

Plants Out of Place



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President's Notes: Winter Foliage

February brings a lot to celebrate and enjoy as we roll into the New Year. It includes the celebration of the Super Bowl on the 1st ... too bad about the Packers. The Groundhog lets us know on the 2nd if we will have six more weeks of winter ... I'm hoping for an early spring. Plans for spending quality time with your valentine on 14th... hopefully outdoors enjoying the landscape. Not to forget to mention remembrance on President's Day, indulgence on Mardi Gras, with Ash Wednesday to follow. For me the thoughts of spring are most prominent, but I'm still enjoying the winter and holidays.

Winter holidays bring thoughts travel, snow, and time spent with friends and family in front of a warm fire. As I reflect back on my travels this holiday season I can't help but think of all the roads traveled. Being a landscape architect whose job is to manage roadsides I of course pay extra attention when I travel the highways, especially when I'm not the one driving. I enjoy visually taking in the landscape as it seasonally changes. This year I was traveling three things popped out at me. The osage orange trees, a unique plant of its own caliber, as I headed south to the Quad Cities. The number of Hawks I saw roosting on the roadside either on the fence or

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"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."

Margaret Mead

Presidents Notes Continued

vegetation. Finally the winter foliage left by one of our infamous invasive plants Phragmites (Common Reed Grass). Phragmites is most distinct this time of year. My travels give me a sense of how quickly this plant is taking hold and changing our landscape forever. As IPAW members we need to continue to promote stewardship of our landscapes by continuing to educate about plants like phragmites. As a 2015 new year's resolution I encourage each of you to reach out to someone about this plant. Bring it to someone's attention, help a neighbor control it, educate your elected official about its damaging affects, or report a sighting to the DNR.

IPAW board of directors continues to work hard. Three new directors were elected in December: Tony Summers, Cody MacDonald, and John Lunz. See their introductions below. IPAW continues to focus on outreach to CISMAs, be involved with 2016 UMISC planning, outreach with display booths at various educational events, and efforts to improve are always in process. Currently the Board of Directors is focusing on reorganizing and growing it's capability to reach out. There is focus on membership recruitment and retention as well as legislative outreach. 2015 will bring new beginnings.



Christa Wollenzien
IPAW President

Are Invasive Plants Threatening the Future of Outdoor Recreation?

By: Diane Schauer, IPAW Board Member

When you think of hunting and fishing in Wisconsin, traditions, family, friends and camaraderie come to mind. Whether fishing on calm waters or enjoying the sounds and scents of the woods while hunting, experiencing nature enhances our quality of life in this state.

How many people in Wisconsin hunt and fish? According to a report prepared for the Wisconsin Department of Natural Resources,¹ 2.9 million people participated in some form of fish and wildlife-related recreation in Wisconsin.

That's a lot of hunting, fishing and wildlife watching. It also means there is a lot of money being spent. In fact, hunting related expenditures in Wisconsin totaled \$2.5 billion in 2011, and angling brought in another \$1.5.

Hunting, fishing and related outdoor recreational activities mean job, lots of jobs for lots of people distributed throughout the state. We can all think of some industries that benefit, including sales of hunting and fishing apparel and equipment. It benefits the hotel and motel business and food service, including all the little restaurants and diners that we treasure. It also impacts manufacturing, real estate and rentals, finance and insurance businesses and many more.

Nearly three million residents participate in outdoor recreation generating about \$4 billion in revenue. But there are serious threats to this valuable recreation. Some threats are obvious, such as the destruction of habitat with bulldozers or the pollution of lakes and rivers. The spread of invasive species is another huge threat to the health of fish and wildlife habitat.



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Invasive Plants and Outdoor Recreation Continued

In the United States, about three million acres are lost to invasive plants each year.¹ Our natural habitats on public lands are being lost at the rate of 4,600 acres a day to invasive plants. All types of habitat in Wisconsin are threatened. Woodlands are being taken over by buckthorn and other woody invaders that prevent the growth of young trees. This causes the long-term decline of the forests and makes the areas impassable to hunters and hikers. Turkey and pheasant hunters know the unpleasantness of encountering wild parsnip and teasel in grassland habitats. Wild parsnip can cause burns on your skin. Plants like teasel, buckthorn and multiflora rose can tear your clothing and your skin.

