Nelson Institute for Environmental Studies
UNIVERSITY OF WISCONSIN–MADISON

May 2025

THE COMMONS

For alumni and friends of the Nelson Institute for Environmental Studies at the University of Wisconsin–Madison

Pomp and Circumstance

Celebrate the Nelson Institute's Class of 2025.

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We'd love to hear from you! Send us feedback or questions about this issue, or share story ideas for future issues.

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We're reducing our carbon footprint! We hope you enjoy our digitally published magazine, sent monthly to Nelson alumni, students, and friends.

Cover photo: Graduates celebrate at the Nelson Institute's pre-commencement party. Photo by Hedi LaMarr Rudd

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From the Dean

Dear Nelson Institute alumni and friends,

Last weekend, we celebrated several hundred Nelson students at UW–Madison's Spring 2025 Commencement. To our newest graduates: welcome! I'm an alum myself, and I'm confident that you'll find this to be one of the most welcoming and supportive alumni communities out there. After all, our graduates are the ones leading the way in conservation, sustainability, and environmental justice (to name a few) — from Alaska to Africa. Check out some photos from our pre-commencement celebration on page 29.

Amid the festivities, of course, a sense of profound uncertainty looms. Beyond the general economic upheaval, the federal funding landscape is especially unsteady and shifting, with no simple or clear path yet apparent. Questions abound about future career paths and job prospects for students and staff. Issues facing the progress for untenured faculty are also on the horizon. It is hard not to feel profoundly nervous and anxious. I'd like to share Chancellor Jennifer L. Mnookin's end-of-semester message with you, which reiterates UW–Madison's — and the Nelson Institute's — commitment to our people and to our mission.

Our own work continues. Just a few weeks ago, the passion and efforts of the Nelson community were on full display for the second annual Earth Fest, which spanned nine days and more than 60 events. See the energy for yourself on page 2.

From around campus to across the state, the impact of Nelson research continues to prove its worth. Take, for instance, a partnership between our environmental conservation MS program and Waupaca, Wisconsin, where students are addressing how aging dam infrastructure is affecting the ecological health of the Crystal River. Then on the agricultural side of water quality, new research from Adena Rissman's lab suggests changes to the Wisconsin Phosphorus Index that can help keep our rivers and lakes clean.

Water, water, everywhere? But wait, there's more! This year, we're celebrating the 60th anniversary of our water resources management program. Since 1965, this program has trained future water leaders through a unique, collaborative approach. Are you a WRM grad? Make sure you're in the loop as we continue to share more details on ways to celebrate this milestone.

Last, but certainly not least, I'd like to share an important update about this very magazine: many of you participated in our January readership survey — thank you for sharing your time! Your input is critical to as we continuously assess our efforts as an institute to serve you. Our editorial team has been analyzing the survey results, and will be spending the summer incorporating some exciting, innovative transformations to *The Commons*. As such, you won't see a full issue in your inbox until August/September. But the stories won't stop: to stay abreast of Nelson news, research, and impact, follow us on Instagram and LinkedIn.

Happy summer, and on, Wisconsin!

Paul Robbins
Dean, Nelson Institute

EARTH FEST

In Focus:
Scenes from UW–Madison's Environmental Celebration

From ephemeral wildflowers to DIY bee hotels, Earth Fest 2025 brought sustainability to life across campus.

By Chelsea Rademacher
Photos by Chelsea Rademacher and Hedi LaMarr Rudd

Where can you learn about DIY clothing dyes, sustainable chickpea farming, and insect pets — and find inspiration from live theatre, original music, and ephemeral wildflowers? Where can you take action to clean up your community, boost local pollinator populations, and make sustainable food choices? Whether you're skimming the surface or diving deep into environmental research — and whether you lead with your right or left brain — UW–Madison Earth Fest unites all aspects of the environment and sustainability under one banner.

Building on its standout inaugural year in 2024, Earth Fest 2025 spanned April 21 through 29 and featured more than 60 events, all held across the UW campus and hosted by dozens of departments, units, and student organizations. Here are some highlights of the education, inspiration, and motivation found at this year's Earth Fest.

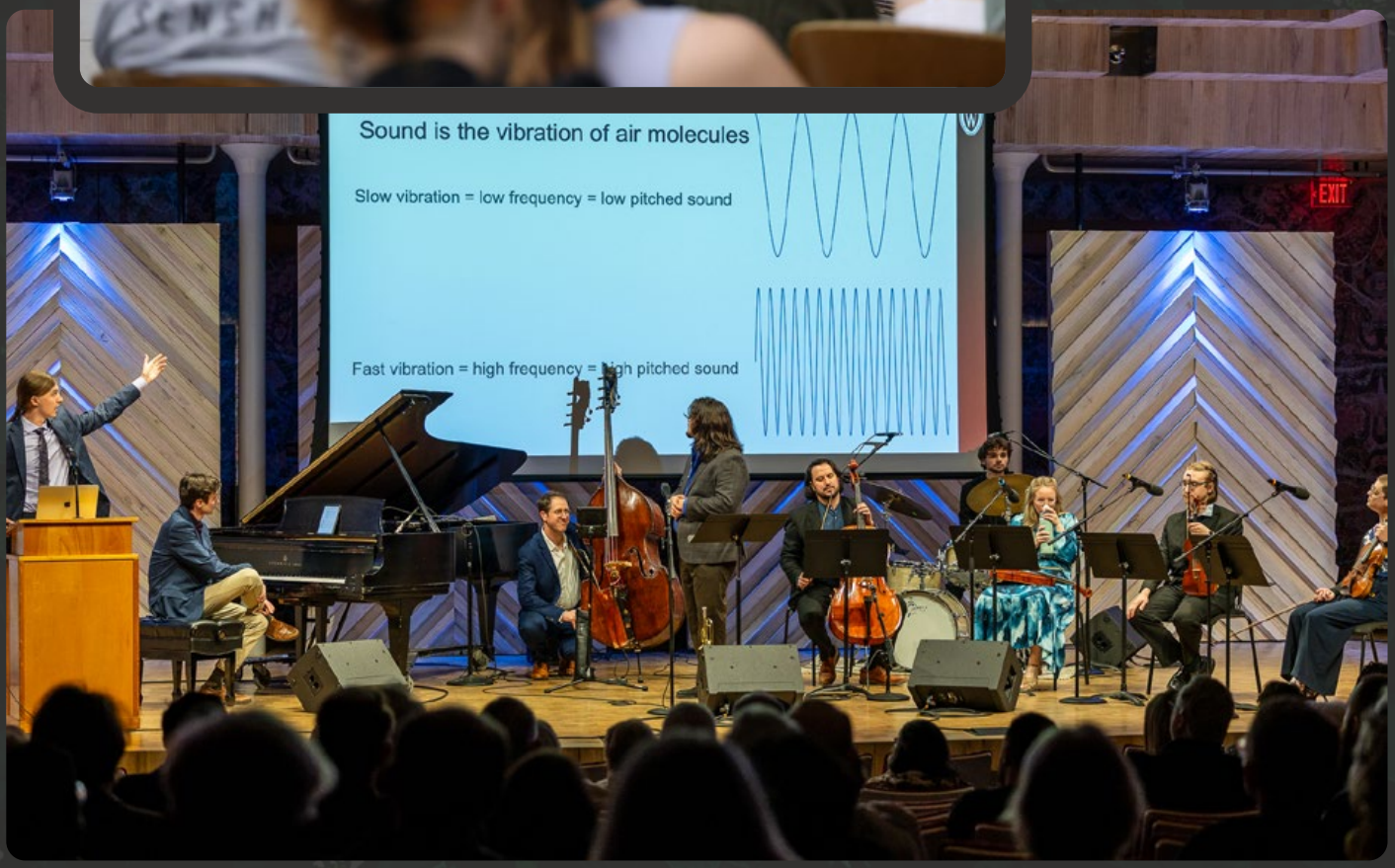
Poetry with a Pulse

Undergraduates in Environmental Humanities 113 share their original ecopoetry at an open mic on Wednesday, April 23, which followed an ecopoetry workshop on Monday, April 21 led by UW–Madison faculty member Heather Swan.
Photo by Chelsea Rademacher

El Niño in Tune

On Monday, April 21, climate science and musical composition came together at the Hamel Music Center's Collins Recital Hall. Featuring an overview of the importance of El Niño by Elizabeth Maroon, professor of atmospheric and oceanic sciences, an explanation of sonification, or turning data into musical notes, by undergraduate Hunter Glassford (pictured, at podium), the event culminated in the world premiere of Earth Signals: El Niño, an original jazz-classical piece composed by Mead Witter School of Music PhD candidate Ben Ferris and played by the UW Bridge Ensemble.
Photos by Hedi LaMarr Rudd (2)

EDUCATE.



Facing Change with Courage

Held at the Discovery Building on Wednesday, April 23, the Earth Fest Forum brought campus and the community together for a day of art, action and resilience. The event explored the topic Climate Courage: Building Resilience in the Midst of Change through panel discussions, performances, and more. First, Dr. Richard Davidson, Dekila Chungyalpa, and Christy Wilson-Mendenhall of the Center for Healthy Minds and the Loka Initiative shared research insights on ecological emotions and emotional well-being. Closing the event, student Kira Adkins moderated a panel discussion on climate courage featuring Gary Besaw, Dekila Chungyalpa, Christopher Kilgour, and John Francis.

