



**Rare Plant  
Monitoring  
Program**

# **2023 Annual Report**



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## Thank You, Volunteers!

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# Editor's Corner



As many of you know, 2023 was my first year with the Rare Plant Monitoring Program. I had a hard time knowing what to expect coming into a program that so many, especially Kevin, had already put so much care and commitment into over the years. All I can say is that you



have exceeded my expectations. I am continuously impressed by the botanical knowledge, enthusiasm and commitment to conservation of our volunteers. I have already learned so much from you all and feel lucky to get to share in your stories of rare plant discovery, disappointment and everything in between. But enough about me, let's talk more about the true stars of the show: you, the volunteers!

2023 was a great year for the Rare Plant Monitoring Program. In this annual report, you'll find a story about one volunteer's years-long quest to rediscover a Wisconsin special concern plant and the people who helped him along the way. You'll hear about milkweeds, sedges, aquatic plants, orchids and more.

Each year, we like to remind you of the value of your work as rare plant monitors, but in this report, you'll hear more details from Kevin about how the data you collect are used. You'll be introduced to the two new species of the year and learn more about some of your fellow volunteers. Thanks to all of you who have shared your stories and reports with us this year. We hope you will enjoy reading some of those stories in this report.

**We have lots of ideas to continue improving the program, but first, we want to hear from you, the folks for whom it matters most.**

So, what's to come in 2024? We're getting excited about the upcoming growing season and looking forward to sending you off on your first rare plant surveys. We have lots of ideas to continue improving the program, but first, we want to hear from you,

the folks for whom it matters most. We'll be sending out a survey, so please consider taking a few minutes to give us some feedback. As always, we're always open to new ideas, so please feel welcome to reach

out. For 2024, we're looking forward to a couple of in-person events and hope to bring some additional, exciting opportunities.

Thank you for all the work you have done for rare plant conservation in Wisconsin, and enjoy the 2023 annual report!