Phragmites chokes rivers and hinders hunter's access to prime waterfowl habitat. Anglers know the difficulty of maneuvering through dense patches of Eurasian water milfoil.



How can we stop this habitat destruction? First, prevent the spread. Each and every hunter, angler, hiker, wildlife watcher and homeowner must take personal responsibility for their actions. Clean all equipment before entering and after leaving any area outdoors. Don't move firewood or plant known invasive species.

When an infestation occurs, stop it in its tracks. But how can we do that without adequate and dependable funding? There is very little funding available for control of terrestrial and wetland invasive plants for the counties and landowners who need help.

In the same 2006 report cited above, it is estimated that "State and local tax revenues generated from 2006 fish and wildlife-related recreation in Wisconsin were estimated to be \$480 million. All fishing together accounted for \$196.0 million. Hunters and wildlife watchers generated \$197.1 million, and \$87.4 million of the total, respectively. All fish and wildlife -related recreation generated \$425 million in tax revenues to the federal government." Given that the state and local governments receive \$480 million in tax revenue as well as the number of jobs and businesses additionally supported by hunting and fishing, it is critical to invest in protecting these habitats. So why is the state not providing more assistance for the prevention and control of invasive species?

The DNR has invested in the future of hunting through the Hunter Recruitment, Development, Training and Education Grant program and continue to invest in and expand the Angler Education programs. But what good will it do to train new hunters and anglers if the habitat the fish, deer, turkeys and other animals need is too degraded by invasive species to hunt or fish? Perhaps it's time for hunters, anglers and wildlife watchers to call their legislators to request that the state make funds available to counties and landowners to prevent and stop the spread of these invasive plants.

¹ "The 2006 Economic Benefits of Hunting, Fishing and Wildlife Watching in Wisconsin," prepared by Southwick Associates, Inc., for the Wisconsin Department of Natural Resources, 2007.

¹ "Pulling Together: A National Strategy for Management of Invasive Plants, 2nd edition, 1998.

Phragmites Control Project

By: Pat Trochlell, IPAW Board Member

Introduction

Phragmites australis, or phragmites, is a tall, perennial grass that can grow to over 15 feet in height. Both native (*Phragmites australis* subsp. *americanus*) and introduced subspecies (*Phragmites australis* subs. *australis*) are found in North America. The introduced subspecies can be an aggressive invader, nearly global in distribution in freshwater wetlands. In Wisconsin, it is most common along the Great Lakes. Introduced phragmites forms dense monotypic stands, which can rapidly invade

Phragmites Control Continued

wetlands, crowd out native plants, change hydrology, alter wildlife habitat, and increase fire potential. Below ground, phragmites forms a dense network of roots and rhizomes, which can go down to 6 feet in depth. The plant spreads horizontally by sending out rhizomes, which can grow over 10 feet per year and above ground stolons up to 25 feet long.

Phragmites also spreads by both seed dispersal and vegetatively via fragments of rhizomes that break off and are transported elsewhere. It can also spread by stem fragments, so mowing in road ditches has aided its expansion. It typically colonizes disturbed sites but can also invade high quality wetlands.

Phragmites Project

The best means of controlling the spread of non-native phragmites is through early detection of and rapid response to new infestations. In addition to recent efforts to reduce established phragmites along Lake Michigan (reported on in IPAW's last newsletter), the Wisconsin Department of Natural Resources (WDNR) is also undertaking a project to control this subspecies inland. This project is funded through a Great Lakes Restoration Initiative (GLRI) grant, and helps implement the state's Wetland Invasive Species Strategy (see <http://dnr.wi.gov/topic/wetlands/invasives.html>).

