



**UNIVERSITY OF MOUNT UNION**  
**HUSTON-BRUMBAUGH**  
**NATURE CENTER**

**2023-2024 Fiscal Year Report**

**Huston-Brumbaugh Nature Center**

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## Table of Contents

The Year at a Glance.....	2
Overview .....	3
Executive Summary .....	4
Program Highlights .....	7
Research and Conservation .....	10
Community Engagement .....	13
Capital Improvements.....	14
Visitor Comments .....	16

*Information in this document was contributed by Nature Center staff and compiled by Adam Zorn.*

*Photo contributions in the document are courtesy of Mike Greiner, Jason Smith, and Adam Zorn.*

*Cover photo: A Clouded Sulfur butterfly feeds on New England aster at the Nature Center.*

*Below: Young Ruby-throated Hummingbirds in their nest outside of the Visitors Center.*





## The Year at a Glance

### Mount Union Engagement

Number of UMU events: 88

### Student Research Projects

Brumbaugh Scholars projects: 4

Independent research projects: 5

### School & Organization Programs

Number of programs: 55

Total attendance: 1591

### Community Programs and Events

Number of programs & events: 72

Total attendance: 1215

### Service Projects

Number of projects: 1

### Volunteers

Number of volunteers: 76

Number of volunteer hours: 1,070

### Notable Accomplishments

Record high for Mount Union events hosted

Record event attendance during Summer Serenades

Wetland project construction

Bird collision deterrent installed on large glass surfaces

*The mission of the John T. Huston - Dr. John D. Brumbaugh Nature Center is to provide and support opportunities for enjoying and learning about our natural and cultural heritage.*



## Overview

This report summarizes the operations and outreach activities of the John T. Huston - Dr. John D. Brumbaugh Nature Center. The Nature Center facilitates activities in three main areas: education, research, and recreation. Educational programs are presented to school groups and the community, focusing on local natural and cultural resources present on the Nature Center property. Educational and recreational opportunities are also provided through the Nature Center's indoor exhibits, interpretive signage, and trails.

Additionally, the Nature Center staff are involved in academic support of Mount Union's students, supporting teaching activities, conducting and supporting research, volunteer recruitment and retention, facilitating service projects, supporting off-campus UMU faculty & staff activities and meetings at the Nature Center, and the maintenance and improvement of the Nature Center's facilities and grounds.

## Staffing

The Nature Center staff included four full-time, on-site staff positions: Horticultural and Facility Coordinator, Cali Granger; Site Manager, Mike Greiner; Community Outreach & Volunteer Coordinator, Bonnie Twaddle; and Program Manager, Adam Zorn. The on-site staff were complimented by three full-time, on-campus staff and faculty positions: Sustainability Manager and Professor of Biology, Amy McElhinney, and Ecologist Lin Wu, and Nature Center Director Jason Smith. Sage Warner, a University student employee, served as Visitor Services Associate during the fiscal year.



*Horticultural manager Cali Granger leads children through the garden to harvest vegetables.*

## Executive Summary

### Attendance

The number of program and event attendees was recorded based on head counts during a Nature Center program/event and includes individuals that actively participate in all or a portion of a scheduled program/event hosted at or facilitated by a Nature Center staff member. The total program/event attendance for the fiscal year '23-'24 was 2,806 participants.

The number of walk-in visitors for the fiscal year was 1,684 visitors. These visitors were counted as they entered the Visitors Center, and they were not an active participant of a scheduled program/event. Walk-in visitors entered the Visitors Center to enjoy the bird observatory, view informational displays, interact with the staff, or use the restrooms on a self-guided visit. These visitors were only counted on weekend afternoons, and do not include many visitors who use the grounds but do not enter the Visitors Center. For example, many hikers park their car, take a walk, and return to their car without entering the Visitors Center. Many visitors are also present before and after the Visitors Center is open on a daily basis.

### Program Participation

The Nature Center staff facilitated and hosted a wide variety of educational programs and events throughout the year. Programs and events were organized into three categories: public events, requested events, and University events.