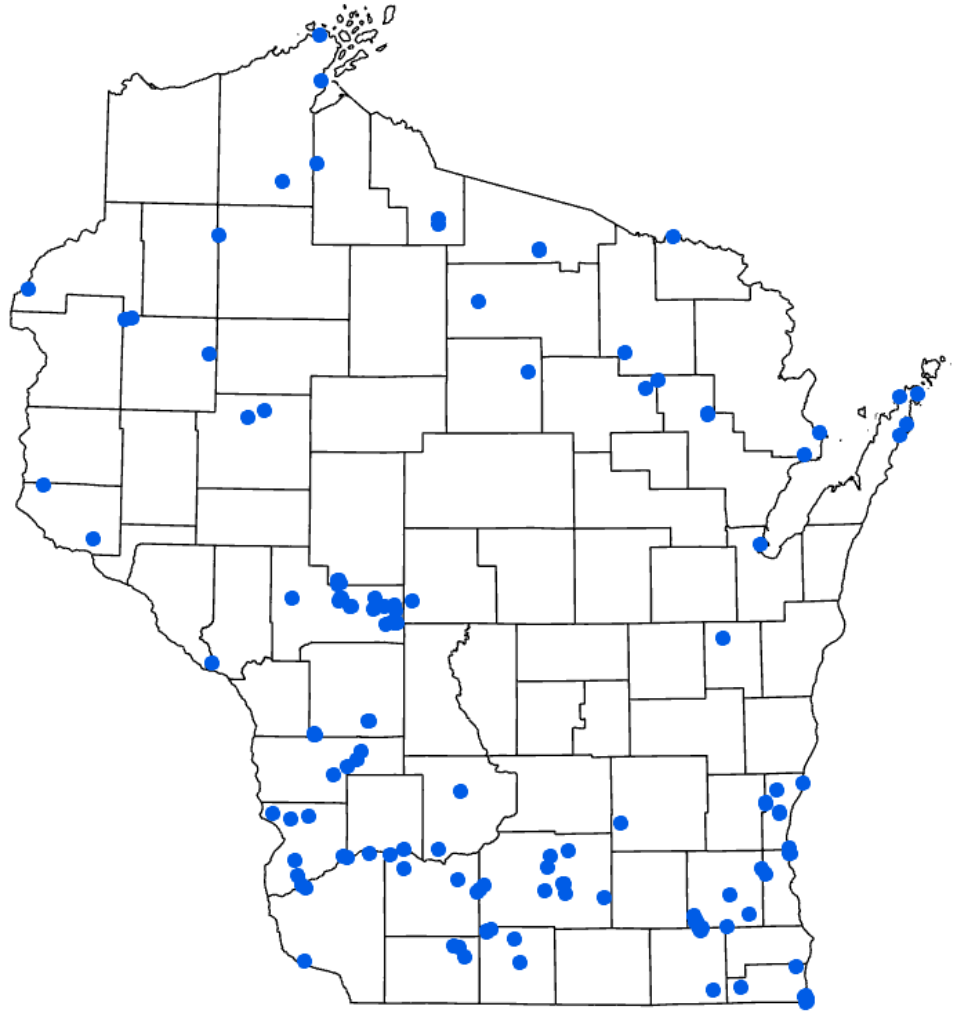
*Jessica Ross and Kevin Doyle*

# 2023 Highlights

This year, fieldwork took Kevin and me all across the state, and we share similar personal highlights. Some of our favorite work was doing aquatic plant surveys in the Chequamegon-Nicolet National Forest, during which we found 14 rare plant populations, and I learned that aquatic plant identification isn't so hard if you have the right key (and having Kevin to help didn't hurt).

Another personal highlight we shared was pollinating the federally threatened eastern prairie fringed orchid (*Platanthera leucophaea*) at a site where it hadn't been seen in six years. Kevin found a new population of the state endangered Wolf's spike-rush (*Eleocharis wolfii*), and we both added species to our "life lists." For me, this included several species, and Kevin added two to his extensive list: handsome sedge (*Carex formosa*) and slender sedge (*Carex gracilescens*).

In 2023, you, the Rare Plant Monitoring Program volunteers, also had many highlights from across the state. Fifty-two volunteers submitted a total of 178 reports from 39 counties, over half of the counties in Wisconsin! Some volunteers submitted one report, and others up to 20. All these efforts play a significant role in helping us understand the state of rare plants in Wisconsin and inform how we might conserve them, which you'll hear a



little more about later in the report. We hope you feel like each of your surveys has been a highlight of your field season. Putting together this report has certainly been a highlight for me. Collectively, your rare

plant reports comprise a large and important dataset, but individually, each report has a lot of meaning, too. Here are some of the highlights of the year:



Don Evans

## Aquatic Plants Abound

Sometimes it feels like terrestrial plants get all the attention, but Wisconsin has 29 rare aquatic plant species. Of these, the most represented group is the pondweeds (*Potamogeton* species), which contains eight rare species. This year, **Don Evans** found new populations of half of these pondweeds: snail-seed pondweed (*Potamogeton bicupulatus*), algae-leaved pondweed (*Potamogeton confervoides*), Oakes' pondweed (*Potamogeton oakesianus*) and Vasey's pondweed (*Potamogeton vaseyi*). If you were looking for inspiration to try out an aquatic plant survey, here it is!



Nancy Lizette Berlin

### You Can't Always Get What You Want

Unfortunately, 29 surveys were unable to relocate rare plant populations in 2023. Although not finding what you're looking for is disappointing, the results are important status updates that give us a better understanding of how a species is doing in the state. Some notable negative updates include **Christine Bohn** on giant pinedrops (*Pterospora andromedea*), **Heidi Conde** and **Nancy Lizette Berlin** on brittle prickly-pear (*Opuntia fragilis*) and **John Boldt** on broad-leaved twayblade (*Listera convallarioides*).



Jeff Steele

### A Multitude Of Milkweeds

We put out the call to update purple milkweed (*Asclepias purpurascens*), and you answered! This year, purple milkweed was one of the most surveyed plants. Volunteers submitted seven reports, including information on a new population found by **Chris Kirkpatrick** in Crawford County. These surveys also included two negative reports from **Joanne Kline**, who surveyed two sites in Lafayette County. Volunteers didn't stop there. They also submitted two reports on dwarf milkweed (*Asclepias ovalifolia*).



Liz Birkhauser

### The Woodland Dangler Wrangler

In the Rare Plant Monitoring Program, we're lucky to have multiple volunteers who are excited about the challenge of identifying sedges. Drooping sedge (*Carex prasina*), which reaches the western edge of its range in Wisconsin, is an aptly named member of the "woodland danglers," a section of sedges with pendulous spikelets. **Liz Birkhauser** updated a population that hadn't been observed in 1996. All the plants she observed were in fruit, making tricky sedge ID a breeze.



John Boldt

### Here, There And Everywhere

We all know that Rare Plant Monitoring Program volunteers are a dedicated bunch, willing to travel far and wide for surveys. Some volunteers really went the distance this year, literally. **John Boldt** travelled almost as far as you can go in the state with 330 miles between surveys. **John Zydowicz** and **Christopher Noll** also traveled an impressive distance — 150 miles between surveys.



Derek Anderson

### The Lone County Record

This year, there was one county record reported. A county record is a population that represents the first reported occurrence of the species in the county and is important for documenting a species range and how it may be changing over time. **Derek Anderson** found putty root (*Aplectrum hyemale*) in Barron County. It was a good year for putty root observations with three additional new populations found and 10 total reports submitted by other volunteers.