The goal of this phragmites project is large-scale early detection and rapid response removal of phragmites from the western and central counties of the Lake Michigan basin. We are attempting to control phragmites along the advancing front as it moves west from Lake Michigan, precisely where stands are generally small enough that elimination seems possible. Initially, we sought to identify as many locations as possible throughout the state where phragmites is present, then determined whether these populations were the native or non-native subspecies. In the next phase of the project we hired a contractor to control non-native stands through herbicide treatments, mostly spraying. In 2014 over 250 sites were treated between August 1st and October 31st. Work is expected to continue in 2015 or longer if the grant gets extended, with the treatment of additional sites throughout the Lake Michigan Basin as well as monitoring and possibly re-treating some sites from 2014. See Figure 1 for the locations of native and non-native phragmites and treatment areas.

In addition to the initial control sites, there may also be an opportunity to spray additional sites in and near high quality natural resource areas in highly infested landscapes nearer to Lake Michigan. Additional evaluation and planning will be needed before new candidate sites will be chosen.

Sites will be monitored to determine the effectiveness of the previous control treatments, and the need for re-treating any sites. Monitoring for this project is expected to be conducted by a combination of WDNR employees, aquatic invasive species coordinators and members from other governmental and conservation groups. Site coordinates and geocoded photographs of each site should enable monitors to return to the exact site of spraying. Monitors could use current smartphone technology to collect additional site photographs for before and after site comparisons at each location.

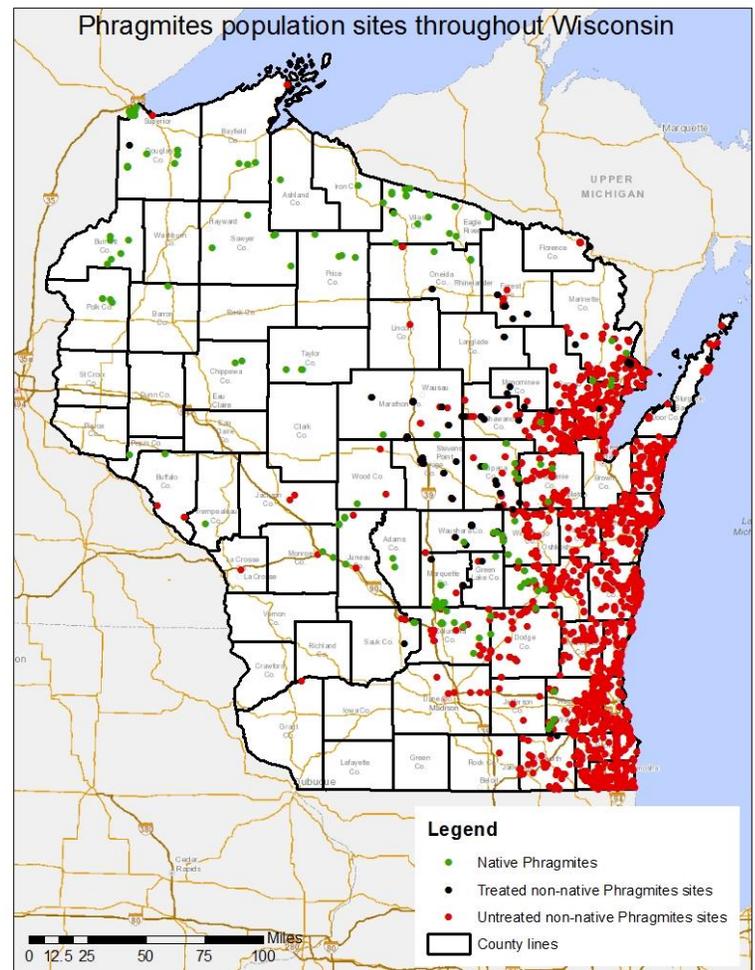


Figure 1: Location of known native and non-native phragmites and treatment sites.

Introducing... IPAW's Newest Board Members: John Lunz, Cody MacDonald & Tony Summers

Glad to Have You on Board, John Lunz!

