Natural Resources Institute

DIVISION OF EXTENSION

UNIVERSITY OF WISCONSIN–MADISON

2025 ANNUAL REPORT

What's Inside

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Natural Resources Institute
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UNIVERSITY OF WISCONSIN–MADISON

We are dedicated to serving **Wisconsin land, water, and communities**.

The Natural Resources Institute is grounded in a simple but powerful idea: Understanding and caring for the world around us requires people, science, and community working together. Every day, we explore the complex relationships between land, water, ecosystems, and the people who depend on them. Our work spans everything from community-engaged science and natural resource decision-making to stewardship, youth environmental learning, and statewide access to trusted research and data. Nothing in our natural systems exists in isolation, and neither does the work required to protect them.

In this report, you'll see how our programs and centers come together to support communities across Wisconsin. Whether helping residents make informed choices about water quality, strengthening forest resilience, collaborating with Tribal communities to expand wild rice research, connecting young people to the outdoors, or providing essential geological and climatological information, our institute meets communities where they are and responds to the challenges they face. The impact is visible in healthier watersheds, more informed land management, stronger local collaborations, and people of all ages becoming more connected to the natural world.

As we look toward the years ahead, we are guided by a set of strategic priorities that strengthen both our internal foundation and our statewide reach. We are committed to fostering a workplace where staff feel supported and engaged, while building financial resilience so our programs — and the communities they serve — have the stability needed to adapt in a changing world. And we are working to demonstrate our impact, ensuring that the stories, data, and outcomes of our work are communicated clearly and meaningfully to partners, funders, and the public.

Our goal is to bring you into the broader story of how the Natural Resources Institute helps Wisconsin navigate complex natural resource challenges, builds strong community capacity, and supports a future where people and nature continue to thrive together. Thank you for being part of this journey. Together, we are strengthening Wisconsin's natural resources and the communities that depend on them.

Warm regards,

TRICIA GORBY
Assistant Dean and Director, Natural Resources Institute
Division of Extension

Our Mission

We work at the **crossroads of natural resources and society** to **improve and sustain ecosystems**, strengthening the communities and livelihoods deeply connected to them.