Wisconsin DNR

### A (False) Dandelion Detective

To the casual hiker, prairie false-dandelion (*Nothocalais cuspidata*) might look a bit like a regular old dandelion, but **Jeff Steele** is no casual hiker! This year, Jeff found a population in Dane County that hadn't been documented in 20 years. While these plants have a passing resemblance to common dandelions, their long, narrow leaves and their presence in high-quality, dry, gravelly prairies are good indicators of this species.



### Not One, But Two

One of the species most often reported by Rare Plant Monitoring Program volunteers over the years is putty root (*Aplectrum hyemale*), especially as the plant appears to be moving northward in the state. One thing that's much less common is an update on a population that was last observed over 20 years ago. This year, **Anna Demers** combined the two! She had 21-year updates on not one but two populations of putty root in Chippewa County. These updates might give a hint of what's to come for this plant as the climate continues to change.



### Spectacular Spleenworts

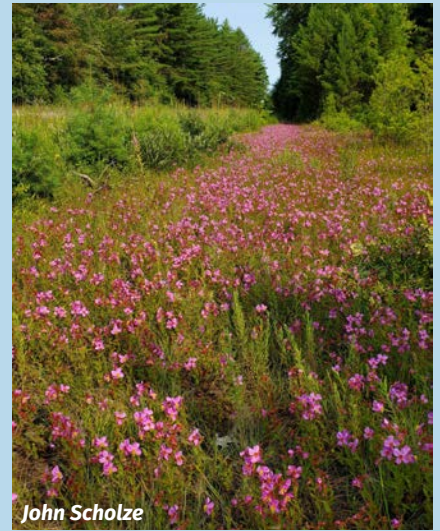
2023 was a great year for maidenhair spleenwort (*Asplenium trichomanes*). While some may not consider ferns particularly exciting, this is not the case for maidenhair spleenwort. It can be found on cool, shaded cliffs where many other plants can't grow. This year, **Jesse Koyen** discovered a new population in Door County, and **Ben Redding** rediscovered a population that hadn't been seen in 32 years. The maidenhair spleenwort isn't the only thing that's spectacular; these volunteer survey efforts are, too!



### Turning Over A New Leaf

Volunteers were busy this year discovering new populations of rare plants- 31 total. Some of you had a knack for finding these.

**Ben Redding** found seven new populations, including butternut (*Juglans cinerea*), Kentucky coffeetree (*Gymnocladus dioica*), glade mallow (*Napaea dioica*) and beak grass (*Diarrhena obovate*). With the help of his kids and moral support from their dog, Ben and his family are on a roll.



### Looking For Plants In Overlooked Places

We often highlight **John Scholze** for his heroic efforts to survey sedges, but that's not the entire story. John completed 20 surveys this year, the most of any volunteer. In addition to this feat, John is particularly good at finding rare plants in places that are often overlooked. Many of his reports are on clustered sedge (*Carex cumulata*), a plant that seems to do well in disturbed sites. This year, John also updated two large populations of Virginia meadow-beauty (*Rhexia virginica*) that were growing near the side of the road.

# The Five-Year Search For Maryland Senna

In 2019, Rare Plant Monitor George Riggan developed an interest in northern wild senna (*Senna hebecarpa*). He can't really explain why he gravitated toward this particular plant, more that it chose him. After surveying and updating several populations of the special concern plant, George decided to take on another challenge: Maryland senna (*Senna marilandica*). Maryland senna is even rarer in the state, with only three records, the most recent seen about 50 years ago. George has described northern wild senna plants as tall and showy, saying they "look very distinctive." He had assumed Maryland senna might be similar. As it turned out, this was not the case.

George began his search for Maryland senna by revisiting the most recently documented population, one observed in the 1970s. George rediscovered the population, only to discover that it had been misidentified. Over the last year of senna surveys, George had become one of the leading experts in the state on these plants. Unfortunately, with the discovery of the misidentified population, the number of historical Maryland senna populations in the state had dropped. Now, only two remained, one last seen in 1883 and the other in 1911.

Around the same time, Kevin Doyle had heard about a potential population of Maryland senna on public land in Grant County. He knew just the person for the job of relocating it. Unfortunately, the location of this population was uncertain, with GPS coordinates estimated from aerial photos and



George Riggan and Bridget Rathman with Maryland senna.

foggy memories. George visited the site that fall and searched everywhere with no luck. He returned in the summer when plants would be flowering, and again, after hours of searching, no luck.

"While disappointed," George said at the time, "I haven't given up and will search again next summer when the yellow blossoms

should show up like a flashlight in the dark!"