I was city born and bred, but fortunate to spend much of my younger life on relatives' farms doing chores along with my cousins, but mostly playing and exploring in the creek and the woods. I always thought a life spent out of doors would be great, but once I saw my first geography book I was hooked on all the maps of water dotted with islands and exotic sounding places. Back in those days one was expected to fulfill their military obligation. I opted for the navy, figuring I wouldn't be stuck in one place for very long. It proved a wise choice, as I travelled extensively, and also stumbled into a job as a fire-control technician, (think 'gun fire', not 'controlled burn!'), charged with repairing radars, computers, and gun drives. That training led me to choose a career in electrical engineering, which proved to be both intellectually satisfying and a steady means of support for raising a family. I highly recommend military training to those who don't have a good idea of what they care to do with their lives.



My working career included teaching electrical engineering at night over a period of eighteen years while working my day job. Following my first retirement in '98 I was a full-time instructor until '07, then reverted to part-time teaching for two more years. I believe I am now 'fully retired.'

My work with invasive species started in the late '90s weeding in a local park, then expanded to a regular activity at the Schlitz Audubon Nature Center generally working two mornings a week as a volunteer land steward. I often substitute on Saturday mornings for staff members when needed, leading high school and college-age students as well as other volunteers. My wife and I have done restorations in our local county park and elsewhere in our community. We are also controlling invasive plants in a 3.5-acre high quality ephemeral wetland recently purchased by the Milwaukee Area Land Conservancy.

I am active in two park support NGOs: The Park People, (TPP), and Preserve Our Parks, (POP). As the Environmental Committee Chair of TPP I organize and coordinate "Weed Out" in our county parks. TPP is a 'hands on' organization, while POP is more a 'watch dog' group concerned with legal land use issues, (such as The Public Trust provision of our State Constitution), and with keeping our parks in the public domain. Both groups are vital if we hope to have a vibrant park system.

I am not an expert in natural areas management, or in all aspects of invasive species control, in fact I have never had a course in botany! But I've learned a little over the years by working with land managers, and I've learned from volunteers as well. One thing I've learned is to keep an open mind, listen to those working around you, and be supportive of others and of organizations dedicated to improving habitat not just for us humans, but for all creatures.

Hello, Cody MacDonald!

Hello,

My name is Cody MacDonald. I am very excited to join an organization as important as IPAW so early in my career. My expertise and interests line up with that of IPAW, so it should be a great match!

Having graduated from the University of Wisconsin-Stevens Point with a Land Use Planning degree in 2013, I joined the team at the Ozaukee Washington Land Trust (OWLT) as a Stewardship Technician. This was just a summer internship, yet I gained invaluable experience in managing dynamic preserves and leading summer youth teams in daily stewardship activities. Near the end of the 2013 summer, the land trust offered me a Project Coordinator position, where I would be in charge of coordinating a six-county wide Great Lakes Restoration Initiative grant to treat and control aquatic invasive species.

Currently, it is my role to make sure that OWLT and our partners treat and protect at least 1,500 acres of wetland, riparian and

New Board Members Continued



shoreline habitat. Target plants include phragmites, purple loosestrife, Japanese knotweed and lyme grass. Managing these four species allowed me to understand invasive species management more thoroughly. They require that the approach taken must be integrative, and that one must put the time in to research and fully understand the biology each plant brings to the table.

I also create and organize diverse partnerships with other non-profit organizations, local governments and agencies at the state and federal level. This allows me to steer grant resources on a large scale, and combat invasive species as a team rather than an individual. I also enjoy working with volunteers and other interested partners to raise awareness on cost-effective solutions such as invasive species education and prevention.

In my personal time, I enjoy brushing up on my plant and bird identification skills. I enjoy spending time outdoors with family and friends in the many settings Wisconsin has to offer. A large part of me has also fallen in love with traveling. My last semester of college was spent in Nepal's Chitwan National Park at an international research station. Here I worked with local communities and community forest organizations to combat invasive species, create management plans and identify feasible routes to make conservation profitable.

Welcome to IPAW, Tony Summers!

Greetings, my name is Tony Summers and I am thankful to be introducing myself as one of IPAW's newest board members. I work for the University of Wisconsin Extension in Madison where I (among other things) coordinate the Wisconsin First Detector Network (WIFDN).