Our Vision

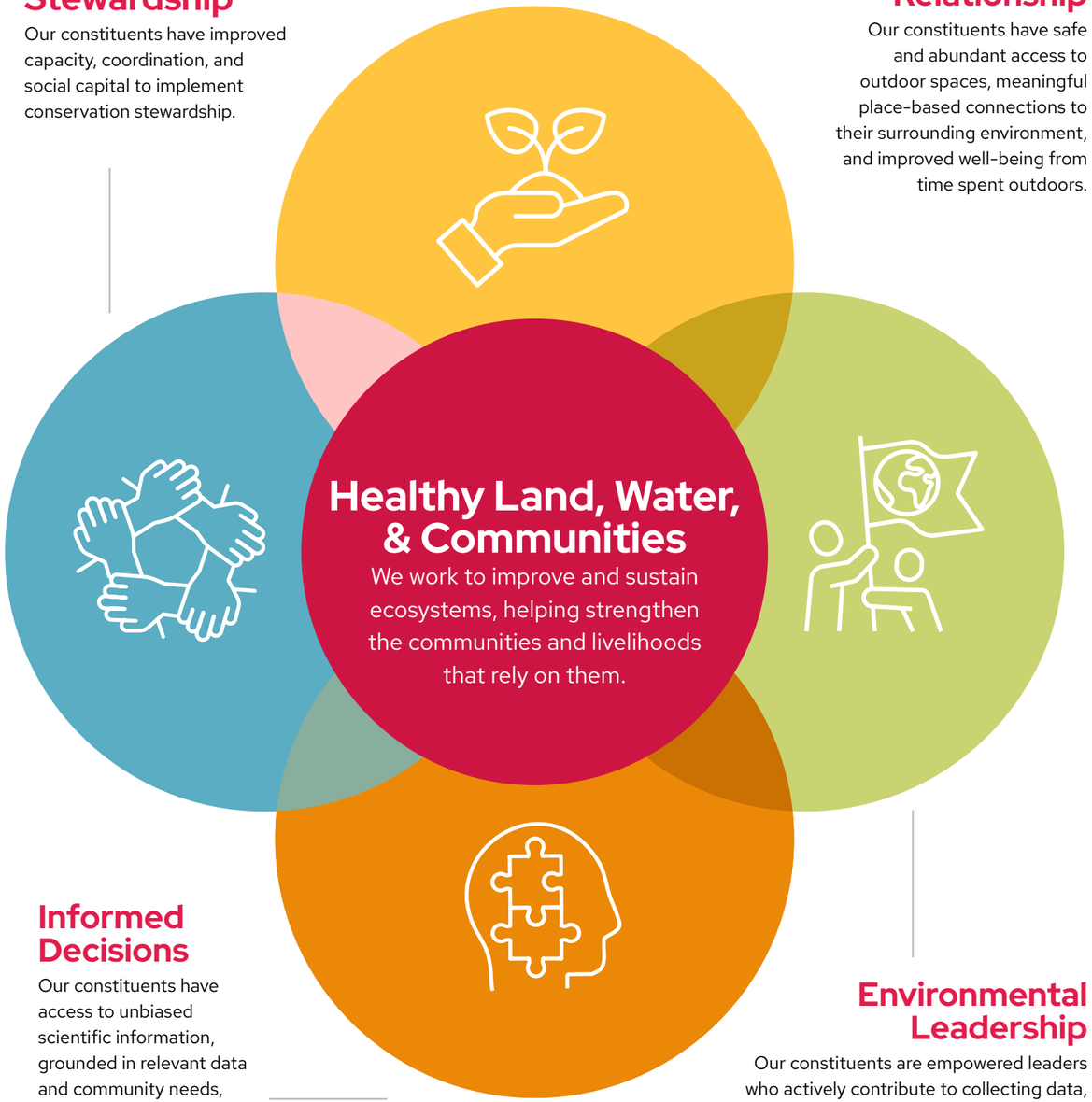
We envision a future where **all communities have the capacity, knowledge, and relationships needed to improve and sustain ecosystems**, enriching the communities and livelihoods that depend on these vital natural resources.

Collaborative Stewardship

Our constituents have improved capacity, coordination, and social capital to implement conservation stewardship.

Human – Nature Relationship

Our constituents have safe and abundant access to outdoor spaces, meaningful place-based connections to their surrounding environment, and improved well-being from time spent outdoors.



Informed Decisions

Our constituents have access to unbiased scientific information, grounded in relevant data and community needs, to help them support and promote healthy, resilient ecosystems.

Environmental Leadership

Our constituents are empowered leaders who actively contribute to collecting data, making decisions, and carrying out actions that strengthen resilient ecosystems and benefit all communities.

Our Work in 2025

8,720
youth received environmental education through Upham Woods Outdoor Learning Center and the Lake Superior National Estuarine Research Reserve

460,029
water quality data points supporting early detection of potential harmful algal blooms in the St. Louis River

642,532
people in Wisconsin reached through educational activities involving **1,005 Master Naturalists** volunteering in all 72 counties

108
landowners received a new forest stewardship plan, covering **5,523 acres of woodland** in Wisconsin

46
educational presentations engaging communities in **21 counties** through the Wisconsin Geological and Natural History Survey

2,957
Wisconsin households received private well water testing through the UW-Stevens Point Center for Watershed Science and Education's Water WELLness testing programs.

530
unique stream sites monitored across Wisconsin

Our Programs

Community Engaged Science and Education Program

The **COMMUNITY ENGAGED SCIENCE AND EDUCATION PROGRAM** fosters lifelong connections between people and nature, enhancing community and organizational capacity to care for Wisconsin's natural world through place-based and outdoor educational programming, volunteer engagement, and community science.

Water Program

The **WATER PROGRAM** builds the capacity of individuals, organizations, and communities to improve surface water and groundwater quality through research, science-based education, collaboration, and stewardship. The Water Program works with local and state partners to promote land stewardship, including adoption of best management practices, to maintain healthy waters and improve those that are impaired.

