Power Plants

Now Calling: Rare Plant Detectives

Can’t-Miss Trainings
Editor’s Note

Fall turned to winter and winter appears to be turning to spring as I write on a February day forecast to hit 50-plus degrees in Madison. Like this early, probably brief taste of spring, however, we are back with a shortened issue of Natural Heritage Quarterly.

We wanted to let you know what’s going on with the newsletter and also share a new informational resource to help you as you ponder spring planting: Wisconsin-specific native plant lists developed by Amy Staffen and Lucas Olson, conservation biologists in DNR’s Natural Heritage Conservation program. This issue features Lucas’ introduction to the plant lists, links to it online, and numerous other references to get you excited about the coming growing season.

New Name, New Schedule Ahead

Going forward, Natural Heritage Quarterly will get a new name and be issued twice a year instead of four times to make efficient use of available resources. We are grateful to volunteer Rebecca Witt for stepping in to create a beautiful design for this issue.

Name and other changes aside, we’ll continue to feature the inspiring stories of private landowners who are restoring or maintaining natural communities on their properties, big and small. We’ll provide more how-tos tapping the expertise of our conservation biologists and land managers, share information about technical and financial programs that can help you achieve your goals, and notes on the nature around you. As always, we want to make the information valuable for you and we are always open to suggestions of topics and landowners to feature. Please feel free to e-mail me your ideas at Lisa.Gaumnitz@Wisconsin.gov.

Sincerely,

Lisa Gaumnitz

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Graphic Design Courtesy of Rebecca Witt, Volunteer

The Natural Heritage Quarterly is a publication of the Wisconsin DNR’s Bureau of Natural Heritage Conservation.

The publication is available in alternative format (large print, Braille, audio tape, etc.) upon request. Please call the Department of Natural Resources Accessibility Coordinator at 608-267-7490 for more information.

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How to Fuel Your Habitat with Native Plants

By Lucas Olson
NHC conservation biologist

Late winter is the perfect time to begin planning the landscaping and natural community restoration that can help you reinvigorate your property’s habitat for wildlife and help reclaim a part of Wisconsin’s natural heritage.

Our new publication, “Wisconsin’s Native Plants: Recommendations for landscaping and natural community restoration,” is specifically tailored to help you select native plants for your Wisconsin property based on site location as well as specific soils, topography and climate.

By emulating Wisconsin’s natural communities with diverse, hardy and locally-adapted species, you can create essential habitat for native wildlife like birds and pollinators as well as humans. Even selectively adding a few native plant species to your ornamental landscaping can make a difference.

What Natural Heritage?
Located at the nexus of three of North America’s great biomes of western tallgrass prairie, eastern deciduous forest and northern coniferous forest, Wisconsin holds a vibrant mosaic of natural communities. More than 100 distinct natural communities have been documented in Wisconsin. These natural communities are assemblages of interdependent plant and animal species coexisting in one habitat in a given time period.

Although these natural communities changed over time due to the titanic forces of glaciers and fluctuating climates, the natural communities began to change in ways never experienced before starting in the early-1800s. Cities, farms and other forms of development expanded into Wisconsin’s forests and prairies, greatly reducing the expanse and diversity of plant and animal species.

Why Native?
All ecosystems function through the transfer of energy between its organisms; however, not all organisms contribute energy to the ecosystem equally. The sun is the source of all the energy fueling ecosystems, excluding extreme outliers such as the ecosystems found in deep-ocean vents and volcanic hot springs. Only a specialized group of organisms have the ability to utilize the sun’s power: plants. By capturing the sunlight and converting it into sugars through the process of photosynthesis, plants are the primary energy producers of ecosystems.

Still, not all plants provide benefits to ecosystems equally. The native plants that evolved in Wisconsin have by far a greater ability to fuel life up the food chain than nonnative plants. Over countless generations, plants have adapted to thrive in Wisconsin’s soils and climate. They...
evolved in concert with the other life here with which they contend, but also reply upon. Although plants may harness the energy upon which all other life higher on the food chain depends, they don’t always offer it willingly. Plants have evolved a multitude of defenses, and largely the animal species that evolved alongside them have the abilities to overcome them.

No other group of animals has more closely evolved with plants than herbivorous insects; up to 90 percent of the world’s herbivorous insects are dietary specialists, species that can feed only on a small selection of plant species or genera (Bernays & Graham 1988). This specificity is due to plants’ development of unique chemical compounds in their tissues that give them a particular taste, digestibility, and toxicity. Most native insects lack the enzymes needed to detoxify and digest nonnative plants (Tallamy 2007).

For example, each beetle species of the chrysomelid genus Phyllobrotica has evolved to eat exclusively one species of the skullcap genus Scutellaria. If any of the skullcaps disappear from a landscape, so does a chrysomelid (Tallamy 2007).