Plant Swaps and Polaroids Selfies

"How did you guys take selfies?" asked Kate Scroggins, student intern with the Office of Sustainability, while attempting to work a "vintage" disposable camera. "We didn't," replied UW–Madison Chancellor Jennifer L. Mnookin. Taking home a tomato plant, Chancellor Mnookin joined students, faculty, and staff at an Earth Day plant giveaway and swap hosted by the Allen Centennial Garden on Tuesday, April 22. Photos by Chelsea Rademacher (3)

EARTH FEST

INSPIRE.

Earth Day in Color

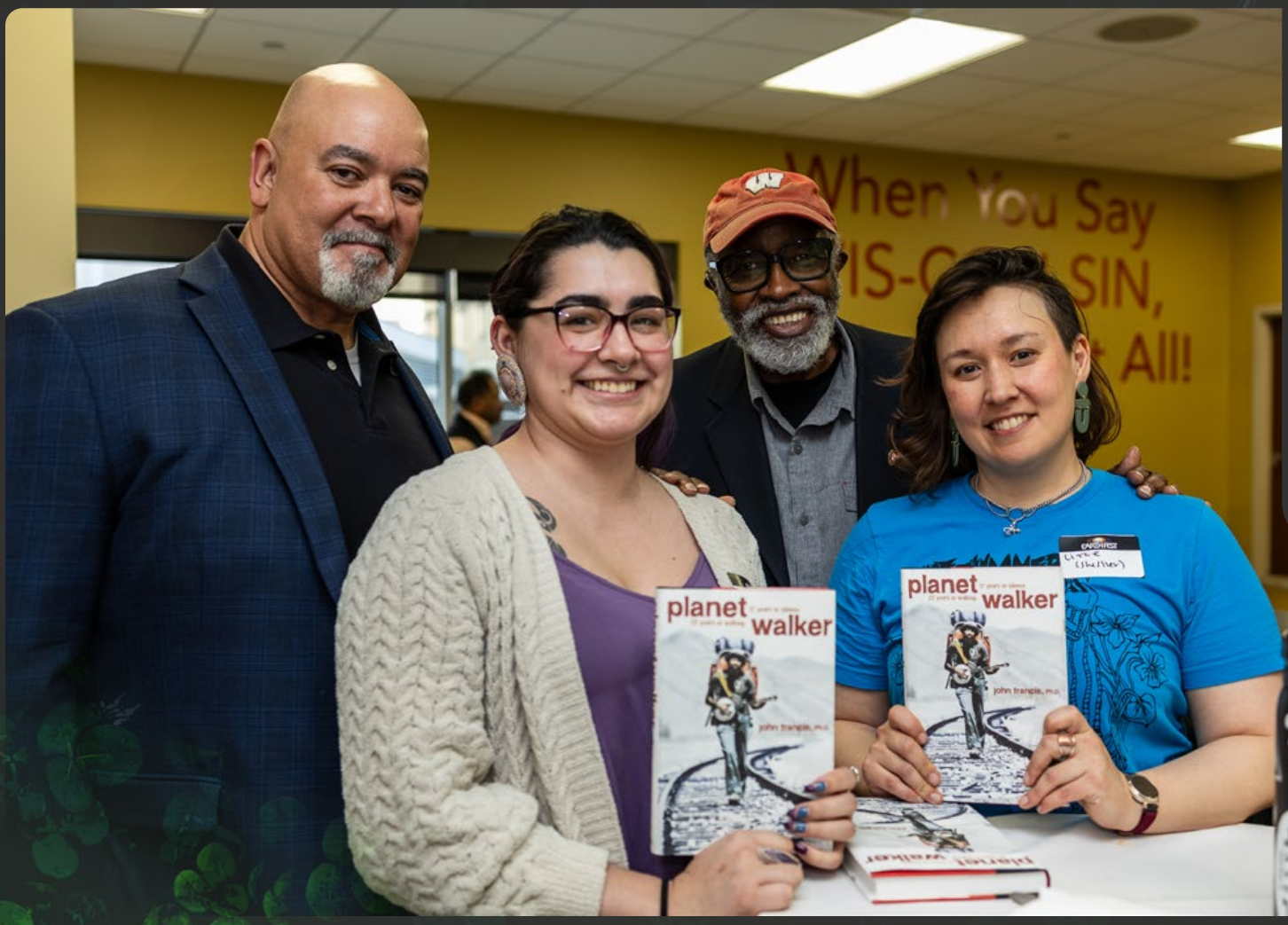
What does *Earth Day* mean to you? During the Wisconsin Alumni Student Board (WASB)'s Chalk the Block event on Tuesday, April 22, students translated *Earth Day* into art — completely through sidewalk chalk. Among them was Laila Smith (pictured), Nelson Institute communications assistant, who used her art to reflect on time spent in nature with her mother during the Covid shutdowns.

Ephemeral Beauty

Eve Emschwiller, professor of botany, carefully points out wild ginger (Asarum canadense) during a guided spring wildflower walk on Sunday, April 27. Emschwiller, alongside Glenda Denniston, Lakeshore Nature Preserve volunteer steward, led about 30 participants on an hour-long walk through the preserve, pointing out ephemeral flowers including trout lilies, Mayapples, bloodroot, and more.

Walking Toward Change

UW–Madison alumnus and famed environmental activist John "Planetwalker" Francis (second from right) joined students and community members for a moderated Q & A and free screening of the short documentary Planetwalker, which chronicles his decades of traveling only by foot and without speaking. The event was held on Earth Day — Tuesday, April 22 — at Union South's Marquee Cinema. (L-R) Christopher Kilgour, Nelson Institute outreach manager; Bobbi Skenadore, NNUW Admin Coordinator and Nelson Institute alumna; Francis; and Lizzie Condon, director of science and climate programs at the Wisconsin Academy of Sciences, Arts, & Letters. Photo by Hedi LaMarr Rudd



EARTH FEST

MOTIVATE.

Fit for a Queen

Armed with crayons, stickers, and empty snack boxes, students harnessed their creativity to make bee hotels in an event led by members of UW-Madison's GreenHouse Learning Community outside of Leopold Residence Hall on Thursday, April 24. Hollowed-out sticks — collected and drilled by the students — offer temporary nesting spots for bees and wasps, which helps draw more pollinators to the area. Photos by Chelsea Rademacher (2)

Taking Charge

Angel Salas poses for a picture to celebrate the installation of a solar little free library at Allen Centennial Garden on Thursday, April 24. The library — which offers free seed packets in addition to books — hosts a small solar array that charges the garden's electric tools. Salas, a student in the Nelson Institute's community and environmental scholars program, is also a member of the Engineers for a Sustainable World student organization, where he served as the project's lead.

See more photos from Earth Fest 2025.

Conserving Communities, Creating Connections

UniverCity Alliance connects environmental conservation students with the Village of Mount Pleasant and City of Waupaca.

By Abigail Becker, UniverCity Alliance

Canada goldenrod blooms in Mount Pleasant. Photo by Lauren Schmelzer (4)

The Crystal River in the City of Waupaca is a valuable natural resource enjoyed by paddlers seeking adventurous and relaxing outings on the water as well as anglers fishing for trout. But a section of the river is considered impaired by the Wisconsin Department of Natural Resources.

About 150 miles away in the Village of Mount Pleasant, a 70-acre site that includes the village's compost site and land leased to a radio-controlled model aircraft club presents opportunities to restore wetlands and forests and create a native prairie landscape.

What these projects – addressing the ecological health of the Crystal River and developing a conservation plan for the Mount Pleasant site – have in common are graduate students in the Nelson Institute's environmental conservation MS program. The students were connected to Waupaca and Mount Pleasant through UniverCity Alliance, which is a network of interdisciplinary leaders dedicated to fostering innovation in Wisconsin communities of all sizes.

"Just as local communities in Wisconsin support the university, I firmly believe that the university should be equally accountable to Wisconsin communities, and that we owe them our care, time, and expertise," said Hilary Habeck Hunt, the teaching assistant for the course. "Furthermore, many of our students are interested in remaining in Wisconsin and working with local government, which makes these partnerships excellent training for their future careers."

This is the mission of UniverCity: to be the front door to the University of Wisconsin–Madison for Wisconsin local governments, connect local leaders with the resources needed to support thriving communities, and provide students enriched learning experiences.

Now in its 10th year, UniverCity has partnered with 43 communities, including Waupaca and Mount Pleasant. "We have learned through experience that we can make a major impact in communities when we show up and ask what communities want to work on," said Gavin Luter, who was the managing director of UniverCity Alliance when these partnerships began. "Mt. Pleasant and Waupaca wanted to work on issues related to conservation, and we were able to get them assistance from the Nelson Institute. At the same time, our students have learned from people in those places about conditions on the ground. This is the Wisconsin Idea come to life."

Students in the environmental conservation program have been collaborating with UniverCity Alliance since 2017. Arlyne Johnson, conservation planning adjunct

professor, said these students have supported 10 different Wisconsin communities to design conservation plans for a variety of natural areas managed at the village, city, and county level.

Hunt said she hopes the final conservation plans provide "specialized guidance to our busy community partners."

"In local government, staff often wear many hats, meaning that there is little time for deep dives into locally specific conservation scenarios," Hunt said. "Our students spent 10 weeks zoomed in on these detailed scenarios, gathering information and providing actionable recommendations based on their classroom learning."

The Crystal River in the City of Waupaca is a valuable natural resource, but a section of the river is considered impaired by the Wisconsin Department of Natural Resources. Courtesy of Civil and Environmental Engineering Capstone

Waupaca's Crystal River in Focus

In both projects, Hunt said the students were like conservation planning contractors.

"Our students greatly benefitted from the opportunity to forge professional relationships with city staff from Waupaca and Mount Pleasant, and subsequently gained valuable experience through their involvement in local government operation, communication, and accountability," Hunt said.