Forestry and Wildlife Program

Together with partners the **FORESTRY AND WILDLIFE PROGRAM** provides outreach and education programs to Wisconsin's forestry and wildlife community. These programs foster thriving forests, a robust forest products industry, and sustainable wildlife management.

Our Centers

Lake Superior National Estuarine Research Reserve

The **LAKE SUPERIOR RESERVE** is part of NOAA's **NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM** dedicated to protecting and studying coastal ecosystems in collaboration with, and service to, the surrounding community. The Reserve is dedicated to research, education, outreach, and stewardship along Lake Superior's coast.

Upham Woods Outdoor Learning Center

UPHAM WOODS is a residential, year-round, outdoor learning center for youth and adults, offering environmental education and outdoor recreation programs, summer and family camps, professional workshops, and conferences and retreats. The center is an innovative outdoor laboratory connecting youth and adults with positive outdoor experiences that create individual connection to nature and ignite curiosity, cultivate leadership, and create a lasting impact on the natural world and the communities we serve.

Wisconsin Geological and Natural History Survey

A state institution since 1897, the **WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY** provides objective scientific research and information about the geology, mineral resources, and water resources of Wisconsin through publications, technical talks, and responses to inquiries from the public. These activities support informed decision-making by government, industry and business leaders, and the citizens of Wisconsin.

Wisconsin State Climatology Office

The **STATE CLIMATOLOGY OFFICE** collects, analyzes, and shares climate information with Wisconsin communities while leading the way in climate science education and research. The State Climatology Office is collaboratively supported by the Nelson Institute's Center for Climatic Research, the Division of Extension, and the Department of Atmospheric and Oceanic Sciences at UW–Madison.

The Freshwater Scholars Program

Building Wisconsin's Water Workforce Through Youth Nature Experiences and Career-Connected Learning

The **FRESHWATER SCHOLARS PROGRAM** is a collaboration between UW–Green Bay and Extension, linking high school students to community-based learning projects, university research, and water science career experiences. The program is a summer-long, paid research experience connecting Northeast Wisconsin high school students with university faculty and staff and conservation community partners. Freshwater Scholars participants work closely with a mentor who supports their development of research and project-design skills, while participating in cohort-based field trips to visit watershed projects around the region. The program, which is supported by the Freshwater Collaborative of Wisconsin, increases student awareness of water and environmental science career pathways and ensures a skilled water and environmental science workforce to manage and protect Wisconsin's freshwater resources for years to come.

The program began in summer 2022 with 2 high school students and continues to grow annually with 15 scholars participating during the summer of 2025. In addition to research placements at the UW–Green Bay campuses, there are research placements with the Oneida Nation Land, Environmental, Agriculture & Food as Medicine Division, Wisconsin Sea Grant, Northeast Wisconsin Land Trust, and Baird Creek Preservation Foundation.

In program evaluations, students note increased confidence and technical skills, and they valued the opportunities for networking with conservation professionals and their cohort peers, and the real-world experiences that immersed them in water science.

Wisconsin Master Naturalist Program

Fostering Lifelong Connections Between People and Nature Through Environmental Stewardship

Wisconsin's natural beauty is a shared treasure, but its future relies on the dedication of those who turn their passion into action. In 2025, the **WISCONSIN MASTER NATURALIST** program proved once again that when well-informed volunteers unite, the impact ripples across our state's forests, prairies, and waterways.

We welcomed *318 new Master Naturalists* into our fold in 2025. Through 40 hours of expert-led training with 21 host organizations, these individuals gained the knowledge and confidence to transition from nature enthusiasts to conservation leaders. They now join a powerful network of over *2,000 trained stewards* committed to lifelong learning and service. In 2025, Master Naturalists volunteered in all 72 Wisconsin counties, contributing over *90,000 hours of service* to local organizations.

Master Naturalists come from all walks of life — college students, retirees, farmers, nature guides, young parents, and teachers — all united by a common purpose and representing the backbone of Wisconsin conservation. As we look toward 2026, the Wisconsin Master Naturalist program stands ready to continue this vital work, ensuring our state's wild places remain resilient for generations to come.