**"I guess I have a stubborn streak. I went out so many times fully expecting it to jump up and greet me."**

**George Riggan**

The following year, there was another lead. Bridget Rathman, the DNR's field ecologist for the Southwest counties, had seen some interesting plants while doing restoration work at the same site George had surveyed the year before and thought they



*The seed pods of Maryland senna are an important feature for identifying it correctly.*

could be senna. She passed along the new coordinates, and George searched again, but he still could not find the population.

“I guess I have a stubborn streak,” says George. “I went out so many times fully expecting it to jump up and greet me.” Each time George went out and had an unsuccessful search, there would be a new lead that revived his interest. George persevered. Finally, in 2023, George and Bridget returned to the site together and found a healthy-sized population of Maryland senna, the first officially documented in the state in over 100 years. “This isn’t all about me,” says George, repeatedly insisting on the team of people who had helped with rediscovering this population — Jeff Lorch and Corey Raymond, who had documented the population in 2013, Bridget Rathman and Kevin Doyle, among others. Sometimes, it takes a team to rediscover a rare plant.

What comes next for George? He isn’t done asking questions about Maryland senna. During his five-year search, George found a planted

population of Maryland senna about 10 miles away from the population he rediscovered on public land. “I’m not big on coincidences,” says George. He wonders if the population he found in 2023 may have been seeded by a bird from the planting, but this is hard to know without genetic testing. Let this be a message to geneticists and researchers out there: if you’re interested in native senna, here’s an opportunity for you!

George has some additional advice for rare plant monitors who are just starting out: “A person needs to start simple, find a plant that chooses you, a plant that for whatever reason, you have an interest in.” George started monitoring rare plants by surveying known populations that had been assigned by Kevin and eventually, as his knowledge grew, began finding them on his own. George says, “It’s also fun for me. If it wouldn’t have been for having new leads, I might have given up.” We are lucky that George’s persistence and help from others along the way led to this exciting discovery of rare plants in Wisconsin.



How does one tell the difference between northern wild senna and Maryland senna? According to George, there are two features he uses most often. He also notes that a hand lens is helpful for identification. The fruits of northern wild senna have segments that are the same width and length. Maryland senna, on the other hand, has fruit segments that are about twice as long as wide, making it look like the seeds are laying sideways in the pod. Another distinguishing feature between the two is the shape of the petiolar glands, or the small brownish bump near where the leaf attaches to the stem. In northern wild senna, the glands are shaped like a club, with a thin part near the base, and in Maryland senna, glands look more like a cylinder or a cone.

There’s also a happy ending for the Maryland senna. After George and Bridget surveyed the population this summer, George flagged the population so it could be easily relocated. Bridget and her crew plan to remove the shrubs and small trees growing over the senna. This will create a much more habitable site for the Maryland senna population to thrive. We think George sums this up best: “Volunteer monitors and management staff working hand in hand!”



# How Do We Use Rare Plant Monitoring Program Data?

By Kevin Doyle

Each year, we receive hundreds of rare plant reports. They come in many forms: observations on iNaturalist, forms on Survey123 and the DNR's online reporting system, narrative emails and even the old-fashioned U.S. mail. Once submitted, though, it might feel like your rare plant data disappear into the ether. Because rare species are so vulnerable, the detailed information on where they occur needs to be protected. It's a critical part of their conservation, but it also makes it more difficult to share how this information is used. This might be a good time to pull back the curtain.

## Conservation Assessments

Perhaps the most obvious way that rare plant reports are used is to assess how these sensitive species are doing. Without intentionally monitoring them, it would be impossible to know whether populations are increasing, decreasing or holding steady. In some cases, reports drastically change our understanding of a species' status. For example, Rare Plant Monitoring Program volunteers regularly find populations of rare plants not seen in decades. This was the case with Oklahoma grass pink (*Calopogon oklahomensis*), in which volunteers recently discovered the only naturally occurring population in the state. This is especially important right now because the DNR is in the process of updating the Wildlife Action Plan and Species of Greatest Conservation Need lists. Over the last few months, Jessica and I have pored over hundreds of rare plant reports, piecing together population trends, weighing threats and trying to

foresee the futures of over 500 plants. In some cases, our preconceptions about a given plant were wrong, and it wasn't until we put all the reports together that a new picture emerged.

## Management

Since habitat degradation is a leading cause of rare species decline, habitat management is often the most important conservation tool we have. With so many species in peril, targeted management is critical. Rare plant reports help connect the need for management with the people doing it on the ground. For example, in 2014, Rare Plant Monitoring Program volunteers John and Maria Scholze reported on brush encroachment upon a population of the federally threatened prairie white fringed orchid (*Platanthera leucophaea*) near Oshkosh. Their warning was a call to action and resulted in more work parties to clear brush and prescribed fires. As the habitat improved, orchids popped up in a new part of the prairie for the first time in 2020.

