to operate Diag-CARES: OCS, MDining, Student Sustainability Coalition, Student Life Sustainability, Planet Blue Student Leaders, Enactus Consulting, LSA Facilities, and others



Students who conceived of the Diag-CARES project show off the station at a zero waste event.

Campus-as-Lab Summary

Project Overview

- Installation of a 1,500 sq. ft. native prairie in the core of Ann Arbor's Central Campus
- Hosted "Hands in the Dirt!" events, the first of which engaged two dozen volunteers to plant 2,300 native plants
- Supports pollinators and the new Resilient Grounds Goals, such as increasing biodiversity and integrating more native and adaptive landscaping

Outcome

Largest UM-installed and managed prairie on Central Campus

Highly visible opportunity to interact with and learn about pollinators

Demonstrated a new model for operational-customer-pay partnerships to pilot new ideas

WHERE WE CAME FROM

LSA Facilities sought to identify areas to convert to prairie as part of their sustainability efforts. This project replaced hard-to-maintain turf in a raised bed with highly visible opportunity to interact with and learn about pollinators — win-win!

WHERE WE'RE GOING

Continuing to naturalize areas, increase access, install educational signage, and host events.

"Hands in the Dirt" is a multi-year series to engage student groups and others in installing native plantings.

WHAT'S NEXT

This prairie offers a location for future campus-as-lab projects and coursework, such as data collection, mapping, and education campaigns.

LSA aims to keep transitioning landscaped areas where their students, faculty, and staff would benefit from native plantings.

PARTNERS

- Technical support: F&O Grounds Services
- Initiation and funding: LSA Facilities
- Event support, signage design: Office of Campus Sustainability (OCS)
- "Hands in the Dirt" events: coordinated by Grounds Services, OCS, LSA, and Planet Blue Student Leaders



F&O Grounds Services staff talk with students about the benefits of native plantings on campus.

Campus-as-Lab Summary

Project Overview

- Building collisions are the second-highest source of direct human-caused bird mortality, killing an estimated 1 billion birds annually in the United States.
- U-M Ann Arbor campus is conducting seasonal bird collision inventories each spring and fall migration.
- After a successful pilot in May 2025, the project partners launched the first recurring full-scale inventory, inviting the campus community to volunteer their time to collect reports and details of bird-building collisions.

Outcome

Bird-building collision data helps to pinpoint high-priority buildings to retrofit with bird-safe measures.

Resulting data will inform efforts to update building design guidelines.

Accessible campus engagement opportunities, including participation in citizen-science driven data collection and course-related utilization.

WHERE WE CAME FROM

OCS saw need for increased data to identify the most problematic areas of campus, quantify the impact on bird populations, and identify opportunities to demonstrate U-M's commitment to resilient landscaping and biodiversity by managing the impacts of its built environment.

WHERE WE'RE GOING

Targeted seasonal inventory on high-priority buildings will continue every spring and fall migration period.

Bird collision data can be tracked for ALL observations year round.

WHAT'S NEXT

Expand to additional high-risk buildings and pilot interventions with the help of additional faculty and student partnerships, including integrating the data collection and use into curricula, and partnering for design competitions for bird safe window film, and educational efforts and events.

PARTNERS

- Office of Campus Sustainability
- Michigan Bird Club
- EEB Faculty including Ben Winger
- Facilities & Operations Grounds Services



Bird collision data gathered by volunteers to inform improved bird protection practices on campus!

SEAS Masters Project: U-M Lands Natural Areas Assessment

2025-2026

Campus-as-Lab Summary

Project Overview

- Student team mapped and evaluated natural areas
- Improved natural features GIS layers and baseline data for indicators such as plant diversity
- Developed recommendations for ecosystem assessment metrics and decision-making tools
- Worked with campus partners to prioritize areas with the greatest potential for impact for conservation or restoration

Outcome

Benchmarked peer institutions' efforts to map and increase ecosystem services and biodiversity.

Identified and prioritized potential metrics for ecosystem assessments for natural and urban green spaces.

Conducted representative assessments of priority natural areas, focused on North Campus woodlots.

WHERE WE CAME FROM

Operational partners identified a need for improved data to inform conservation planning and implement strategies necessary to meet U-M Resilient Grounds Goals, including mapping ecological services, and establishing metrics to assess change over time of key ecosystem indicators.

WHERE WE'RE GOING

Improved data for ecosystem and climate vulnerability assessments for U-M property.

Ecosystem index - tool for longer term land use decisions, supporting more progressive and effective conservation planning.

WHAT'S NEXT

- Expand evaluations to other U-M lands
- Update and improve data regularly as ecosystems change
- Pilot restoration projects in key areas to improve ecosystem health and resiliency
- Utilize improved GIS maps for various projects related to land use.

PARTNERS

Office of Campus Sustainability (Sponsor)

Facilities & Operations Grounds Services (Sponsor)

Matthaei Botanical Gardens & Nichols Arboretum

SEAS faculty advisor

Facilities & Operations Planner's Office - helped identify priority locations for evaluation in support of the Campus Plan 2050.



University of Michigan managed forest commonly used for Campus as Lab coursework.

Env. 391: Grounds Visual Preference Survey

Winter, 2016

Campus-as-Lab Summary

Project Overview

- Students surveyed campus community and hosted focus groups to gather campus opinions about current land management, and evaluate the visual preferences of U-M faculty and staff with regard to land management.
- Evaluated role of education in raising awareness of issues associated with chemical use on campus and how awareness affected visual preferences or tolerance for weeds/alternative landscaping.

Outcome

Report summarizing and assessing opinions and preferences of key stakeholders regarding campus grounds aesthetics.

Recommendations on related educational messaging

WHERE WE CAME FROM

Desire to address reluctance of campus stakeholders to embrace more naturalized, lower-chemical-input landscaping on campus, and better understand what messaging would help increase support.

WHERE WE'RE GOING

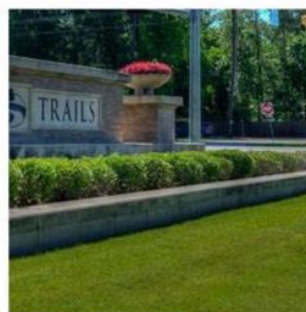
- Adjusted survey to better distinguish between visual preferences and tolerances associated with increased awareness.
- Effective messaging of impacts of pesticides and herbicides, and increased use of cues and signage to explain practices and benefits.

WHAT'S NEXT

- Implement recommendations for increased education and signage related to naturalized and sustainable landscaping.
- Integrate sustainable land management practices into Campus as Lab projects.

PARTNERS

- Office of Campus Sustainability (Sponsor)
- Facilities and Operations Grounds Services
- Facilities Users Network
- Env 391 students and teachers



A



B



C



D

Example of survey images used to gather information of visual preferences for campus landscape.