> "The Master Naturalist program has opened up so many opportunities, and I want to do them all."
>
> *– A 2024 trained Master Naturalist with over 1,500 volunteer hours*

> "Learning how to use multiple different instruments was great, but being trusted to run them on my own with no guidance was a very good feeling."
>
> *– A 2025 Freshwater Scholars participant*

Wisconsin Stewardship Plan Project

Strengthening Resilient Lands and Local Economies Through Sustainable Forest Management

Private landowners own nearly 70 percent of the 16 million acres of forested land in the state, yet fewer than one in four have a forest management plan. At the same time, 42 percent of timber harvested comes from these same properties. Sustaining the state's vital forest industry depends on informed, long-term decisions on private lands. Helping landowners develop management plans ensures Wisconsin's forests continue providing economic and ecological benefits well into the future.

Extension's **WISCONSIN STEWARDSHIP PLAN PROJECT** helps bridge this gap by connecting landowners who lack a long-term forest management plan with a consulting forester and cost-share funding to cover the cost of developing a plan. Additionally, Extension works with these landowners to help them understand their plans and connect with additional professionals and financial resources to support continued actions identified in the plans.

By the Numbers
2025 Forestry and Wildlife Program

1,101 individuals who own over **71,632 acres** of woodlands attended forestry and wildlife classes

108 properties with **5,523 acres** of woodlands represented in the new management plans

3,731 subscribers to **Woods Words**, a monthly newsletter with timely tips to make the most of your woodland

To date, 134 landowners have received a new plan, covering 5,985 acres of woodland in Wisconsin. By removing financial barriers and helping landowners access cost-share programs, the project equips participants to more readily implement forest management practices. Importantly, Extension does not leave landowners with a plan and walk away — we stay connected. Extension staff continue to engage with woodland owners after their plans are completed, offering guidance, resources, and problem-solving support so they feel prepared and confident to steward their forests for years to come.

Wisconsin Water WELLness

Promoting Water Resilience and Community Health Through Private Well Education and Testing

Wisconsin depends on groundwater, with roughly one-quarter of the population relying on private wells and 95 percent of communities relying on municipal wells as their principal water supply. While municipal water supplies are required to adhere to strict water quality guidelines and must regularly test their water supply, the some 800,000 private wells in the state have no such requirements. Extension's **WATER WELLNESS PROGRAM** assists private well owners with access to water testing kits and information to help them keep drinking water safe for their families. In 2025, Extension staff and staff at UW–Stevens Point conducted 27 Water WELLness programs in 18 Wisconsin counties.

The Extension-affiliated **CENTER FOR WATERSHED SCIENCE AND EDUCATION** (CWSE) at UW–Stevens Point houses the state-certified **WATER AND ENVIRONMENTAL ANALYSIS LAB**, which analyzes well water samples sent in by Wisconsin residents and communities. The Extension team at CWSE provides follow-up in-person education after well testing to ensure landowners understand their test results, learn about common water contaminants, and have more confidence to manage their wells.

To expand access beyond in-person events, Extension educators created a free self-paced online course for private well owners to monitor and manage their water quality. In addition, educators developed an online guide for interpreting private well lab results and identifying actions that well owners can take to improve their water quality. Together, these tools provide timely, accessible, and science-based water quality information to well owners across the state, especially in rural areas, empowering them to take actions that limit their exposure to water contaminants that can increase risks to their health.

Furthermore, data gathered through Water WELLness populate the Wisconsin Well Water Quality Viewer. This interactive online map enables residents and local officials to compare up-to-date regional groundwater quality and make informed decisions based on local conditions.

By the Numbers

2025 well water testing and education

5,392 households tested their drinking water through the Water and Environmental Analysis Lab

610 people attended follow-up well testing educational programs

8,740 people accessed the Wisconsin Well Water Quality Viewer

Indigenous Food Sovereignty

Supporting Sustainable Food Systems and Tribal Partnerships Through Culturally Rooted Stewardship

For Ojibwe people, wild rice — manoomin — is far more than a food source. It is a sacred relative, central to culture, identity, and community well-being. Yet over the past century, manoomin beds in the St. Louis River Estuary near Superior, Wisconsin, were nearly lost. Only in the last decade, after sustained restoration efforts, has the rice begun to return.