## Environmental Review

Of course, there are some cases where the on-the-ground management is not compatible with rare plants. If a road needs to be widened, a trail established or a pipeline repaired, there will inevitably be impacts to rare plants. To identify what projects are likely to "take" rare plants, reports are fed into a database that project managers can use to evaluate potential impacts. If the project can't be adjusted, the DNR will work with the managers to minimize and mitigate impacts as much as possible. Rerouting a trail, conducting a timber harvest on frozen ground while the plants are dormant



or moving individual plants out of harm's way are all examples of how conservation biologists can work with project managers to reduce or prevent the loss of rare plants.

## Property Designation Or Funding Acquisition

Rare plant reports can also direct large-scale conservation efforts by highlighting conservation priority areas or by bolstering applications for funding. Habitat management is expensive, often requiring lots of equipment, manual labor and repeat visits, and it's often conducted by private landowners, small organizations or nonprofits. In short, using resources efficiently is critical, and grant funding is usually necessary. In 2018, Rare Plant Monitoring Program volunteer Alex

Bouthilet and The Prairie Enthusiasts received funding from the DNR to acquire a savanna in Pierce County, which hosts one of Wisconsin's largest populations of the state-endangered ground plum (*Astragalus crassicaulis*). The importance of the site in the statewide conservation of ground plum certainly enhanced their application.

There are other ways rare plant data are used, too. Raising awareness, for example, about the unique but vulnerable members of our flora through field trips, social media posts or story maps are also important tools for conservation. Weaving all the bits and pieces of data together into a coherent story is necessary to

communicate their importance, and since there are so many avenues in which rare plant data are used, there are a lot of people who can play a part in conservation.

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# Meet Your Rare Plant Monitors

Meet three Rare Plant Monitoring Program volunteers who have been consistently active for five years or more. These folks are amazing volunteers and pretty interesting to get to know.



Don Evans has been a rare plant monitor since 2017. He focuses on aquatic plants but also does terrestrial plant surveys across northern Wisconsin.



Heidi Hankley joined in 2018 but has been a volunteer at York Prairie State Natural Area for much longer. She focuses her survey efforts there.



Vanessa Brotske has been a rare plant monitor since 2016. Most of her surveys have focused on revisiting populations in Brown County.

## What's your favorite rare plant?

Don: Algae-leaved pondweed (*Potamogeton confervoides*). It is very rare, has such fine one-veined leaves and floats delicately in the water; all quite marvelous.

Heidi: Honestly, I find all plants wonderful, but my favorite rare plant to seek out is prairie bush clover (*Lespedeza leptostachya*). Every time I find it, it's like greeting an old friend — a delicate and resilient old friend.

Vanessa: Dwarf lake iris (*Iris lacustris*).

## What's your background in plant conservation, and what inspired you to become a rare plant monitor?

Don: My childhood was spent in western Upper Michigan, surrounded by much forest and many clear and refreshing lakes. In college, I took several botany courses and a research-oriented ecology seminar on my way to a degree in biology. I veered off into human medicine but am happily back as a biologist. I started doing rare plant monitoring when I retired, as I hope to make some impact in the realm of conservation. I love exploring such neat places and getting acquainted with so many unique plants that fascinate me.

Heidi: I was born with a love of nature and studied ecology and resource management in college. I spent a number of years working for the National Park Service on projects involving native plant propagation and revegetation as well as forest fire ecology. My family and I now live on seven acres in Green County, and I started volunteering at York Prairie State Natural Area about 10 years ago. Around five years ago, I learned about the Rare Plant Monitoring Program from Jared Urban, DNR State Natural Area volunteer coordinator, and took the training. The volunteer management work that I do at York Prairie provides me with opportunities to also look for and report on rare plants, so it's a great two-for-one deal!

Vanessa: I was a high school biology teacher and decided to go back to school to get my Master of Science. I started the Environmental Science and Policy degree program at UW-Green Bay in 2015. My thesis centered around the pollination, seed dispersal and germination of dwarf lake iris. During my time as a student, I also was involved with monitoring established plots of dune thistle (*Cirsium pitcheri*). I graduated in the spring of 2018, and continuing to monitor dwarf lake iris and dune thistle seemed like the natural thing to do!

#### **What has been your favorite survey?**

Don: I really enjoyed several trips to one of the lakes in Vilas County last summer. There were two special concern plants there, one not previously identified, and friendly people enjoying some happy recreational time in their lives. An ecologically healthy place is shared in a healthy manner.

Heidi: My favorite site to survey is York Prairie State Natural Area. In addition to relocating known rare plants, it's been exciting to find and

document new species of concern as management activities continue to improve the quality of the site.