> *"I firmly believe that the university should be [held] accountable to Wisconsin communities, and that we owe them our care, time, and expertise."*
> – Hilary Habeck Hunt

Waupaca's goal is to enhance recreational opportunities along the Crystal River and promote sustainable use while preserving the area's natural beauty. But a local dam and its aging infrastructure is creating a risk for flooding and negatively affecting the aesthetic appeal of a pond located upstream from the dam.

Aaron Jensen, city administrator for Waupaca, said the project was a good fit for the students because it prompted questions on a range of issues like conservation, engineering specifics, budget impacts, and property ownership. He said he was impressed with the students' work and the value the UniverCity partnerships has brought Waupaca.

"Ultimately, it's preparing future staff to deal with things that we know are going to come up, but there's also things that came out of it that we can do right now," he said, specifically mentioning directing some funding into river maintenance and invasive species control. "The partnership has allowed us to look at the things that we wish we could get to but never are able to."

The conservation plan that the students created evaluates the river's current conditions, identifies existing threats, and outlines effective strategies with an action plan.

"Our plan mostly focused on long-term strategies that would create better working conditions for the city to continue its restoration of the Crystal River," said environmental conservation master's student Induja Gandhiprasad.

Central to the plan was a focus on improving the health of the river, supporting recreation activities, and addressing the quality of life of Waupaca's residents. Xia Lowery emphasized that the plan includes strategies that "not only benefit the river but also the community." These include a river health awareness initiative and an ordinance to define boundaries for riparian habitats.

In addition to learning technical concepts like conservation standards, the students said they learned how to tackle a large project in a short amount of time with multiple team members and narrow in on a community partner's needs.

Jake Mikic credited his group with deftly navigating group dynamics, balancing accountability, cooperation, and leadership. Though the project was challenging, Ellie Sovcik said what made it valuable was the knowledge that a community partner will use their final report.

"We actually want Waupaca to be able to use this," Sovcik said. "I trust that this work is actually going somewhere compared to a normal academic project. I really appreciate the real world application."

Mount Pleasant Conservation Plan

Likewise, the students partnering with Mount Pleasant appreciated that the project provided a practical experience of working with a community before their program ends in August. Two of these students, Lauren Schmelzer and Jenasea Hameister, recently graduated with their undergraduate degrees. A third, Anthony Leikip, is switching careers from firefighting to environmental conservation and said the hands-on experience was informative.

"I trust that this work is actually going somewhere compared to a normal academic project. I really appreciate the real world application."

– Ellie Sovcik

"It gave all of us the experience to work on a restoration plan and have that real world experience," Hameister said.

Anthony Beyer, director of public works for Mount Pleasant, reinforced this perspective and emphasized the importance of the academic and professional connection.

"This experience allows them to focus on real world problems. As a government entity, it's important we promote that," Beyer said.

The students' plan envisions three main habitat areas: forest, wetlands, and a potential prairie area, shown here.

The students were tasked with developing a conservation plan for the area that includes the Mount Pleasant Compost Facility and the Racine Radio Control Flying and Social Club flight field. Community development director Samuel Schultz said the students were able to "dial in" to this property and think strategically about its uses.

"They were taking the village's high range goals and drilling into detail about specific areas and what we can do with them," Schultz said.

The site presents a number of factors for the students to consider, such as that a large portion of the site is within a floodplain and the site includes forested wetlands, wet meadows, forage grassland, lowland shrubs, crop-rotated lands, and some developed high- and low-intensity areas.

"There's no rubric for the world," Schmelzer said. "You create what you think works best, and our plan was what we could imagine would work best in a short-term, like five-year plan."

Schmelzer said their plan envisions three main habitat areas: forest, wetlands, and prairie and included sustainability goals that the village can strive to achieve. She said there's an opportunity in the future for the village to consider installing trails or interactive walk-through learning stations.

They proposed several strategies that include creating a native prairie landscape to establish pollinator habitat, prevent erosion, and provide space for recreation and cultural activities; removing invasive species, developing partnerships, and strengthening community engagement and outreach.

"Their report will get the ball rolling on this site," Beyer said. "That will ultimately protect this property and work with the existing features we have. It pushes the village in the right direction."

Top: Hoods Creek flows through the northwest corner of the site that the students evaluated. Right: A praying mantis clings to a plant in the wetland area.

Is It Time to Rethink the Wisconsin Phosphorus Index?

New data suggests that existing standards will fall short.

By Chris Lewis, FEWscapes

Photo courtesy of FEWscapes

"How can we support farmers by incentivizing the kinds of practices that are going to be beneficial economically, good for farmers' quality of life, and beneficial for soil and water?"

— Adena Rissman

Across much of the Upper Mississippi River Basin, improving water quality will require reducing nutrient runoff from agriculture. Phosphorus is a valuable and scarce nutrient that helps make farmland productive, yet its loss into streams and lakes is a waste of resources that has impaired water quality.

In a recent study, Wisconsin water quality experts told FEWscapes researchers that policymakers need to rethink how nutrient standards for farmland, such as the Wisconsin Phosphorus Index, connect to in-stream nutrient goals. Available data suggest that, even if all farms comply with existing standards, nutrient levels in lakes and streams would likely not meet targets for safe fishing and swimming.

These results suggest that now is the time for a conversation about what policies and practices can meet phosphorus targets in the future.

The FEWscapes study, published in the fall of 2024, explores pathways for addressing this disconnect. Report authors conducted 48 interviews with farmers, government employees, and members of the private sector in northeastern Wisconsin, a dairy production hotspot along the coast of Lake Michigan.

"Reducing phosphorus loss is a very slow-moving environmental goal," said lead study author Adena Rissman, professor in both the UW–Madison College of Agricultural and Life Sciences and the Nelson Institute for Environmental Studies.

Runoff from fields today sits in the sediment at the bottom of water bodies for a long time, "affecting the ability to meet phosphorus goals several decades into the future," Rissman said.

Study participants often pointed to the Phosphorus Index (PI), a metric that estimates phosphorus runoff from farm fields to surface water based on factors such as fertilization, weather patterns, and soil erodibility. Wisconsin PI regulations need revisiting, some said.

Wisconsin administrative code requires farms to keep their average PI below six over the course of each crop rotation, defined as a period of eight years. This amounts to roughly six pounds per acre per year of phosphorus runoff. Farms must also stay below 12 in each individual year of the rotation.

Bare ground on farm field from June 2, 2019, Fond du Lac County, Wisconsin. Photos by Adena Rissman (2)

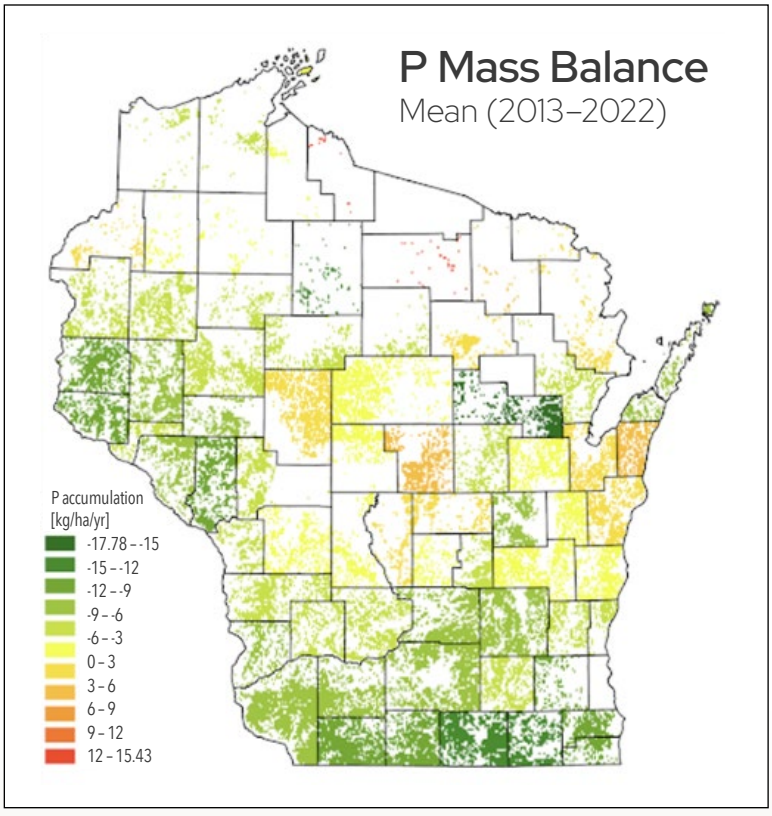


Figure 3. County-scale average annual phosphorus mass balances on agricultural land from 2013–22 based on inputs of fertilizer, feed imports, and atmospheric deposition and outputs of crop exports, livestock products, and stream exports (Eric Booth, 2024, unpublished data).

The water quality impact of a given PI value varies based on a variety of factors, such as the distance from a field to a water body as well as a water body's size. However, higher PI values are more likely to lead to phosphorus runoff, which can contribute to algal blooms.

After the standard of six was adopted in 2010, the Wisconsin Department of Natural Resources conducted "Total Maximum Daily Load" (TMDL) research on its expected water quality impacts. TMDL analysis aims to determine how much pollution a water body can withstand and still meet water quality goals.

The models showed the PI of six may come up short — and a PI of closer to one or two may actually be what is needed to hit water quality goals.

"Now we have more modeling and, in some cases, monitoring data to show that that's not going to be effective to improve water quality," one water quality administrator said in the study. "There's going to be a need to have a discussion about stricter or new targeted performance standards."

Interviewees, whose names are excluded from the report for anonymity, described two potential approaches to revising the standard.