As the rice rebounds, a new question has emerged from Tribal members and local residents: How do environmental contaminants from industrialization affect the health of restored manoomin and those who eat it?

To answer this question, **OJIBWE TRIBAL NATIONS** and the **LAKE SUPERIOR RESERVE** collaborated to launch a multiyear effort to test soil, water, and manoomin plants and seeds for contaminants, including heavy metals and PFAS. This work was led by the Lake Superior Reserve and the Hua Lab at UW–Madison with financial support from the UW–Madison Rural Partnerships Institute, funded by the USDA National Institute for Food and Agriculture.

The team compared heavy metal levels in parched manoomin from the estuary to published data on white rice. Early findings show that in most cases, manoomin from the St. Louis River Estuary contains lower levels of heavy metals than what has been reported in white rice grown in the United States.

The team continues to analyze data and share results directly with the Tribal members and organizations whose concerns informed the research, including the 1854 Treaty Authority, Fond du Lac Band, and the Great Lakes Indian Fish and Wildlife Commission.

Rivers2Lake Program

Providing Young People Critical Life and Work Skills Through Place-Based Science Learning

The **RIVERS2LAKE PROGRAM**, as part of the Lake Superior Reserve, provides meaningful professional development for Superior area teachers through transformative field experiences, yearlong mentoring, and co-teaching.

The program focuses on training teachers to design and deliver outdoor, local, and inquiry-based experiential learning. Teachers receive resources, field opportunities, professional networks, and direct instructional support to help them integrate meaningful outdoor and Great Lakes–focused STEM experiences into their classrooms. In 2024–2025, 16 teachers spanning kindergarten through high school participated, gaining 802 hours of professional development through one-on-one mentoring, observation, co-teaching, and a four-day Rivers2Lake Summer Institute. As a result, teachers built confidence and skill in providing coastal-connected learning for their students.

What we are hearing from teachers:

Between the beginning and end of the school year, there was a **20 percent increase** in how regularly teachers integrated Lake Superior watershed-focused content into their curriculum.

> "We have had so many wonderful learning opportunities and I gained confidence to incorporate outdoor learning to all subject areas and to see its positive impact on student learning."
>
> *– A third-grade teacher*

Wisconsin Maple Sap Forecast

Strengthening Sustainable Maple Production Through Informed Decision-Making

In 2025, the Wisconsin State Climatology Office partnered with the National Weather Service to develop the **WISCONSIN MAPLE SAP FLOW FORECAST TOOL**. The page includes maps that help maple producers track optimal maple sap flow conditions during the spring. On average, maple trees can produce one to three gallons of sap per day during the sugaring season, but production varies day-to-day as flow is highly sensitive to weather changes. Maple sap has a higher probability to flow, and flows in higher volumes, on days when the low is below freezing and the high is above freezing. The Maple Sap Decision Support Services Page uses forecasts of daytime maximum temperatures and nighttime minimum temperatures to project sap flow conditions up to a week in advance.

Statewide maps are produced twice daily with the most likely amount of sap flow for a day: high (one to three gallons or more of sap per day), medium (one-quarter to one gallon), low (less than one-quarter gallon), or no flow. A point-and-click map shows the projected maple sap flow for the following seven days for a select location in Wisconsin.

The State Climatology Office is also working with local maple syrup producers to test the Maple Sap Flow Forecast Tool and see how it compares to local sap flow data from their sugarbush, which will help researchers continue to improve the accuracy of the forecast models.

With a trend toward fewer days with a low below freezing, sap flow is becoming more unpredictable — a trend the team further details in their newly developed Maple Story Map. Understanding when weather is ideal for tapping is critical, and the Maple Sap Flow Forecast Tool will help maple producers better predict when sap flow is high for their specific area.