Vanessa: I love surveying the northern tubercled orchid (*Platanthera flava*)! It is a short hike to the survey site, which was really helpful this summer when I was eight months pregnant. Unlike dwarf lake iris and dune thistle, which have a large number of plants over a widespread area, I can actually count the number of orchids in the small area that they are located in. It's fast and easy to get this survey done!

#### **What's something you wish you had known when you started monitoring rare plants or that you think might help other new folks?**

Don: I am a little more disappointed than I thought I would be when I don't find the plant I am searching for, even though negative surveys also have value. A common human feeling I suppose. I use more references such as books, online photos and descriptions from other field notes than I thought I would. "Plant Identification Terminology," a book by James and Melinda Harris, has been critical to knowing the plant structures needed to figure things out. I would have failed at this without it.

Heidi: I think it's important to know that you don't have to be an expert on all rare plants to get started. For me, doing a survey gives the opportunity to enjoy bite-sized, deep-dive learning on that one species.

Vanessa: All the sites that I survey, someone else has shown me. Definitely get together with an experienced monitor if you can to see exactly where to go and what to look for.

#### **What are you looking forward to doing next?**

Don: I would like to survey a new

pondweed, such as Hill's pondweed (*Potamogeton hillii*), as a challenge. It seems to be a northern plant in hard water environments, a little different than places I have been. I also want to focus on taking better photos and keying out more of the flora out there, rare or not.

Heidi: I'm looking forward to continuing my work at York Prairie State Natural Area, watching the site improve and seeing what new plants I can find. My time spent among the plants is a major influence on my art practice, and I plan to continue to celebrate native plants and our connections in my printmaking and pottery.

Vanessa: I am planning to hike the entire Ice Age Trail by segments, so I am really looking forward to seeing the different plant communities across the state!

#### **A bonus question for Don: I think a lot of people are intimidated by aquatic plant ID. What do you think those people should know about monitoring aquatic plants?**

Don: Kevin mentioned at one of my first trainings that there was a couple doing aquatic surveys because they enjoyed paddling their kayaks. It seemed like a good fit, as my wife and I really enjoy that also, especially in the kayak I built. The places I go for aquatic surveys are often undisturbed, quiet, peaceful and full of unexpected beauty that I like to take photos of. The plants can be learned; just do one at a time and learn the common ones and major groups. The navigation is usually not hard. I commonly take small samples home (not of the rare plants) to help figure them out later with good light and all my books. Counting is pretty imprecise, I confess, but not difficult either. If the John Bates book, "Wisconsin's Wild Lakes," resonates with someone, they should really like these surveys.

# Species Of The Year

The species of the year for 2023 was Missouri rock-cress (*Boechera missouriensis*). One valiant rare plant monitor, Don Evans, took us up on the search for this plant. Although he was unable to relocate the population, his search gave us a valuable update on a population that hadn't been surveyed in nine years.

This continues the trend of recent declines for Missouri rock-cress, and because of this, it could be a good candidate for addition to the Endangered and Threatened Species list. This shows the value of our monitors' reports, even if they are unsuccessful in finding the plants they're searching for. Surveys like this with negative data allow us to reassess a plant's status and, in turn, may allow us to give certain plants greater protection in the state.

## 2024 Species Of The Year

Each year, the Rare Plant Monitoring Program picks plants deserving special attention for the following year. In 2024, we will have two species of the year. Monitors are not required to survey these plants, but we hope they might consider it. By highlighting these plants, we hope to get a fuller picture of their statuses in the state. If you have been unsure about choosing a survey in the past, these plants are a great place to start. Our 2024 species will provide opportunities throughout the state, so consider requesting a survey near you for the coming year.

## Prairie Parsley Species Overview

Prairie parsley (*Polytaenia nuttallii*) is a Wisconsin-threatened plant in the carrot family. In the state, 44 populations have been reported, but only five have been observed in the last 20 years. In addition, six populations have been surveyed recently without success.



Dave Czoschke

## Habitat And Range

Prairie parsley stretches from Texas to Wisconsin, where it is found across the southern half of the state in dry to wet-mesic high-quality prairies and open areas that were once savannas. Commonly associated plant species include big bluestem, giant goldenrod, stiff goldenrod, flowering spurge, downy phlox, common spiderwort, hoary puccoon and needle grass.

## Biology

Prairie parsley is a biennial or short-lived perennial. After germinating, it remains as a basal rosette for two or more years. When conditions are right, it flowers, fruits and then dies. Plants are often pollinated by small bees, flies and wasps. Although one plant can produce many seeds, many of these will not grow to maturity. Prairie parsley seed requires a long winter dormancy, and plants are slow to develop even when germination occurs.