Public events were programs or events that were designed and scheduled by Nature Center staff and published in the Nature Center's newsletter. A total of 72 events were facilitated with an attendance of 1,215 participants in FY '23-'24.

Requested programs were programs requested of the Nature Center staff by groups such as schools, garden clubs, libraries, or other community organizations. A total of 55 requested programs were facilitated with an attendance of 1,591 participants.

Nature Center staff participated in campus events and hosted University groups throughout the fiscal year. Nature Center staff/facilities were a part of 88 University of Mount Union events and activities. A large portion of the activities were facilities reservations by 14 different offices/departments/academic programs and 8 different student groups. The following University of Mount Union Office/Departments utilized the Nature Center for programs and/or activities during the fiscal year.



*Dr. Jason Smith and his Field Studies students learned about bird banding from master bird bander Al Eibel.*

#### **Offices/Departments**

Center for Student Success  
 Department of Physical Therapy  
 Department of Philosophy  
 Department of Visual Arts & Media  
 Honors Program  
 Nursing Program  
 Office of Alumni  
 Office of Business Affairs  
 Office of Information Technology  
 Residence Life  
 School of Business  
 School of Engineering  
 Spectrum Center  
 Support Staff Advisory Council

#### **Student Groups**

Alpha Pi Omega  
 Alpha Tau Omega  
 Delta Sigma Tau  
 Green Raiders  
 Raider Guides  
 Resident's Life  
 Sister Circle  
 UMU Cheer and Dance Team

A total of 10 courses were facilitated using Nature Center facilities and/or the property including BIO 141, BIO 230, BIO 240, ENV 190, ENV 210, ENV 301, ENV 320, ECE 360, Dr. McElhinney's FYS class, and Dr. Tascone's fiction writing class.

In addition to on-site events, the Nature Center staff participated in Preview, Fall Orientation, New Employee Orientation, Fall Visitation Days, and supported several Green Raiders events on campus.



## Volunteer Hours

Nature Center volunteers assisted in a variety of ways that supported the maintenance of a beautiful facility and grounds and high-quality educational programs. Seventy-six people donated their time and talents to support the Nature Center's mission over the past fiscal year accounting for at least 1,070 hours of service.

Volunteer service in support of facilities and grounds maintenance covered a wide variety of tasks. Litter control, invasive plant removal, and Adopt-a-Trail volunteers were an important component of the Nature Center's trail maintenance efforts. Several cultivated gardens and flowerbeds were maintained with the assistance of volunteers to keep these areas looking attractive to visitors and wildlife alike.

Volunteers helped with special events like the Holiday Open house and facilitated special interest programs like acoustic music jams and fiber arts gatherings which diversifies the audiences attracted to the Nature Center. Many of the formal education programs facilitated for school-aged audiences were possible thanks to dedicated volunteers passionate about helping students learn. Volunteer trail guides and Children's Hands-on Gardening volunteers were required to enable Nature Center staff to accommodate dozens of children on a field trip to the Nature Center and maintain a high-quality learning experience.

## Donations

The Nature Center was fortunate to receive monetary and in-kind contributions to support the North Woods field and wetland reclamation project. The Connolly Family and friends, in memory of Dennis Connolly, generously donated funds to support the purchase of large oak trees, benches, and a Purple Martin tower to enhance the visitor experience while exploring the new field and wetlands on the Nature Center property on the north side of Daniel St. An observation area will be established with benches in the shade of an oak tree where activity at the Purple Martin tower can be observed. Mr. Connolly and his family thoroughly enjoyed their visits to the Nature Center and the opportunities to bird watch. We thank the Connolly Family and friends for their generous contribution so that others may continue to enjoy the outdoors as much as their father did.

Eagle Scout, Nick Blasiman, completed his Eagle Scout project by constructing and installing new bat houses. The materials for the boxes were donated by McQuilkin Lumber and the labor for design, construction and installation of the boxes was completed by Nick and members of his Scouting USA Troop 177. The rocket-style structures were



constructed to the specifications of Bat Conservation International and may house as many as 200 bats if fully occupied.