By the Numbers

2025 State Climatology Office outreach and education

76 presentations were given, reaching nearly **6,000 individuals**

115 articles citing the SCO from local and national publications

200 students attended the SCO's hands-on weather and climate workshops

Monitoring Aquatic Invasive Species Using Environmental DNA

Providing Youth with Real-World STEM Skills While Protecting Wisconsin's Water Resilience

Many youth are eager to explore the outdoors and engage in hands-on, science-based learning, yet barriers such as limited program availability, transportation, and access to natural areas often prevent them from participating in nature-based STEM experiences.

Extension staff at Upham Woods Outdoor Learning Center designed an experiential STEM field and laboratory experience for youth to examine whether there is evidence of invasive carp in the Wisconsin River. The program enables youth to participate in a community-based research project using environmental DNA (eDNA) to serve as an early detection network for invasive carp in the upper Wisconsin River and provide valuable experiential learning and STEM training.

This program allows youth to experience innovative biotechnology tools, actively engage in stewarding Wisconsin's waters, and experience hands-on STEM education while also providing critical monitoring data to help manage the risk of aquatic invasive species to Wisconsin ecosystems and our economy.

A total of 372 youth participated in the Upham Woods pilot invasive carp monitoring program in 2025.

> "[I liked best] the opportunity to engage in real world, place-based learning that incorporated both field and indoor lab work, all in one setting! I think my students really enjoyed feeling like they collected their own materials and data and in turn were able to see their individual results."
>
> *– Baraboo High School teacher*

> "I liked having the opportunity to experience what real lab work is like."
>
> *– A student who participated in the eDNA program*

By the Numbers

2025 Upham Woods education and outreach

Participants served

7,974 youth

2,953 adults

10,972 total

Program type

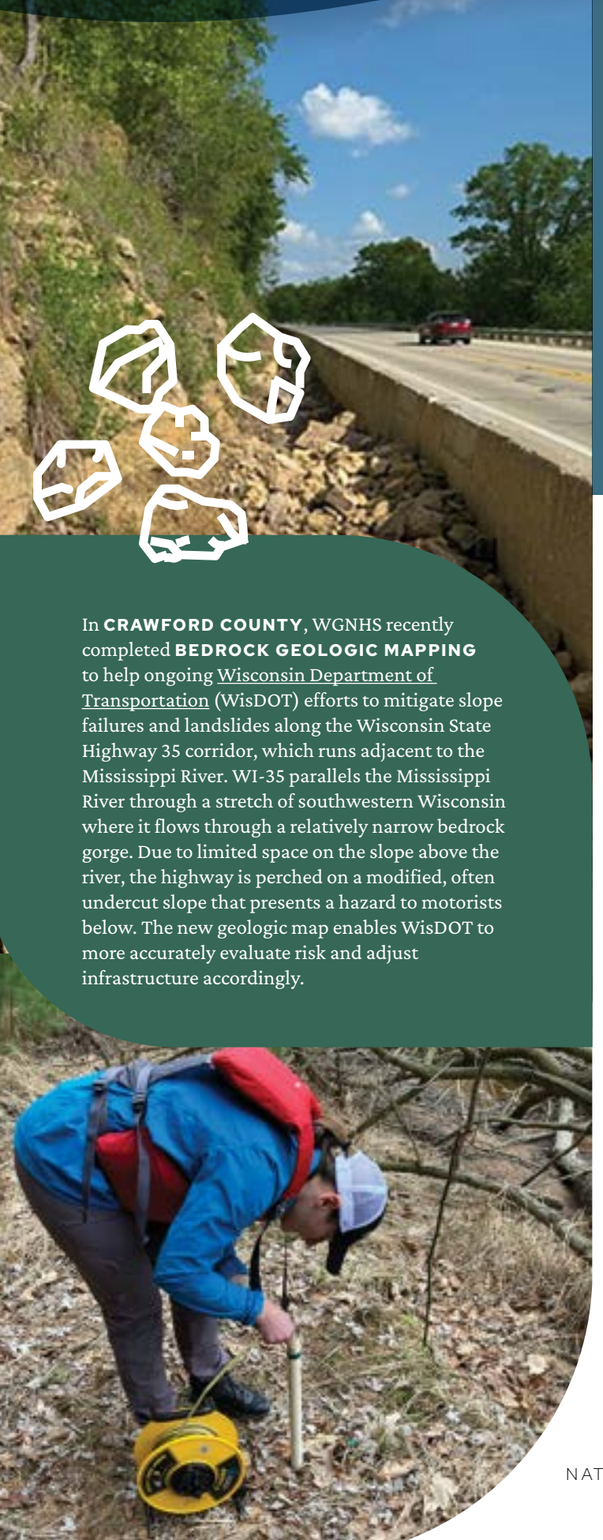
137 **onsite youth** educational events

42 **onsite adult** conferences, retreats, and trainings

36 **interactive youth environmental educational programs** held at local schools, community centers, and libraries