First, the state could transition to a lower static PI, interviewees said, either statewide or in specific watersheds. Under this approach, once the new PI thresholds are set, they would be expected to stay the same indefinitely.

The second option would replace static targets with continuous improvement, focused on farms in specific areas where runoff exceeds capacity to meet local water quality goals. In these areas, PI requirements would gradually become more stringent.

For example, regulations could decrease the maximum allowable PI value by a set percentage at the start of each crop rotation or each decade. In this case, PI requirements would continue to tighten until water quality goals are met.

However, the political feasibility of these changes may currently be low, since changing administrative rules in Wisconsin is a complex process that requires approval from the state legislature.

Some interviewees also worried about the challenges these changes might create for producers, especially since complying with existing standards is sometimes difficult already.

Peninsula Pride Farms Field Day, Brey Cycle Farm. Managed grazing and digging into soil health with Jamie Patton, August 2022.

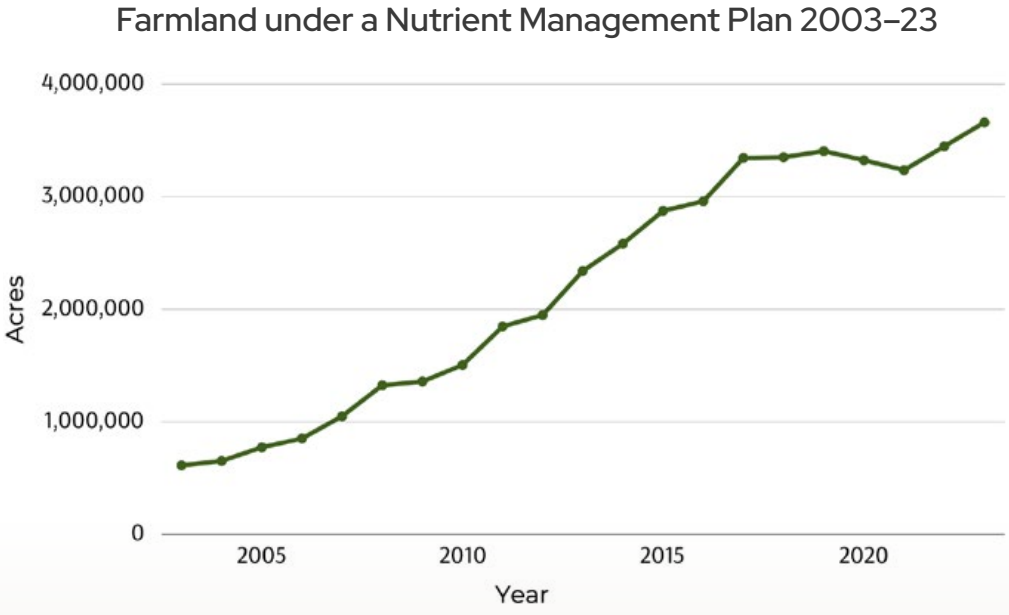


Figure 2. Areas of Wisconsin cropland with a nutrient management plan, reported to counties or DNR by agricultural producers and planning professionals, 2003 to 2023 (DATCP 2023 nutrient management planning data and DATCP 2003–23 nutrient management planning data).

One challenge stems from periodic updates to the calculation tool used to determine compliance with PI standards, SnapPlus. New versions of SnapPlus are sometimes released to incorporate the latest data and science, and these changes potentially create new obligations for growers, interviewees said.

For example, updates to SnapPlus calculations that reflect a recent increase in heavy rains could result in more estimated runoff from one year to the next, even if a farmer applies the same amount of phosphorus to their land. So, even

Farm field runoff after a heavy rainfall. Photo by iStock / JJ Gouin

if a farmer uses the same amount of fertilizer each year, SnapPlus could indicate a higher PI value, taking into account increased rainfall.

If phosphorus standards are revised, producers and policymakers would have to consider what in-field technologies and practices can achieve them.

One route is technological. Scientific advances in manure digestion and nutrient concentration could offer new ways to reduce nutrient pollution, especially in concentrated animal feeding operations.

Nutrient concentration systems — often paired with digesters that produce methane — separate out the nutrients from raw manure into a byproduct that can then be used again as fertilizer. In other words, nutrient concentration systems allow farmers to better manage nutrients and thus divert them from water bodies.

However, adoption of this technology so far has been limited by cost and by the difficulty of selling concentrated nutrients to farmers. Some interviewees in the study were also concerned that only large producers would be capable of investing in digestion systems.

A second route to reducing phosphorus runoff would be for farmers to adopt forms of low-input perennial agriculture, such as rotational grazing systems, that generate less nutrient pollution. Some interviewees said that growing perennial agriculture will require training more technical service providers who can advise farmers on transitions to grazing.

To figure out which of these routes work for the state, Rissman says it's important to have dialogues about policy options now.

"How can we support farmers by incentivizing the kinds of practices that are going to be beneficial economically, good for farmers' quality of life, and beneficial for soil and water?" Rissman said.

This story was originally published by FEWscapes.

Poetry, Places, and Partnerships

How does poetry shape how we think about the world around us?

By Laila Smith

A bilingual poetry collection by American writer Anne Fisher-Wirth and German photographer Wilfried Raussert. The project was a collaboration between MCA, the Maria Sibylla Merian Center for Advanced Latin American Studies and Women in Translation Circle of the 4W Initiative.

Sarli E. Mercado is a literary critic, author, and teaching professor at UW–Madison studying the life and work of contemporary Latin American poets. She graduated from Boston University with a PhD in contemporary Latin American poetry, working under the mentorship of the Argentine writer Alicia Borinsky. To Mercado, "working with her — being guided by this poet, writer, and scholar — was such an inspiration."

Their collaboration set the tone for Mercado's career. Many of her current projects are a culmination of partnerships with various organizations across the UW–Madison campus and beyond. Her current collaborations and affiliations include the Latin American, Caribbean and Iberian Studies Program, the 4W Initiative, the Nelson Institute for Environmental Studies, and the Museum of Environmental Sciences at the University of Guadalajara, Mexico, and more.

How did you first become interested in poetry?

Part of the story begins during my childhood when my family and I had to leave our home country of Nicaragua due to war and political unrest in the 1980s. Migration and exile have defined my life since then. After a year in Honduras, we arrived in the United States where I began my studies again. At Bard College as an undergraduate and later in Boston as a doctoral student, reading the works of exiled Latin American writers, I recognized similar experiences to my own; this inspired me to study them further.

How has this transferred over to your work at UW–Madison?

In the past eight years, at UW–Madison, I've joined different transdisciplinary projects linked to academic units: the Latin American, Caribbean and Iberian Studies Program (LACIS), the Nelson Institute, and the School of Human Ecology. Colleagues Alberto Vargas, the associate director of LACIS and Lori DiPrete Brown, director of the 4W initiative (Women & Wellbeing in Wisconsin & the World) invited me to collaborate in UW–Madison's partnership with the Museum of Environmental Sciences at the University of Guadalajara (MCA). This meant a collaboration with the award-winning writers of the José Emilio Pacheco City and Nature Literature Prize founded by the MCA under the direction of Eduardo Santana, who is a UW–Madison alum and a Nelson Institute professor.

In 2018, Lori and I created the Women in Translation

Circle, an international group of translators, writers and literary scholars. We've invited them to lead translation and creative writing workshops, book presentations and other lectures; they've also collaborated in the translation of an anthology by award-winning writers of the Pacheco prize, among other poetic projects. Our goal has been to reach out to the community of scholars, writers and other artists — both inside and outside of academia —including UW–Madison students.

Sarli Mercado

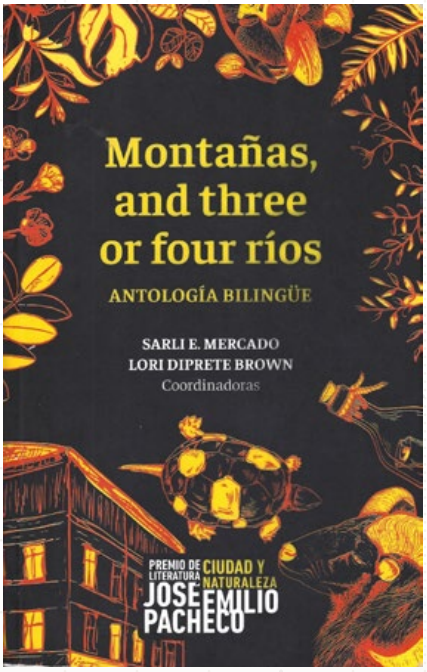
What does your current work look like?
Inspired by my collaboration with the Museum of Environmental Sciences, the Nelson Institute and other scholars and colleagues, my courses on urban design and cultural studies in Latin America include topics on urban ecology and environmental studies, as well as rural or non-urban territories. I also created a course on Translating Cultures and Disciplines. My recent scholarly research on "lyrical landscapes" in poetry and visual arts combines both approaches. I study Pacheco's poetic view of Mexico City, the "post-apocalyptic," or "post-city," as he called this modern megalopolis in reference to its overpopulation and nonstop growth or its environmental impact on the territory.

What makes art and poetry such effective communication methods when talking about ecology?
I really like what the Venezuelan writer Santiago Acosta said to me about this precise idea. For him, art and poetry allow us to rethink and understand categories that seem unmeasurable or disproportionate — such as environmental crises or global warming — making them less abstract, more approachable and concrete. Ecology, thought of as a form of poetic knowledge, for us should not be only about exploring a new language that reconnects the reader with the earth, it is also a way to illuminate the false dichotomy between what we call *nature* and *culture*. It allows us to rethink concepts such as *city*, *nation*, *democracy*, or *humanity*, and a way to reject the hierarchies and artificial boundaries that we've created.