## Program Highlights

### New Programs

Community programs and events were promoted through three newsletters published to nearly 2,000 postal addresses and over 1,000 email addresses. Additional outlets included UMU Today emails, printed flyers, and social media.

Among the traditional offerings of guided walks, acoustic music jams, and presentations on local flora and fauna, a host of new programs were facilitated for the first time or the first time in a long time. New program and events offered over the past fiscal year included Moth Night Out for National Moth Week, Unlocking the Power of Stem Cells with Mount Union's Dr. Keith Miller, Spring into Fishing with Mount Union's Dr. Chris Marks, Birding for Beginners, and Nestbox Construction.

Nature Center staff hosted a series of events during spring semester 2024 for the University titled Fun by the Fire. These social events invited participants to the Nature Center to enjoy the outdoors, conversations with fellow employees and students, and some campfire treats.

Stark County's first Bird Quest was initiated by the Nature Center with support from Stark Parks, Canton Audubon Society, and The Wilderness Center. Participants spent 24 hours searching Stark County for as many bird species as possible and finished with a gathering at Stark Parks' Fry Family Park.

The Nature Center also hosted a Summer Serenade with the Canton Symphony Orchestra and Stark Parks. A string quartet from the Canton Symphony Orchestra performed for an hour in the Visitors Center pavilion.



*An audience of 200 spills out of the Visitors Center pavilion during Summer Serenades on June 27.*



## Popular Programs

Some of the most popular and well-attended events were the annual offerings at the Nature Center. The Relax and De-Stress Event saw dozens of participants participating in stress relieving activities like yoga, listening to live acoustic music, making crafts, walking the labyrinth, taking a guided walk, or making a s'more over a campfire. Pre- and post-event blood pressure readings with Mount Union physician assistant graduate students illustrated the effect of event participation. Literature about mental health and treatment resources are also provided.

The Holiday Open House attracted 100+ participants with its variety of activities and Christmas-themed décor. The Visitors Center was reminiscent of Santa's workshop with rooms filled with supplies to make homemade ornaments. Live acoustic music took place in the bird observatory where visitors could listen and enjoy a cup of hot cocoa. The crackling fire in the pavilion was a nice place to warm up and make a s'more. The event wouldn't be complete without a visit from Santa Claus. Visitors shared their Christmas wishes with Santa in the Huson Cabin decorated for the holiday season.

The annual Photography Contest and Exhibit in February 2024 accepted 142 entries from 36 photographers. This was one of the highest number of entries in the past ten years. The exhibit was on display for three weeks and attracted over 100 people to view the photos and cast their ballots for their favorite images.

The Summer Serenade hosted at the Nature Center in conjunction with the Canton Symphony Orchestra and Stark Parks was a huge hit. The one-hour performance from a string quartet was enjoyed by an audience of 200 people. This event spurred discussion about hosting additional performing arts programs at the Nature Center.

Smaller-scale programs like Homegrown Habitat and Nestbox Construction also attracted significant attention and demand for participation. Homegrown Habitat covered best practices for providing habitat to pollinating insects. Supporting pollinating insects is a topic that resonates with many people and this program provided practical advice for homeowners. Nestbox Construction was also in high demand as participants were eager to construct a wooden box designed for songbirds like bluebirds and wrens to make nests and raise their young. An additional session was scheduled to accommodate participant demand.



## Educational Impact

Environmental education and environmental literacy were the focus of many of the Nature Center's educational programs. Our school-aged education programs were requested by teachers representing 14 different schools. Sixteen community groups requested programs by the Nature Center staff. All the programs provided hands-on, experiential learning opportunities for individuals ranging from pre-K to senior citizens across a broad range of topics covering plants, pollinators, wildlife, life cycles, ecosystems, symbiotic relationships, gardening, invasive species, and more.