86 **different schools** engaged

38 **counties** reached with programming



Providing Science-Based Insights to Strengthen Local Lands, Water Resources, and Decision-Making

A state institution since 1897, the Wisconsin Geological and Natural History Survey (WGNHS) provides objective scientific research and trusted information on Wisconsin's geology, mineral resources, and water resources. Through publications, technical presentations, and responsive public engagement, WGNHS equips communities and decision-makers with the knowledge needed at local and statewide scales to make informed decisions.

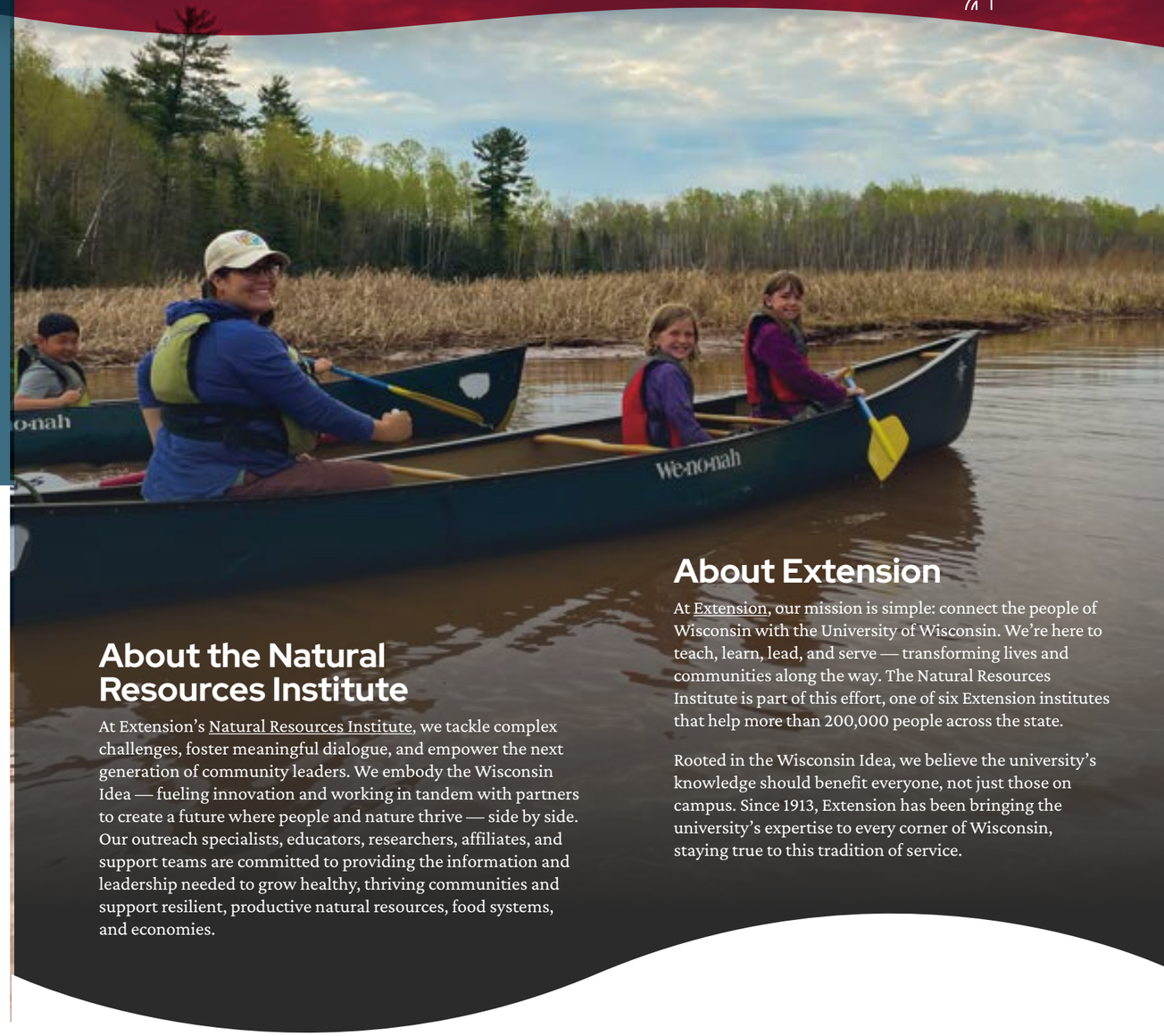
The practical impact of this work can be seen in counties across Wisconsin.