Dave Czoschke

## Identification Tips

The best time to identify prairie parsley is when it is in flower, in May and June, or in fruit, through August. Many members of the carrot family have white flowers, so prairie parsley's yellow flowers are a good feature for identification. It can be distinguished from other yellow-flowering members of the carrot family by its leaves, which are two or three-times compound. It is most

likely to be confused with golden alexanders or the non-native wild parsnip, but these have much less finely divided leaves than prairie parsley.

### Conservation Concerns

At the southern end of its range, prairie parsley seems more secure, but in Wisconsin, it has been declining in recent years. This is likely due to multiple factors, including the loss of native prairie to agricultural and commercial development and lack of capacity to manage remaining prairie and savanna habitat. Prairie parsley is fire dependent and requires active management to remove thick layers of thatch from building up and preventing seed germination. Many of its historical populations in Wisconsin have likely already been lost, but we hope rare plant monitors might prove us wrong this year!

### White Adder's-mouth Species Overview

White adder's-mouth (*Malaxis monophyllos* var. *brachypoda*) is one of 17 rare orchids

native to Wisconsin. In the state, 52 populations of white adder's-mouth have been reported. However, only 16 of these have been observed in the past 20 years. Five populations have been surveyed recently without success.

### Habitat And Range

White adder's-mouth is found in conifer or black ash swamps, often in heavily shaded areas. Common associates include northern white-cedar, balsam fir, black spruce, black ash, sphagnum, gray alder, queen lady's-slipper, goldthread and small bishop's-cap. Populations are scattered throughout the northern half of the state, with a high

concentration in the northeast. There are also a couple of records from the southeast, though only one of these has been seen in the last 100 years.

### Biology

Not much is known about the biology of white adder's-mouth. Fitting with its small flowers, it is pollinated by small flies or fungus gnats. Like many other orchids, its fruit is a capsule, and its sawdust-like seeds are spread by air currents. White adder's-mouth can also regenerate each year via underground pseudobulbs.

### Identification Tips

The optimal identification period for white adder's-mouth is June through August. Blooming occurs in June, and flowers can be distinguished from those of other orchids by their small

size and their lower lip, which is unlobed and broad at the base with an abruptly narrowed, triangular tip. Another key feature for identifying white adder's-mouth is a single leaf that sheaths the stem. Green adder's-mouth (*Malaxis*

*unifolia*) has a similar single leaf attached to the stem but has much smaller and greener flowers that cluster at the top of the inflorescence.

### Conservation Concerns

Most populations of white adder's-mouth are small and may be easily overlooked. However, small population sizes make this species more vulnerable to disturbances. The largest threat to this species is likely climate change, as populations will be impacted by drought, warming temperatures and extreme weather. White adder's-mouth is also affected by herbivory, logging and invasive species. It is currently tracked as an S3 species in Wisconsin.

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Wisconsin DNR

### Taxonomic Name Changes

In the field of botany, the scientific names of plants often change. Frequently, genetic studies change our understanding of the classification of particular species. Other times, the same species may have been described multiple times and given different names by independent individuals. Both cases, which reflect a refinement in our understanding of plant taxonomy, often result in changes to scientific names. In the past year, Wisconsin has had three rare plants with name changes.

- Silver bladderpod, formerly *Lesquerella ludoviciana*, is now *Physaria ludoviciana*
- Kitten tails, formerly *Besseyia bullii*, is now *Synthyris bullii*
- Downy willowherb, formerly *Epilobium strictum*, is now *Epilobium densum*

# 2023 Field Notes



Jan Sharp

**Jan Sharp** took the Rare Plant Monitoring Program training a few years ago, but 2023 was the year she decided to try some surveys. She dove right in and completed three rare plant surveys, and two of them were ferns. “I’m hooked,” she says. “It was quite a thrill to find the plants.”



Eric Howe

This year, **Eric Howe** resurveyed a population of sticky false asphodel (*Triantha glutinosa*). After brush removal at the site in 2022, three clumps of plants were seen in the area where brush used to be.



Ben Redding

Trees are another group of plants that lend themselves to surveys outside of the growing season. This year, **Ben Redding** had the last survey of the year, a newly discovered population of Kentucky coffeetree (*Gymnocladus dioica*) in Dane County.