Nature Center programs were requested by and facilitated for the following schools and organizations:

### Schools

Alliance Early Learning School  
 Alliance 3<sup>rd</sup> grade  
 Buckeye Elementary School  
 First Friends Christian Academy  
 GlenOak High School  
 Heritage Christian School  
 Louisville Middle School  
 Marlboro Elementary School  
 Minerva Middle School  
 Regina Coeli School  
 Salem High School  
 Small World Montessori  
 United Local 4<sup>th</sup> grade  
 West Branch Pre-K

### Community Organizations

Alliance Garden Club  
 Altercare of Alliance  
 Brown Frame 4-H Club  
 Camp Wakonda  
 Canton Fiber Arts Guild  
 Carroll County Library  
 Copeland Oaks  
 First Baptist Church of Alliance  
 First Christian Day Services  
 Flower Garden Club  
 Hill and Dale Garden Club  
 Ohio Certified Volunteer Naturalists -  
     Mahoning County  
 Ohio State University Master Gardeners -  
     Stark County  
 Rodman Public Library  
 Town & Country Garden Club  
 Washington Township Ruritans

The Nature Center's facilities and grounds were also used by University of Mount Union faculty and students to extend learning beyond the classroom. The Nature Center's role as a field station for the University's Department of Biological and Environmental Sciences was an important part of student learning in BIO 141 (Diversity of Life), ENV 190 (Introduction to Environmental Science), and ENV 301 (Field Studies). Each of the three courses made several visits to the Nature Center for experiential learning opportunities not easily replicated in a classroom setting.

BIO 141 students conducted plant surveys, collected leaf litter, searched for fungi, identified a wide variety of soil invertebrates from their leaf litter samples, and conducted observational studies of songbirds and their foraging preferences.



ENV 190 students conducted soil analyses and invasive species investigations. ENV 301 observed bird banding, learn how to conduct pollinator surveys, how to conduct soil analyses, and studied the Nature Center's beech trees to document the symptoms of beech leaf disease.



*Students in BIO 301 (Field Studies) exploring the old-growth forest (top) and pollinators (bottom) at the Nature Center.*

## Research and Conservation

### Brumbaugh Scholars

The John T. Huston - Dr. John D. Brumbaugh Nature Center allocates resources from the Brumbaugh Endowment to foster summer research and scholarly activities among students, staff, and faculty that are related to the mission of the Nature Center, which is to “provide and support opportunities for enjoying and learning about our natural and cultural heritage.” Four projects were selected for support in the summer of 2023. Project results were shared in a showcase event held at the Nature Center in September 2023.

2023 Brumbaugh Scholars projects:

- Nick Anna: “Floristic Quality assessment of the North Woods Section of the Huston-Brumbaugh Nature Center”
- Ian Black: “Analyzing Soil Bacteria Around Native and Invasive Plants at the HBNC”
- Logan Good: “Walking Through the Solar System”
- Reagan Kole: “Implications for Hands-on Life Science Experiments at the Huston-Brumbaugh Nature Center”



*Logan Good presents his research in the Visitors Center pavilion during the Summer Research Showcase*



## Independent Student Research

In addition to the Brumbaugh Scholars program, Mount Union students traditionally use the Nature Center for BIO 405 projects and other academic research during the year. During the 2023-2024 academic year, the following students completed research at the Nature Center:

- Chessie Misja: “Determining the Presence of Antibiotic Resistance Genes at the Huston-Brumbaugh Nature Center”
- Hannah Mitchell: “Can beech leaf disease be transmitted through seed dispersal?”
- Brady Reichart: “Estimating the Largemouth Bass Population in a Pond at the Huston-Brumbaugh Nature Center”
- Kaleigh Richmond: “The Impact of Eutrophication on the Macroinvertebrate Diversity in the Ponds at the Huston-Brumbaugh Nature Center”
- Massimo Rojas: “Species Richness of Mushrooms Found in Old-Growth Forest and Second-Growth Forest During Fall Season at Huston-Brumbaugh Nature Center”

Hannah Mitchell and Nick Anna were selected to make presentations about their research and Chessie Misja was selected to participate in the poster session at Mount Union’s SCHOLAR Day on April 23, 2024.