In **CRAWFORD COUNTY**, WGNHS recently completed **BEDROCK GEOLOGIC MAPPING** to help ongoing Wisconsin Department of Transportation (WisDOT) efforts to mitigate slope failures and landslides along the Wisconsin State Highway 35 corridor, which runs adjacent to the Mississippi River. WI-35 parallels the Mississippi River through a stretch of southwestern Wisconsin where it flows through a relatively narrow bedrock gorge. Due to limited space on the slope above the river, the highway is perched on a modified, often undercut slope that presents a hazard to motorists below. The new geologic map enables WisDOT to more accurately evaluate risk and adjust infrastructure accordingly.

In **BURNETT COUNTY**, WGNHS recently published a **COUNTY HYDROGEOLOGIC ATLAS**, which offers a comprehensive interpretation and analysis of groundwater resources. It encompasses assessments of the water-table elevation and groundwater flow directions, depth to the water table, depth to bedrock, distribution of groundwater recharge, relative vulnerability of groundwater to contamination, and hydrogeologic cross sections. The previous county atlas was over 35 years old; since then, land use has changed significantly and over 8,000 new wells have been drilled throughout the county. These new wells provide new data allowing for the creation of a more detailed, more useful hydrogeologic map.

Dave Ferris, the outgoing county conservationist in Burnett County, notes using the atlas to understand flood risk and water quality is a high priority for the county board of supervisors. "We've been getting excessively high groundwater, so the seepage lakes have been going way up, and people's basements have been flooded," said Ferris. At the same time, there have been more questions about water quality. "In agricultural areas, people ask if their water is safe and will it remain safe if an agricultural operation moves into the area and spreads manure."

The updated hydrogeologic atlas will help the county to identify the areas and populations most at risk for groundwater contamination, informing outreach efforts that encourage appropriate water testing. The information also provides a scientific foundation for conservation agriculture strategies aimed at protecting and improving groundwater quality.



About the Natural Resources Institute

At Extension's Natural Resources Institute, we tackle complex challenges, foster meaningful dialogue, and empower the next generation of community leaders. We embody the Wisconsin Idea — fueling innovation and working in tandem with partners to create a future where people and nature thrive — side by side. Our outreach specialists, educators, researchers, affiliates, and support teams are committed to providing the information and leadership needed to grow healthy, thriving communities and support resilient, productive natural resources, food systems, and economies.

About Extension

At Extension, our mission is simple: connect the people of Wisconsin with the University of Wisconsin. We're here to teach, learn, lead, and serve — transforming lives and communities along the way. The Natural Resources Institute is part of this effort, one of six Extension institutes that help more than 200,000 people across the state.

Rooted in the Wisconsin Idea, we believe the university's knowledge should benefit everyone, not just those on campus. Since 1913, Extension has been bringing the university's expertise to every corner of Wisconsin, staying true to this tradition of service.

Connect with Us

Connect with our **outreach specialists, educators, researchers, and affiliates** at

naturalresources.extension.wisc.edu/about-us/people/

Stay in touch on the latest **natural resources news, events, and stories** through our bimonthly newsletter.

https://go.wisc.edu/ExtNRINewsletter

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Natural Resources Institute Impact Report 2025

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