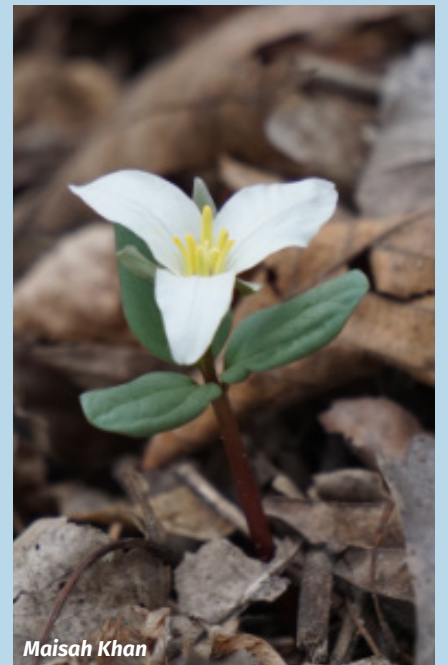
John Zydowicz

**John Zydowicz** revisited the blue ash (*Fraxinus quadrangulata*) site that he had surveyed last year and reported that the trees continue to appear resistant to emerald ash borer. Jeanne Christensen also visited the site and found trees outside of the initial population area, meaning it is larger than previously thought. This is great news because there are only two populations known in the state.



John Boldt

Giant pinedrops (*Pterospora andromedea*) is a state endangered plant with only five extant populations. This summer, **John Boldt** rediscovered a population that hadn't been observed in seven years. Giant pinedrops are pink because they belong to a special group of plants called mycoheterotrophs, meaning they derive their nutrients from fungi rather than photosynthesis.



Maisah Khan

This was **Maisah Khan's** first year as a rare plant monitor, and her first survey was a population of snow trillium (*Trillium nivale*) on the Lower Wisconsin Riverway. She not only found the population, but also noted that it was much larger than last time it had been surveyed in 2018.



Joseph Mui

Lots of monitors have their favorite plants, and we think for **Joseph Mui**, these might be orchids. He provided updates on three different species in northeast Wisconsin: round-leaved orchid (*Amerorchis rotundifolia*), ram's-head lady's slipper (*Cypripedium arietinum*) and northern tubercled orchid (*Platanthera flava* var. *herbiola*).



Shanon Roznoski

Sometimes volunteers find rare plants even when they're not looking for them. **Shanon Roznoski** was collecting seed as a volunteer at a state natural area in Green County when she discovered a new population of October lady's-tresses (*Spiranthes ovalis* var. *erostellata*). This species appears to be expanding across the state, as new populations are found each year.



Vanessa Brotske

**Vanessa Brotske** continued her tradition of monitoring a population of northern tubercled orchid (*Platanthera flava* var. *herbiola*). After seven years of monitoring, the population continues to do well.



Jonathan Rigden

Twinleaf (*Jeffersonia diphylla*) was another species surveyed by multiple volunteers this year. **Jonathan Rigden, Margaret Gibbs-Zautke** and **John Boldt** identified this special concern plant in the spring when its flowers are visible and other vegetation is small.



David Barnes

Heartleaf foamflower (*Tiarella cordifolia*) is a Wisconsin endangered plant with only four extant populations. This year, volunteers visited two of them. **David Barnes** reported on a population in Door County that he had previously visited, counting up to a thousand plants.



Wisconsin DNR

Multiple volunteers updated goldenseal (*Hydrastis canadensis*) records, including **Christine Bohn, Greg Gardner** and **Arwyn Yarwood**. Some populations were not rediscovered, and volunteers noted that garlic mustard was threatening several more. In addition to doing his good deed of monitoring goldenseal, **Jonathan Rigden** removed the garlic mustard that was threatening the plants in his survey.



The 2023 season got off to a quick start. On just the second day of the year, **John Boldt** conducted a survey of putty root (*Aplectrum hyemale*) at a state natural area in northern Walworth County. Unfortunately, he didn't find the plant, but he went on to submit 13 additional surveys in 2023.



Volunteers always need a keen eye to survey for rare plants, but **Christopher Noll** and **James Riser** may have found one of the tiniest, rare plants this year. They updated a population of low spike-moss (*Selaginella selaginoides*), a plant that's only found at a single site on the Door Peninsula.



Sometimes a survey is better with company. **Lynn Preston** and **Joan Fritzler** visited several populations of white lady's-slipper (*Cypripedium candidum*). On one of her surveys, Lynn encountered one of the kinds of company we don't want on a survey, redwing blackbirds were after her! She showed those blackbirds and found the lady's-slippers in the end.

## Donation Reminder for the Endangered Resources Fund

We're so grateful for your generosity with your time and expertise. In addition to our volunteers and partners, our work is supported through the Endangered Resources Fund. Each donation is matched dollar for dollar by the state, and there are three ways to give:

- **Tax Check-off Donations:** When filing your state income taxes, look for "Endangered resources" on line 23a in the "Donations" section of the tax form.
- **Endangered Resources License Plates:** A \$25 annual donation through your vehicle registration gives you the choice of a wolf or eagle license plate.
- **Donate Online:** We accept VISA, Master Card, American Express, Discover and eCheck.

Learn more about the Endangered Resources Fund: <https://dnr.wisconsin.gov/topic/EndangeredResources/endangeredresourcesfund>.