## North Woods Wetland and Field Reclamation Project

Nature Center staff, in consultation with M.A.D. Scientist Associates, completed a wetland construction and field reclamation in the spring of 2023. Approximately 7 acres of land between Daniel Street and the woodlot of the North Woods section of the Nature Center were transitioned from agricultural field to wetland and upland field habitats. The project was designed to physically and aesthetically connect the North Woods section to the main preserve at the Nature Center, restore some of the original hydrology of the landscape, mitigate the effects of erosion in the field and the stream bank in the adjacent woodlot, and create endless opportunities for research and observational studies in a new habitat at the Nature Center.

Construction took place over the course of several days in early January. The newly formed wetland basins filled rapidly with rain and snowmelt almost immediately after construction was completed. Four of the wetland basins were designed to be ephemeral and will fill and drain as determined by precipitation. The largest basin was designed to permanently hold water, and excess water is discharged into an adjacent stream.



*HBNC director Dr. Jason Smith and Holly Smith get muddy on planting day in the wetland in May 2024.*

In March, the entire 7-acre site was reseeded with a variety of native grasses and wildflowers. In mid-April, nearly 90 trees and shrubs were planted with the assistance of volunteers. In mid-May, over 1,200 rooted grasses and wildflowers were planted with the assistance of volunteers to speed up colonization of the wetland areas of the project site with desirable vegetation.

## Faculty and Staff Research

Faculty in the University's Department of Biological and Environmental Sciences initiated research at the Nature Center. Dr. Mike Zimmermann continued the research started by 2023 Mount Union graduate Kaleigh Richmond. Dr. Zimmermann has been collecting samples of aquatic macroinvertebrates from the Nature Center's ponds to better understand the macroinvertebrate communities in each pond.

Nature Center Director Dr. Jason Smith initiated a study of Beech Leaf Disease (BLD) with partners at the U.S. Forest Service to better understand the seasonal abundance of the nematode responsible for BLD. A second component of the project is to investigate the potential for the BLD-causing nematode to move from tree to tree on the wind.

Mr. Al Eibel, a federally-permitted bird bander and Nature Center volunteer, continued his multi-location Eastern Bluebird nestling banding project with the assistance of Nature Center staff. Mr Eibel wanted to learn more about the dispersal patterns of young Eastern Bluebirds after they leave the nest. Young bluebirds at the Nature Center were banded with purple bands in 2023 and yellow bands in 2024. Birds subsequently spotted with the bands on their legs were reported to the Nature Center on behalf of Mr. Eibel by staff and visitors.

Nature Center staff contributed to a variety of research and citizen science projects over the past year as well. Annual monitoring of mammal populations continued in the fall of 2023 as part of Snapshot USA. A variety of bird counts were completed as part of Project FeederWatch, Great Backyard Bird Count, Project NestWatch, and year-round reporting of bird observations to eBird. Other fauna and flora residing at the Nature Center continued to be monitored and cataloged using iNaturalist.



*A female Eastern Bluebird banded in summer 2023 and observed at the Nature Center in June 2024*



# Community Engagement

## Partnerships

Partnerships to reach new audiences and maintain strategic relationships with other organizations in the area was an important aspect to the Nature Center's outreach efforts.

Stark Parks and the Nature Center joined together to provide the tenth year of spring bird walks on the Nickelplate Trail in Louisville, organize Bird Quest, collaborate on Al Eibel's bluebird banding project, and host a Summer Serenade concert.

Canton Audubon and the Nature Center partnered to host Great Backyard Bird Count events in February 2023, organize Bird Quest, and Canton Audubon frequently shared Nature Center events with their membership.

The Nature Center partnered with the Ohio State University Extension offices in Stark and Mahoning counties to provide learning opportunities for adult learners in the Extension's Master Gardener and Ohio Certified Volunteer Naturalist programs.

The Nature Center began participating in the newly-formed Stark County Park Forum, a consortium of Stark County parks, recreations departments, and environmental education organizations. The forum promotes collaboration, learning, and opportunities to share resources and programming. Through this collaboration, the Nature Center was able to reach The Wilderness Center as a partner for Bird Quest, network with other park and recreation departments, and benefit from shared learning opportunities through quarterly meetings.

## Public Outreach

The Nature Center's Bonnie Twaddle and Dr. Kristine Turko from Mount Union's Spectrum Education Center planned and facilitated a week-long summer day camp for high school students with autism.