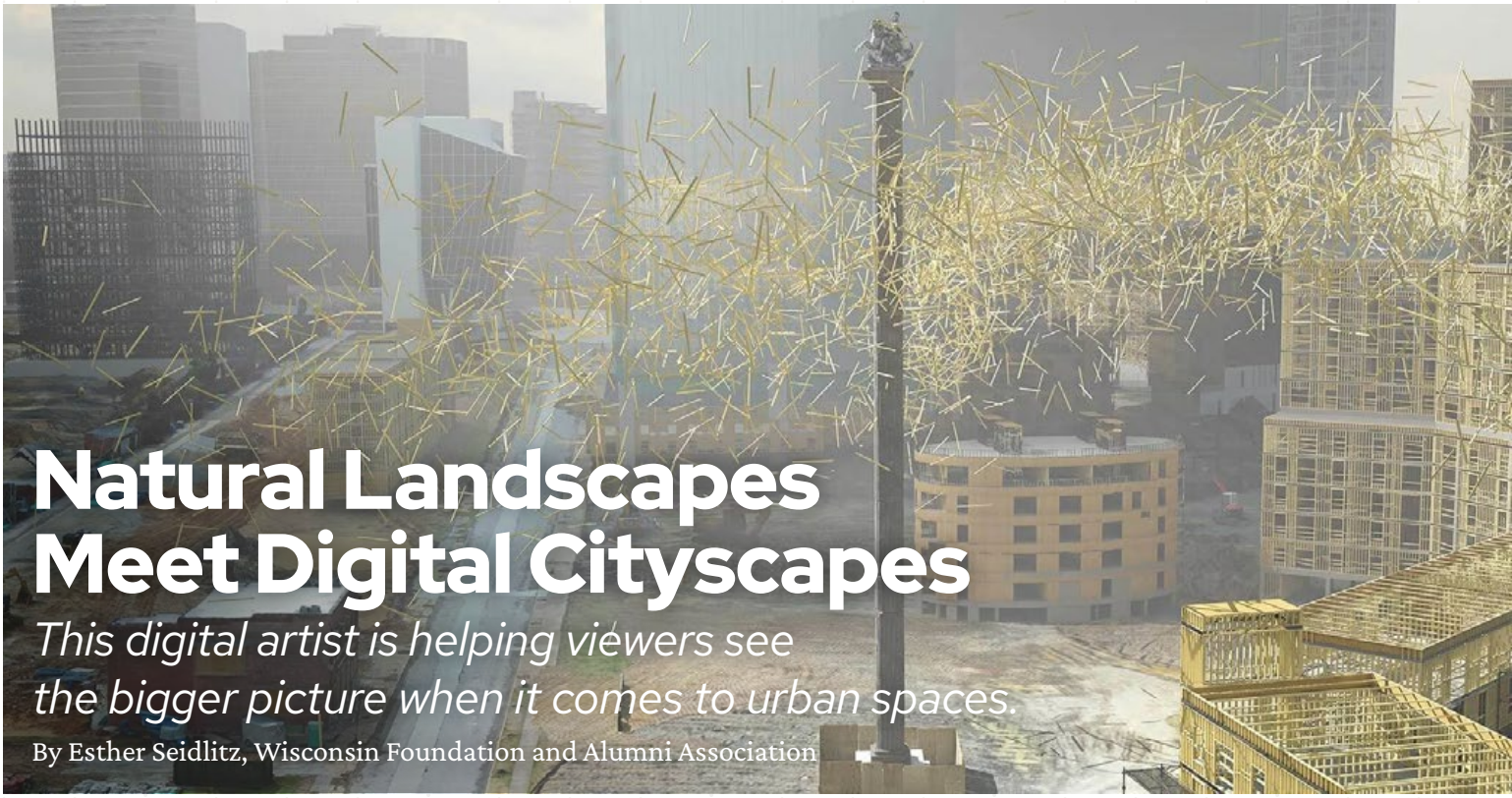
"We can experience poetry as a deep form of understanding ourselves and our connection to the environment,"

— Sarli Mercado

What's one piece of advice you would give to UW–Madison students interested in poetry?
To embrace the poem or poetry as a slow and profound way of reading our reality, particularly in an age of artificial intelligence driven by technological progress, speed, and wonder that can be distracting. Poetry as an act of translation is also a unique code or language of humanity's profound intelligence connected to our emotions, a ritual and a healing practice. We can experience poetry as a deep form of understanding ourselves and our connection to the environment and the "larger community of soils, waters, plants and animals," as Aldo Leopold says.



A bilingual anthology written by Mercado featuring work by the award-winning writers of the City and Nature José Emilio Pacheco Literary Prize and with the collaboration of scholars from UW–Madison and MCA.



Natural Landscapes Meet Digital Cityscapes

This digital artist is helping viewers see the bigger picture when it comes to urban spaces.

By Esther Seidlitz, Wisconsin Foundation and Alumni Association

"pre-qualified," from the series Nickels in Heaven, 2020.

UW professor and artist Tim Portlock was formally trained in media that he now calls analog. "Even though I really liked painting and drawing," he says, "[the artforms] always seemed out of sync with the time that I lived in."

In the late '90s, when the adoption of the internet became widespread, Portlock was attracted to the new capabilities that computers offered. "With computers, you get what's called nonlinear storytelling, where there's more ability for the user or viewer to contribute to what's happening and possibly changing the story," Portlock explains. "I was like 'Oh, this is new and exciting, and if I am doing this, I'm contributing to a brand-new language.' "

Portlock did, in fact, do "this" — two decades ago, he made the transition to digital artforms, including 3-D simulation and gaming technology. But he's still influenced by and drawn to his roots in more traditional media. Landscapes, in particular, continue to be a focus of his work.

"The idea of landscape as an image and as an actual physical place is imbued with a lot of meaning," he says. "As a digital artist, I'm still thinking about the meanings imbued in the image of the landscape and the place of the landscape."

During the financial crisis of 2008, for example, Portlock's work centered on the collective panic people felt over dying cities and nature reimposing itself. His digitally rendered works portrayed the wilderness reclaiming urban spaces and abandoned homes. Since the fall 2023 semester, Portlock has held a joint appointment with the School of Education's Art Department and the Nelson Institute, where he's continued to explore the meaning of natural and urban landscapes in a fast-paced world and changing environment.

His work with cityscapes often delves into national identity, such as the portrayal of American exceptionalism in 19th-century landscape pieces; health and financial crises, like the COVID-19 pandemic; and the juxtapo-

Top: "sundrenched," from the series Nickels from Heaven, 2020. Above: "just steps away," from the series Nickels from Heaven, 2020.

sition of nature in urban spaces. Lately, Portlock has also been interested in applying speculative fiction and alternative historical fiction to his simulations, sharing a virtual look at his vision for the future.

With some of his creations, that vision can look a bit jarring, even dystopian. But every crumbling building, radiant sunset, and overgrown rooftop garden is composed with a bigger picture in mind: a call to action to stop and think about the world around us.

"I'm really into the idea of art activating people to want to do something or make a change or to think more critically about things," he says.

Which leads Portlock to other benefits of digital: reproduction and distribution. Analog — paintings and drawings — are one of a kind. Originals are hard to come by and can be damaged. "With digital," Portlock says, "it's unlimited copies. ... I can put something on a phone and some farmer in rural Africa can see it. That's not possible with painting."

With digital art, Portlock appreciates his ability to break new artistic ground all around the world, extending an opportunity and an invitation to explore visions of Earth's future with everyone.

From the Office of Sustainability

A monthly update from faculty, staff, and students in the Office of Sustainability - Education and Research.

Photo by Lauren Graves

Nothing to wear? Join the club. And then join the swap!

ReWear It Wisconsin is this year's recipient of the Bucky Award for Conservation and Sustainability — an honor presented in partnership with the Office for Student Organizations, Leadership & Involvement (formerly the Center for Leadership & Involvement) to recognize campus leadership in environmental action and awareness.

Founded in 2021, ReWear It promotes conscious consumerism and sustainable fashion by providing students with opportunities to exchange gently used clothing, learn basic repair skills, and rethink their relationship with fashion and waste.

Through biweekly swaps, ReWear It gives students a free, easy way to refresh their closets with size- and gender-inclusive options that make it possible to show up for class, work, Halloween, game day — whatever's coming up — without the financial burden or environmental cost.

"Our impact included 908 items swapped, 1,154,270 gallons of water conserved, and 765.74 pounds of clothing diverted," the group shared in their 2023–24 impact report.

By focusing on what students actually need and building a community around it, ReWear It has become a model for practical, joyful sustainability. In a culture of fast fashion, where trends move quickly and waste builds even faster, ReWear It offers something different: an easy way to get what we need, express who we are, and make choices that align with our values.

"We want people to feel empowered and inspired," they wrote in their award application. "You don't have to spend money to find your style."

To learn more or join them at an upcoming swap, visit rewearitwisconsin.com or follow @rewearitwisco.

Director's Cut

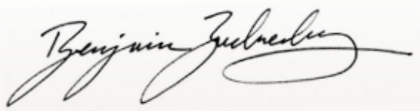
A quarterly update from Ben Zuckerberg, director of the Center for Ecology and the Environment.