When one considers that these insects, which rely so heavily on a select few plant species or genera, make up 37 percent of the animal species on the planet, the importance of native plants is obvious (Wiess & Berenbaum 1988). The indirect benefits of native plants are readily apparent as well when one considers how heavily other animals rely upon these insects. Of all of North America’s land birds, 96 percent rely on insects and other arthropods to raise their young (Dickinson 1999). Moreover, a pair of evening grosbeaks can take up to 50,000 caterpillars to raise a single brood of chicks (Nowak 2012).

Beyond their ability to capture energy from the sun and fuel ecosystems, native plants offer other vital services. Through the very same energy harvesting process, they consume carbon dioxide from the atmosphere and exude the oxygen we breathe. They preserve the quality of our waterbodies and the health of soils by decreasing the speed of water moving...
over land and channeling it into the soil, subsequently capturing pollutants and excess nutrients too. Their leaves transpire water vapor into the atmosphere where it can fall again as rain. They serve as ideal shelter for native animals to breed and to hide from predators and weather.

Seeing the benefits of native plants over nonnative may be simple, but selecting appropriate species for a site takes careful consideration. “Wisconsin’s Native Plants: Recommendations for Landscaping and Natural Community Restoration” simplifies this process to offer you the greatest likelihood of planting success.

The Roots of the Lists
Unlike many other native plant lists that focus on benefits to pollinators, songbirds, or water quality, our lists focus on historically associated groups of plants to the benefit of all of the above. These lists are comprised of prevalent species of natural communities found widespread throughout Wisconsin. We have provided eight generalized plant lists: for prairies on rich and sandy soils, savannas on rich and sandy soils, southern forests on rich and dry soils, and northern forests on rich and dry soils.

The authors developed preliminary lists by looking at prevalent species for various plant communities described in John Curtis’ Vegetation of Wisconsin (1959). Plant species that are not commercially available and those with undesirable qualities, such as toxicity to humans and aggressive growth, were then eliminated, while important plant species not surveyed by Curtis and his colleagues (e.g., sedges) were added.

How to Use and Choose
In order to determine which plant lists are most appropriate for your property, focus on the large- and small-scale characteristics of your property. First, reference your site’s location in the state. Wisconsin is composed of two general floristic provinces resulting from differing climatic and geologic conditions -- the Prairie-Forest in southwestern Wisconsin and the North Hardwoods in the Northeast. The transitional area between these two provinces, where many northern and southern species meet their range limits, is referred to as the Tension Zone.

If your property is within or near the Tension Zone, you have the luxury of blending northern and southern forest species. For the greatest likelihood of success, purchase plants sourced from within 50 miles north or south and from within 100 miles east or west of your property. Second, choose plants that are adapted to the substrate type, moisture content, fertility and acidity/alkalinity of your property’s soils, the amount of sunlight available, and the degree and direction of any topographic slopes. Select a wide variety of plant types with varying blooming periods and heights to create a diverse and dynamic landscape. To aid your selection, each list includes the growth characteristics, habitat preferences, and range restrictions of the species.

To find a nursery near you that offers native plants, reference the DNR publication, Native Plant Nurseries in Wisconsin. When purchasing plants, confirm their scientific names to ensure you are selecting the correct species, as common names are often misleading. Because many plant species names have been revised over time, some nurseries may use outdated scientific names. To protect existing wild populations, verify that the plants and seeds you purchase are locally and commercially grown and are not taken from existing natural areas.

References
The Wisconsin Rare Plant Monitoring Program gives plant enthusiasts an opportunity to conduct surveys for rare plants around the state and will help you assess rare plants that may be on your own property. The information these volunteers collect is used to assess plant population trends during state and national conservation efforts.

Program participants are trained in surveying techniques, including how to accurately estimate large plant populations, assess habitat condition, and use GPS coordinates to locate and mark rare plant populations. Plant identification training will not be provided.

Free training sessions will be held at four locations around the state. All first-time participants must attend one session before they begin monitoring. See dates and locations below, and check the About volunteering page for information on what it takes to participate.

To sign up for a training session please contact Program Coordinator Kevin Doyle. If you have already taken the training, please contact Kevin to schedule your 2017 surveys. He can be reached during normal business hours at:
- Phone: 608-267-9788
- Email: kevinf.doyle@wisconsin.gov

### 2017 Training Sessions:

- **La Crosse:** La Crosse Public Library – North Community Branch  
  April 1, 12:30-3:30 p.m.

- **Milwaukee:** Milwaukee Public Library – Capitol Branch  
  April 2, 1:30-4:30 p.m.

- **Ashland:** Vaughn Public Library  
  April 8, 9:30 a.m.-12:30 p.m.

- **Green Bay:** Brown County Public Library – Central Branch  
  April 9, 12:30-3:30 p.m.
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