The Nature Center and Mount Union's Green Raiders provided activities at the community table on September 16 and October 7, 2023 at the Alliance Farmer's Market.

Brumbaugh Scholars and Sit Lux Scholars from Mount Union presented their research to the public at the Nature Center's annual Summer Scholars Showcase. This annual event highlighted some of the high-quality research Mount Union students completed during the summer of 2023.



The Nature Center was represented by Bonnie Twaddle and Adam Zorn as invited presenters at the Stark Stewardship Symposium with Stark Soil and Water in November 2023. The Symposium was a full day of learning with concurrent sessions covering conservation topics for small- and large-scale property owners. Bonnie presented “Planning for Pollinators” and Adam presented “Bring Birds to the Backyard”.

The Nature Center assisted Alliance City Department of Parks with Christmas in the Park by providing a pinecone bird feeder activity. Bonnie Twaddle and a group of Mount Union students assisted children with coating pinecones with soy butter and bird seeds to create an edible ornament for Ohio’s feathered friends.

## Capital Improvements

### Facilities

Feather Friendly bird collision deterrent markers were installed on the large glass surfaces of the bird observatory windows and lobby entrances to the Visitors Center. The light gray “dots” replaced aging nylon netting that was previously employed to prevent birds from fatally striking the window glass of the bird observatory. Unlike the netting, which cushions the contact, Feather Friendly markers are designed to alert the birds of the presence of the glass so they avoid it as they do other solid objects.

The old wooden furniture of the bird observatory was replaced with more modern training tables and chairs. The tables fold and the chairs nest together for ease of movement and storage. The furniture is also more consistent with the appearance and functionality of the furniture students and faculty are familiar with across the Mount Union campus.



*Bird observatory windows before and after the installation of Feather Friendly bird collision deterrent markers on the windows.*



## Grounds

Another year of significant weather events resulted in numerous cleanup efforts across the trail system. The assistance of visitors and volunteers identifying trail issues expedited the cleanup on several occasions.

Our largest project of the year was building a 40-foot bridge to cross the stream on the west end of the Big Valley trail. The stream crossing has been a wet crossing for anyone without waterproof footwear. The bridge allows all hikers the option to cross the stream.



## Equipment

The windmill at the North Woods was not pumping water for our gardening program and required significant repair. The repair involved removing 120 feet of galvanized well pipe from the ground. Two sections of the well pipe were replaced as well as the lift pump on the bottom of the pipe. Due to the location of the well under the windmill, all of the pipe removal and replacement was completed by hand using Nature Center staff.

A new equipment trailer was purchased to safely haul Nature Center equipment such as UTVs, skid steer, mowers, etc. Equipment is moved to other sites for land maintenance in addition to hauling equipment to Mount Union's physical plant or other repair shops for annual maintenance and repairs.



## Visitor Comments in FY 2023-2024

### Nature Center Visitor Survey

Visitors were welcome to complete an anonymous survey about their visit. Survey respondents have given an average of 4.9 stars to their overall experience when visiting. Thirty-one reviews were recorded in the past fiscal year. Survey comments are optional. Here is what some respondents had to say about their experiences in the last fiscal year:

“Thank u so much! I love it here!! So relaxing and a much needed environment for many!!!”

“I was impressed with the Nature Center. It is a wonderful asset for Mount Union and the community. I have communicated this to friends and family on Facebook and email. Thank you.”

“The signage and maps along the trails are very hiker friendly and easy to use. Stark Parks should adopt your method of marking trails with an easy to read map.”

“I recommend it to people all the time!”

“I love this place. If you come during the day, it’s quiet, beautiful, always something new to see. The many trails makes it versatile. The projects provided are many. Keep it up!”

“Wish it were closer to the center of the county.”

“We wish we could visit more often but we live 700 miles away.”

“Always good experiences”

“I wish I could remember the names of the ladies who work inside the Nature Center so I could give them some personal kudos. Let's just say that they are the nicest and most knowledgeable staff around. In my visits to other nature centers throughout Ohio - I can say you have the best!”