The mission of the Center for Ecology and the Environment (CEE) is to foster a community and space for faculty and students to share ideas, enhance scholarship, and promote ecology on campus and beyond. This past semester was an exciting one for CEE! Here are some of the highlights:

- We are pleased to announce the successful conclusion of our Spring Symposium (April 14–15) with an impressive turnout that showcased the diversity of graduate research on campus. We hosted over 100 attendees including a dynamic mix of graduate students, faculty, undergraduates, staff, members of the public, alumni, and emeriti. Our keynote speaker, Matthew Betts from Oregon State University, shared his groundbreaking research on sustainable forestry, biodiversity conservation, and the trials and tribulations of scientific exploration. We also heard from outstanding graduate student presenters on topics such as microbial connectivity in hydrothermal vents, the effects of severe drought on herbivores in Namibia, mapping soil microbial properties at continental scales, automating bumble bee tracking to study how pesticides impact bee behavior, and the cryptic phylo-geography of yeast.
- Also at the symposium, we were delighted to present this year's Aldo Leopold Graduate Research Awards to Gabriela Fleury and Tara Mittelberg. These awards are generously provided by Nelson alumnus Steven Lawry, and support graduate students whose research focuses on the intersection of ecological and societal systems challenges. Sarah Tolbert, the 2024 Aldo Leopold award recipient, presented her research on creating community forest concessions to renegotiate power and development in the Eastern DRC.
- Our undergraduate student chapter of WILD SEEDS (Strategies for Ecology, Education, Diversity, and Sustainability) continues to impress us with their passion and have been active with native planting initiatives on campus and visiting research labs.
- The Queer Ecology reading group, cosponsored with the Center for Culture, History, and Environment, successfully completed its third year. This reading group explores the intersection of queer and feminist theory, posthumanism, and eco-evolutionary science.

None of this would have been possible without the generous support from the College of Agricultural and Life Science, the College of Letters & Science, and the Nelson Institute for Environmental Studies.

I am also excited to announce that we will have a new center director starting next year! I am wrapping up my final year as director, and we will be welcoming Ellen Damschen, a professor in the Department of Integrative Biology and a longtime supporter of the CEE. I have truly enjoyed my time as director and will continue to remain involved. I extend a heartfelt acknowledgment to our tireless executive committee for their support: Kyle Webert, James Crall, Zac Freedman, Sara Hotchkiss, Sean Schoville, Jessica Hua, Jesse Weber, Min Chen, Alyson Fleming, Nicole DesJardins, Stephanie McFarlane, Emily Adler, Pairsa Belamaric, Zach Farrand, Timon Keller, Amy Munes, Brooke Propson, and Robin Higgins. Thank you all for an exciting year and the future of the CEE remains bright!



Ben Zuckerberg

Spring Symposium

A look back at the Center for Ecology and the Environment's annual spring symposium.

By Kyle Webert

Top: CEE director Ben Zuckerberg introduces the Aldo Leopold Graduate Research Award during the spring symposium. Above: Steven Lawry (left) congratulates the award's recipients. Photos by Holly Gibbs (3)

We are pleased to announce the successful conclusion of our recent event, which demonstrated an impressive turnout and diverse participation. With 136 unique registrations, we welcomed 117 attendees on Monday and 113 on Tuesday. Our participants included a dynamic mix of graduate students, faculty members, undergraduates, staff, members of the public, postdoctoral researchers, alumni, and emeriti.

Our keynote speaker, Matthew Betts, shared his groundbreaking research on forest landscape ecology and biodiversity conservation. Betts is a professor in forest ecosystems and society at Oregon State University, leading the Forest Landscape Ecology Lab and serving as the lead principal investigator of the HJ Andrews Experimental Forest LTER Program. His research focuses on the influences of landscape composition on animal behavior, species distributions, and ecosystem functioning. Betts has published extensively on topics such as habitat fragmentation, forest degradation, and biodiversity loss.

The event featured a series of insightful presentations and discussions. On Monday, Katie Klier (Departments of Bacteriology and Freshwater and Marine Sciences) commenced the sessions with her talk on microbial connectivity between deep-sea hydrothermal vents and the oxygen minimum zone. Kimberlie Vera (Department of Forest and Wildlife Ecology) followed, discussing the effects of severe drought on herbivore movement patterns, physiology, and survival in Etosha National Park, Namibia. Sarah Tolbert, the 2024 Aldo Leopold Graduate Award recipient, presented her research on creating community forest concessions to renegotiate power and development in the Eastern Democratic Republic of Congo. The day also included a research poster session and a keynote address by Betts, who explored the challenges and possibilities of conserving forest biodiversity in an age of humans. One of his key findings is that global forest loss disproportionately affects biodiversity in relatively intact landscapes. His studies have shown that even minimal deforestation in these areas can have severe consequenc-

Gabi Fleury (left) and Tara Mittelberg (right) received the Aldo Leopold Graduate Award during, generously funded by Steven Lawry (center).

es for vertebrate biodiversity, increasing the odds of species being listed as threatened and exhibiting declining populations.

Tuesday's sessions began with Soni Ghimire (Department of Soil and Environmental Sciences), who presented on using mid-infrared spectroscopy to predict soil microbial properties at continental scale. Anupreksha Jain (Department of Entomology) discussed automating bumble bee tracking to study the sub-lethal impacts of pesticides on behavior, and Jassim Al-Oboudi (Department of Genetics) presented on cryptic phylo-geography in a peculiar yeast. The afternoon included another research poster session, and a second keynote by Betts, whose studies revealed intricate details about how tropical hummingbirds navigate and interact with their environment, and how plants respond to their surroundings and interact with pollinators. We were also delighted to present this year's Aldo Leopold Graduate Research Awards to Gabriela Fleury and Tara Mittelberg. These awards are generously provided by Nelson Institute alumnus Steven Lawry PhD'88.

At the symposium, Anupreksha Jain shared research on tracking bumble bee behavior. Photo courtesy of Anupreksha Jain

Looking ahead, we are excited to announce that the Center for Ecology and the Environment will hold our Fall Symposium on October 13 and 14, 2025, at Memorial Union. This event will feature talks by UW–Madison faculty who are conducting research in ecology and related fields. We are honored to welcome Barbara Han from Oregon State University and the Cary Institute as our keynote speaker. Han's research focuses on the macroecology of disease and predicting zoonotic diseases using machine learning.

We extend our heartfelt thanks to the College of Letters & Science, the College of Agriculture and Life Sciences, the Nelson Institute for Environmental Studies, and the University Lectures General Fund for their generous support. The event brought together representatives from a wide array of departments and units, showcasing the interdisciplinary nature of our community. We extend our heartfelt thanks to all who attended and contributed to the vibrant discussions and networking opportunities. Your participation made this event a resounding success, and we look forward to future gatherings that continue to foster collaboration and innovation across disciplines.

Aldo Leopold *Graduate Award*

Congratulations to this year's recipients of the Aldo Leopold Graduate Award, which supports students who are advancing knowledge or understanding in both ecological and societal systems, pursuant to the spirit of Aldo Leopold. The award is generously funded by Nelson Institute alumnus Steven Lawry.

Gabriela Fleury

Fleury is working towards her PhD in the Nelson Institute's environment and resources program. With an interest in African carnivores, their research focuses on human-wildlife conflict mitigation in South Africa. Read more.

Tara Mittelberg

Tara Mittelberg is a PhD candidate in the Department of Agricultural & Applied Economics and Nelson Institute's Center for Sustainability and the Global Environment. Her current research is on the indirect effects of cattle sector intensification in the Brazilian Amazon, as well as policies to mitigate modern slave labor.

Embracing Every Opportunity

Anna Staresinic graduates this month with a list of experience ranging from robotics to clothing swaps.

By Sara Nelson, School of Computer, Data & Information Science

If Anna Staresinic had to sum up her journey at UW–Madison in one word, it would be "well-rounded."

"The idea of being well-rounded has followed me throughout my life. The UW stood out to me because it's such a well-rounded university. There's a balance between nature and city life, and though it's a large school, there are pockets of eclectic communities everywhere. I've tried to keep my experience well-rounded in the way that the school and the people are well-rounded," says Staresinic.

Originally from Pittsburgh, Staresinic is majoring in Information Science and Data Science, with certificates in computer sciences and, through the Nelson Institute for Environmental Studies, sustainability. Her academic journey through the School of Computer, Data & Information Science (CDIS) reflects how CDIS empowers students to blend technology, data, and creativity to tackle complex challenges.

"I like to be multidisciplinary. I'm never happy just focusing on one thing. I have so many different interests and I would not have been satisfied with my college experience if I didn't get to put my hands in all the different pots that I'm interested in. I'm always trying to get involved with new things and see what else there is to learn on this campus," says Staresinic.

A Hands-On Approach to Technology

Staresinic has a passion for robotics, which began in middle school with competitions through FIRST Robotics, an organization that prepares young people for the future through a suite of inclusive, team-based robotics programs. She started out working with Lego robots and then moved on to an all-girls team out of Carnegie Mellon University in high school where she began gaining experience with the mechanical, software, and design aspects of robotics.

"Seeing the code I'm writing in a physical test rig or robot is very rewarding. Robotics allows you to get the hardware aspect of things as well as the software side," says Staresinic.

A Passion for Computing and Information Science

In high school, Staresinic honed her programming skills, deepening her passion for computing. But it wasn't until she arrived at UW–Madison that she discovered the breadth of opportunities within CDIS. Through coursework in data science and information science, she found a way to merge analytical thinking with creative problem-solving, shaping a truly interdisciplinary education.

"A lot of the information science classes allow for creative applications of things you learn in your data science or computer science classes. I've gotten to take a bunch of interesting classes about design, creating an interesting user interface, and how we can keep people at the center of technology creations," says Staresinic.

CDIS's flexible structure enabled Staresinic to bridge multiple disciplines, reinforcing connections across her studies.