WIFDN is a citizen science network dedicated to providing tools and training to volunteers to improve the detection of high priority invasive plants, animals, insects, and plant diseases throughout Wisconsin. It includes an online education series, in person workshop training events, and support for several hands-on projects.

The network is gearing up for its second year after a productive inaugural year in which we engaged over 100 citizen scientists in two main early detection projects. Registration for our second year can be found on our website: fyi.uwex.edu/wifdn.

Prior to my time with the UW I oversaw an invasive plant eradication program on Catalina Island (California Channel Island). The island of 48,000 acres was home to over 400 nonnative plant species of which nearly 100 were considered invasive. My program actively worked on over 3000 populations of 35 plant species a year. We utilized a mixture of staff, intern, and volunteer labor to perform around 20,000 hours of fieldwork annually.

Among the top things I took away from my time on the island were the ability to function without TV, internet, and cell service for long periods of time, how to kill a palm tree, and that a lack of predators makes for the best mule deer hunting in the entire state. Two of my proudest accomplishments were the discovery of delicious chanterelle mushrooms (a first documentation for the island) and the finding of a Civil War era unfired rifle cartridge during an invasive plant survey. The island was home to a Civil War barracks.

Additionally, I worked for the Siuslaw National Forest in western Oregon as an Interpretive Naturalist and Bioscience Technician during my time as a graduate student at Oregon State University. I earned my MS in Ecology from OSU in 2009 with an emphasis on invasive plant management. I also have a BS in Biology from Edgewood College in Madison and I went to high school at Wisconsin Heights in Mazomanie, Wisconsin.

During my free time I enjoy hiking, hunting for edible mushrooms, brewing beer, playing tennis, and deer hunting. I am also a lover of whiskies of the world, although I'm not sure that qualifies as a hobby. I live with my wife Lisa and dog Porter on the west side of Madison. I hope to meet many of you during my time with IPAW.



Phragmites Control Continued

Our contractor, Jason Wilke, has logged his treatment methods, and also collected some very basic population demographic data, including an estimate of the phragmites height and stem density per quarter meter. We plan to have monitors collect similar data so that we can conduct basic statistical modeling to evaluate which combination of factors (stand height, density and size; spray dates and various weather conditions) are most important for successful treatment of phragmites stands. This multivariable model will be useful for developing future phragmites control methods and guidance to practitioners.

Phragmites Treatment Areas

Table 1 shows the current list of counties where we treated phragmites in 2014. These counties include Columbia, Dodge, Florence, Fond du Lac, Forest, Langlade, Marathon, Marinette, Marquette, Oconto, Oneida, Outagamie, Portage, Shawano, Vilas, Waupaca, Waushara, and Winnebago. We intended to treat at least 450 sites within our initial proposal, covering approximately 65.3 acres. Fifty-nine additional sites have been added as word of our project has spread among neighboring landowners who request assistance in treating non-native phragmites on their properties.

Phragmites genetic research

An additional goal of the phragmites project has been to examine the genetic structure of native and non-native phragmites populations. The WDNR has been working with Dr. Nic Tippery of the University of Wisconsin – Whitewater to answer two questions. The first is whether hybridization has occurred between native and non-native phragmites species in Wisconsin. This is important because we have many sites where phragmites appears to be native but may be behaving like an aggressive invader. A recent study in New York has shown that limited hybridization between native and non-native subspecies occurs. The second question is to examine how population size and density of surrounding sites on the landscape influence genetic diversity. Small populations that occur on the periphery of the infested landscape may have low genetic diversity, and so may not be as capable of producing large quantities of viable seed. This means that if you are managing for phragmites in more remote regions of the landscape where the invasion front hasn't fully developed, seed production may not be very important, and dispersal may be through vegetative plant parts alone. However, larger stands with higher levels of genetic diversity may be more capable of acting as a seed source. We are examining what the conditions are where phragmites stands begin to function as seed sources and if they more dependent on clonal expansion until they reach a diversity threshold.