"Right now, I'm taking a course on human-computer interaction, which counts as both a computer sciences and information science course. It draws on a lot of concepts I learned from LIS 470, which is a design class. In both courses, we look at different software and technology applications and understand how

technology is impacting the people working with it. The courses are all so interconnected which is really interesting to me," says Staresinic.

One of her favorite courses, CS 320: Data Science Programming, introduced her to new data science applications and essential industry tools.

"Through that class, I got hands-on experience with GitLab, which is a critical skill for software engineers," says Staresinic.

Promoting Sustainability

Amongst her technological pursuits, Staresinic is also pursuing a certificate in sustainability. She was inspired to work toward a sustainability certificate after joining Re-Wear It, a student organization that promotes conscious consumerism and sustainable fashion. The organization regularly holds bi-weekly clothing swaps. Staresinic currently serves as clothingswap chair.

Finding Community Through Campus Involvement

Beyond her technical and environmental passions, Staresinic is also a radio show host at WSUM, UW–Madison's student-run radio station. Her involvement on campus is driven by a desire to find community, especially as an out-of-state student. She ultimately found that sense of belonging with the Wisconsin Alumni Student Board (WASB).

"I've been involved in close-knit communities my entire life. Coming from out of state, I was really seeking community upon arriving here," says Staresinic. "I was looking for a group of people who were super enthusiastic about the school and very passionate and down to earth. That is exactly what I got when I joined. I've made some of my best friends from being in WASB and have found such a beautiful community," says Staresinic.

Staresinic serves as president of WASB. The 65-person organization helps encourage students' passion for the school and create strong ties between the university and its students. One of her favorite memories as part of WASB was hosting the All-Campus Party for students and seeing its impact.

"You can give a student the simplest thing like a granola bar and a bagel and it can make their day. Things like that remind me that you can do things that make a difference even if it's something small," says Staresinic.

As president, she also sits on the Alumni Advisory Council, connecting with UW–Madison graduates worldwide.

One of the most valuable lessons she's learned from alumni? No one has it all figured out.

"I've learned it's okay if you don't like your career or if you are leaving college and don't have a job lined up. If you are smart, if you care, and you're driven, you'll figure it out," says Staresinic.

Among the many lessons Staresinic has learned, one stands out: embarrassment is a choice.

"Something is only embarrassing if you make it embarrassing. College is full of too many experiences and opportunities to say no to things out of fear of embarrassment or shame. Go after what you want and explore all your interests; you never know what doors it may open up," says Staresinic.

From left to right: Ali Wagman, WASB operations director; Anna Staresinic, WASB president; and Sara Browne, WASB vice president.

Looking Ahead

Graduating this spring, Staresinic will be joining Oceaneering International, a subsea engineering and applied technology company, as a software engineer.

"I can walk away from my time at the UW feeling very fulfilled. I've gotten involved with so many things that I knew I was interested in and things that I had no idea I was passionate about that I will carry with me for the rest of my life," says Staresinic.

This story was originally published by the School of Computer, Data & Information Sciences

The American Dream Was Buried in Southern Utah

A winning essay from the 2024 Sustainability Writing Awards, hosted by the Office of Sustainability.

By Lily Smogor

Lily Smogor (she/her) is a first-year undergraduate student double-majoring in environmental studies and political science. She puts these passions to work in campus life by being a staff writer for the Wisconsin Undergraduate Law Review and serving as a competing member of the Wisconsin Speech and Debate Society. Lily spends her free time writing short horror fiction and reading about the Colorado River. She hopes to continue her environmental advocacy after graduation by attending law school and pursuing a career as an environmental lawyer.

The twin mesas rise together at the end of the road. They wear a skirt of juniper and yucca, the pinkish-orange rock peeking through only slightly until the mountains steepen. There is a perpetual stillness in the valley air, a dry heat so constant that the slight skittering of lizards and falling pebbles sounds like a chorus of whispers from a time beyond. This is Bears Ears, a national monument that protects the site of the mesas believed to be a shrine of protection for the Diné peoples of the Southwest. It is sacred land to not only the Diné, but the Ute, Hopi, and Zuni Nations as well. It lies just one mile away from a global supply of radioactive waste.

The White Mesa Uranium Mill, constructed in the 1970s as a processing mill for uranium ore, discreetly began accepting radioactive waste from sites across the United States not long after its inception. Now, its global customers include Japan and Estonia, with more likely to join in the benefits of cheap waste disposal as the mill continues to expand its site. The mill extracts what little usable uranium remains in this radioactive

The White Mesa Mill and its waste ponds. Photo courtesy of Ecoflight

waste before disposing of the contents in concrete pools dug just above the Navajo Aquifer. These pools, with a thinner lining meant to hold powdered uranium castoffs, now suspend a sludge of waste over the main source of drinking water for southeastern Utah. The risk is currently unknown; it may take generations for the uranium to permeate the water table, or perhaps a crack in the rock will hasten the process. However long it takes, there is a risk.

The ecological ship can be righted, but it is too late to pretend we are all equally affected by climate change.

– Lily Smogor

When you were last thirsty, did you reach for a water fountain or a tap? Do you know the price of bottled water today? When you shower, do you worry that the water hitting your skin will bring heart and kidney disease to you and your children? Does your water smell of eggs as sulfur and nitrates leech into your home? For many Americans, these are not questions we consider. Even as the youth of America become more climate-conscious; as climate legislation gains popularity; as rising temperatures bring a renewed sense of urgency to many, the inequities of water sustainability are often ignored.

I grew up in an exurb of Chicago, caught between its rural past and its corporate-developed future. The cornfield next to my childhood home leeched nitrous oxide into the atmosphere through fertilizer, and the Fox River bisecting the town, once considered the 7th most endangered river in the nation, was undergoing phosphorus decontamination. I, like many others, barely thought of this. Now, we think about rising temperatures and deforestation and sea levels and hurricanes and droughts and– aren't we so lucky to be in the Midwest? The climate haven with fresh water for decades, the place that will become the Eden of our changed world, is an easy place to take for granted. While we focus on grand global issues of climate change, we neglect its impacts on our home communities and lay the groundwork for the negligent ignorance that lets us bury hundreds of millions of pounds of nuclear waste on sacred Indigenous land. "Out of sight, out of mind" for us is neither for the communities directly impacted by the notion of global progress. Our climate realities will forever be inequitable as long as we allow entire populations and places to be sacrificed in the name of profit.

We exist in more worlds than our own. It is in this whole world, this myriad of beliefs and experiences, that the truth of climate reality becomes clear: it is not "act now before it's too late." It is too late. The ecological ship can be righted, but it is too late to pretend we are all equally

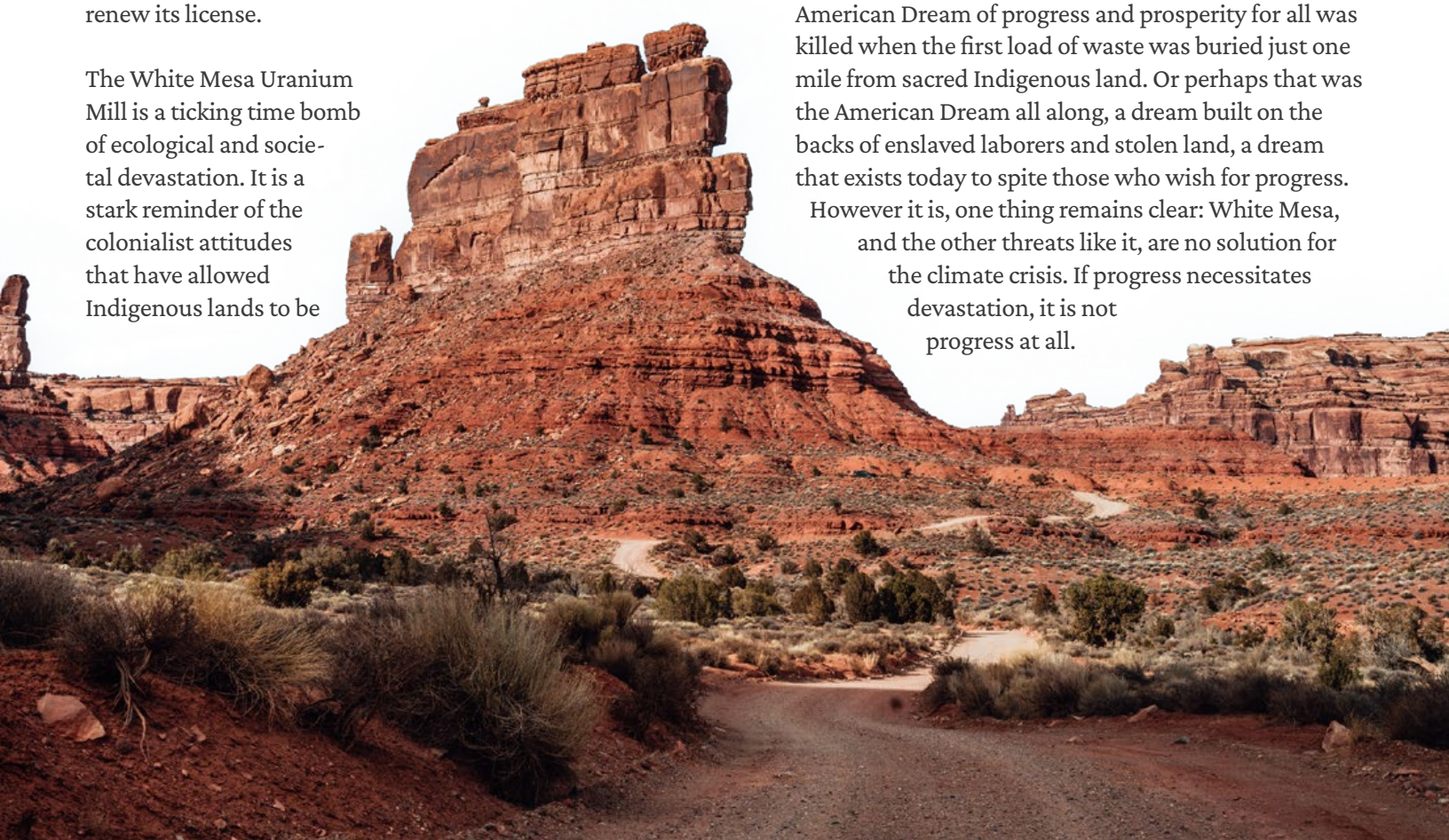
Fox River running through downtown Aurora, Illinois. Photo by iStock / EJ Rodriquez

affected by climate change. Too late to believe individual action will save the planet. Too late to say we stand together. Martin Luther King Jr. said that "the American Dream reminds us that every man is heir to the legacy of worthiness." When we allow profit to take precedence over progress, we are saying that a person's worthiness is dependent on how exploitable the land they were born on is. To exist as equal participants of the global society is to recognize this. Each and every one of us has our personal experiences with climate change as well as global ones, but we cannot let this blindness to others' personal experiences blind us to them. Every scale matters, because there is nothing not interconnected.

Map showing proximity of White Mesa Uranium Mill to the Navajo Nation, Bears Ears National Monument, National Parks and San Juan River watershed. Map courtesy of bearsearscoalition.org

Between the White Mesa waste ponds and the deep Navajo Aquifer, there sits a shallow aquifer much less important to Utah's water supply, but telling nonetheless. As nuclear waste seeps through the plastic lining of the ponds, this shallow aquifer has begun to register contamination from chloroform and nitrates. The natural springs nearby have been increasing in acidity as sulfur settles into the desert rocks. An uncovered waste pond emitted ten times the allowable amount of radon into the atmosphere, increasing health risks for the Navajo Nation and drawing condemnation from the EPA. Trucks carting the waste to White Mesa spread uranium dust, among other contaminants, into local communities. Yet the state of Utah, which gained oversight of the mill in 2004, continues to renew its license.

The White Mesa Uranium Mill is a ticking time bomb of ecological and societal devastation. It is a stark reminder of the colonialist attitudes that have allowed Indigenous lands to be compromised in the name of profit. It is the intersection of environmental racism and a growing push for the supposed saving grace of nuclear fuels. It will not be the last of its kind. As the global threats of climate change become more grave, we must not turn to fast solutions without considering their impacts. When carbon-zero threatens Indigenous communities, it is not a worthy endeavor. We live in a world of myriad climate realities, but no reality holds more value than another. Climate solutions must be equitable, or we become no better off than we are now. The American Dream of progress and prosperity for all was killed when the first load of waste was buried just one mile from sacred Indigenous land. Or perhaps that was the American Dream all along, a dream built on the backs of enslaved laborers and stolen land, a dream that exists today to spite those who wish for progress. However it is, one thing remains clear: White Mesa, and the other threats like it, are no solution for the climate crisis. If progress necessitates devastation, it is not progress at all.



Congrats, Grads!

Last week, hundreds of Nelson students entered alumnihood.

Last weekend, hundreds of Nelson Institute students turned their tassels to become UW alumni. The Friday ceremony, held at the Kohl Center, celebrated doctorates, MFAs, and medical professionals, including six Nelson Institute PhDs. Then on Saturday, May 10, more than 380 Nelson undergraduates and 44 graduate students tossed their caps with thousands of their peers at Camp Randall Stadium. Before the campuswide festivities, we celebrated our students at our annual Spring 2025 Graduation Celebration, held at the Gordon Dining and Event Center. Check out the fun!

Photos by Hedi LaMarr Rudd (5)

DOLLARS RAISED

$26,481

Total Gifts: **147**

$12,500 Matching Funds | **100+** Student Engagement | **1,848** Minutes

Wild Rice Resilience

Alumnus Mike Smale and the WRM cohort investigate Lake Koshkonong

By Noreen McAuliffe

Conducting field surveys in Haights Bay, Lake Koshkonong. Photo by Sarah Gravlee

In August on Lake Koshkonong, the wild rice grows to such a great height that Mike Smale and his fellow graduate students in the Nelson Institute water resource management cohort would sometimes find themselves lost in it as they paddled through the thick rice bed in canoes and kayaks to conduct their research.

Smale, who grew up in West Bend, Wisconsin, said that like many Wisconsinites who spent summers going to family cottages up north, he was always drawn to water. It wasn't until he was an undergraduate at UW–Madison and had a summer position as a field technician at Trout Lake Station, the Center for Limnology field station, that he realized working with water could be a career.

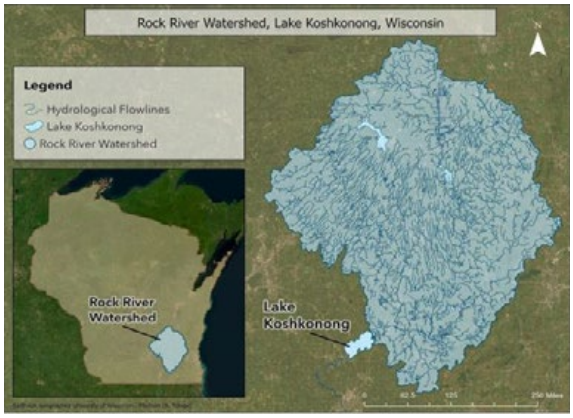
When Smale began looking for post-graduate degree opportunities, he was interested in the water resource management (WRM) program because of the interdisciplinary work of the practicum, where students apply the skills they've learned through coursework to a community-based research project that results in a published report. Smale was excited about the opportunity to "instill all the material you're learning into an actual report." Smale also noted that the WRM was one of the few master's programs he found where he would be given an opportunity to apply for a teaching assistant position that allowed for tuition remission and a stipend, which made attending the program financially feasible for him.

The 2022 WRM cohort consisted of 10 students: Sarah Gravlee, Daniel Igirimbabazi, Tomasz Kowalczuk, Jared Lucian, Evelyn Moran, Daniel Raudonis, Mike Smale, Kathryn Smith, Hannah Stuart, and Abby Tekiela, who were advised by Anita Thompson, WRM program chair and Department of Biological Systems Chair at UW–Madison.

> *"Water science is an inherently broad field that incorporates everything from land use management to policy."*
>
> — Mike Smale

Smale and the cohort were adaptable as they pivoted from an originally planned study site at Lake Poygan to their focus on Lake Koshkonong, southeast of Madison between Fort Atkinson and Janesville. While most research on wild rice has been conducted on northern wild rice (Zizania palustris), the cohort wanted to investigate the southern species as a potentially more climate resilient species.

The cohort produced *the 2021-23 practicum report, "The Environmental Conditions Affecting Southern Wild Rice (Zizania Aquatica) on Lake Koshkonong, Wisconsin: An*



Above: 2021–23 Water Resources Management cohort. Right: Study area, Lake Koshkonong, Wisconsin.

Exploratory Analysis." The report is an interdisciplinary investigation of the history of the lake, the cultural significance of wild rice for Indigenous people, and the ecological and hydrological factors that affect the growth of southern wild rice.

The students learned about where the wild rice in Lake Koshkonong grew from Wisconsin Department of Natural Resources staff, and confirmed the location by looking at satellite images from Google Maps. Their challenge as Smale described it was to "figure out the logistics of how do we get our boats into the water and get to the site." Initially, they faced a 2.5-mile paddle to reach their study site, but once they contacted the local sports club, Otter Creek Duck & Hunting Club, and the club gave them permission to launch the boats from their property, access to their site became easier. The sports club not only made getting *to* the stand of wild rice, they also helped the group get *through* the mucky habitat by lending them mud poles.

Water quality was Smale's particular focus for the practicum report, and he appreciated the opportunity the project gave him to work with the water samples from "beginning to end." He collected the samples in the field, processed them in the lab, analyzed the results, and wrote them up for the report. The correlation Smale found between water clarity and wild rice growth was most interesting to him, with the thickest beds of rice found in the clear, low turbidity water where Otter Creek flowed into the lake. Smale hopes the publication of the WRM report will allow project partners in the local community to see the recommendations that resulted from the cohort's research.

"Water science is an inherently broad field that incorporates everything from land use management to policy, and the WRM program really encapsulated that," said Smale. The broad reach of the program prepared Smale for his recent wide-ranging work as the J. Philip Keillor Great Lakes - Wisconsin Sea Grant Fellow. In that position he worked on a project researching the climate resiliency of Great Lakes coastal wetlands. This May he'll be moving on to a new role as watersheds programs specialist with the Clean Lakes Alliance in Madison, where he'll coordinate volunteer and education outreach events and analyze data from citizen monitoring projects — building on the community-focused model of applied knowledge he learned from his time in the water resource management program.

Learn more about the water resource management program and how you can support the program.

Cohort member Daniel Igirimbabazi collects water chemistry data via YSI Sonde. Photo courtesy of Hannah Stuart

Save the Date!

2025 Rendezvous on the Terrace

Thursday, Sept. 18, 2025 | Tripp Commons, Memorial Union

Don't miss this chance to reconnect with your fellow Nelson Institute alumni, meet current students and faculty, and of course, enjoy a sunset over Lake Mendota.

Registration and more information coming soon!

Rendezvous ON THE TERRACE