Phragmites NR 40 Status

Data gathered from our search for non-native phragmites has given us a better picture of the distribution of this invasive plant throughout the state. Figure 2 is a map showing the general density of non-native phragmites. Based on the population locations, a recommendation has been submitted to change the status of this plant in NR 40, Wisconsin's invasive species rule. It is currently listed as restricted statewide. The proposal is to split list it to make it a prohibited species in western 38 Wisconsin counties. Changing the status of phragmites to prohibited will facilitate our ability to better control its spread. At least 12 additional counties east of the boundary are slated to have all nonnative phragmites sites eliminated through our GLRI grant

County	Acreage	Number of sites
Columbia	3.07	15
Dodge	5.98	22
Florence	0.15	3
Fond du Lac	2.37	11
Forest	0.10	6
Langlade	0.02	1
Marathon	0.74	9
Marinette	3.37	39
Marquette	3.06	5
Oconto	19.15	87
Oneida	0.06	2
Outagamie	2.53	23
Portage	2.05	14
Shawano	13.02	140
Vilas	0.14	2
Waupaca	2.24	17
Waushara	1.76	7
Winnebago	5.48	47
Total	65.28	450

Table 1: Phragmites Treatment acreage and number of sites by county

Phragmites Control Continued

work, which would result in 52 uninfested counties out of 72 in the state.

The Next Step

The future value of this work will not only depend on how effectively we eliminate all non-native phragmites stands in these counties now, but also how quickly in the future new pioneer stands are reported and reduced—before they grow so large to make treatment ineffective. Citizens throughout the state will need to be able to identify and report new non-native phragmites stands, so training will be critical. We will also need to become better at replacing this invasive with carefully chosen native species, both able to withstand further invasive infestation, as well as enhance local native plant and animal diversity.

Please see the IPAW website for a complete version of this [article](#). Pat has agreed to update this article as the project continues. We will let you know when additions have been made.

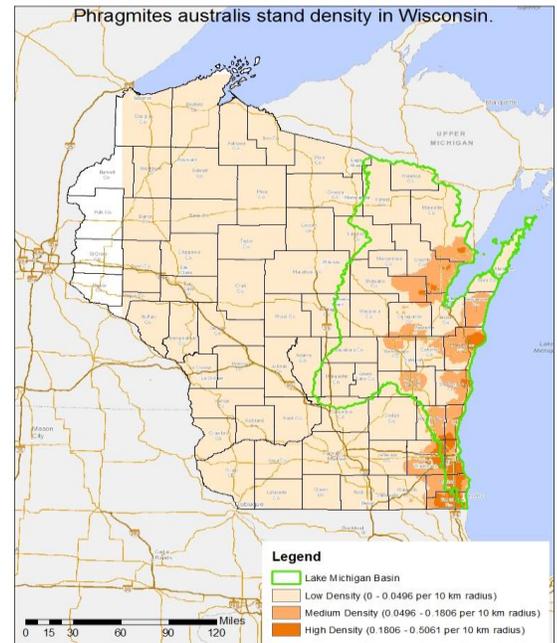


Figure 2: Phragmites Stand Density

Planting Trees and Shrubs After Invasive Species Control: Summary

By: Mic Armstrong, IPAW Board Member



The full article was scheduled to go in this edition of the IPAW newsletter but there were other contributions that would have made it too long. The article will be available on the web page instead.

Planting trees and shrubs after invasive species control: Summary

As we learn how to identify and manage invasive plants in the landscape and other acreage such as woodlands and natural areas it is important that replanting efforts are done in such a way that the invasive plants do not regain the upper hand.

Mic Armstrong, long time conservationist, agronomist, horticultural consultant, landscape designer and IPAW member uses some scenarios

he has observed in the urban and rural landscape to stress the importance of planning in the process of tree and shrub planting.

The article encourages even Do It Yourselfers and anyone relying on the apps on a phone to seek professional advice (often free) and provides links to some useful sites for each stage of planning and eventual planting.

Selecting the right type and species and cultivars of plants, both in the urban and rural landscape, is discussed, as well as the importance of seed source or provenance.

The importance of maintenance is stressed, hopefully in such a way that stress is not the result.

The [full article](#) is posted on the IPAW website. Mic will review the links periodically and suggest updates to the IPAW web 'master'.

