

NON-NATIVE PHRAGMITES



Photo: Matt Puz—Wisconsin DNR

What is non-native Phragmites?

Non-native Phragmites (*Phragmites australis* subsp. *australis*; pronounced frag-MY-tees), hereafter referred to as “Phragmites”, is a tall (6 to 12+ feet) wetland grass native to Europe and Asia. It was first found in North America in the late 1700s to early 1800s and spread across the continent through the 20th century. Phragmites was accidentally introduced to the Great Lakes region by hitchhiking in solid ballast and packing materials from commercial cargo ships. Phragmites has long, blue-green leaves with sheaths that tightly clasp around stiff, finely ridged, hollow stems. Seed heads, which look like feathery plumes, bloom atop stalks between late July and September and range in color from silver to purple to brown. These plumes can be over a foot tall and carry hundreds to thousands of seeds per stalk. The stalks turn brown and lose their leaf blades by winter, although the leaf sheaths remain tightly clasped around the stem throughout most of the winter. Phragmites typically grows in dense stands consisting of many individual stalks that are usually all part of the same plant. The stalks are connected underground by an extensive, maze-like root network that makes up

most of the plant's biomass. This network is comprised of structures called rhizomes, which can grow up to 60 feet in length. They act as transport systems, shuttling nutrients to portions of the plant that need them. This allows Phragmites to grow and rapidly expand across a wide range of habitats.

How does non-native Phragmites differ from native Phragmites?

Although native Phragmites (*Phragmites australis* subsp. *americanus*) looks similar to non-native Phragmites, there are a couple characteristics that help differentiate the two species. The leaves of native Phragmites are yellow-green in color, while the leaves of non-native Phragmites tend to be more blue-green. The leaf sheaths on native Phragmites tend to fall off easily, especially towards the end of the year, while the leaf sheaths on non-native Phragmites will often remain tightly clasped around the stem well into the winter. Non-native Phragmites has yellow-green, ridged stems while native Phragmites has smooth, reddish stems that may have black dots; these black dots are a fungus that does not grow on the non-native Phragmites. The seed heads on native Phragmites are usually smaller and less robust with fewer seeds than the non-native Phragmites seed heads. Non-native Phragmites tends to grow in a dense monoculture, while native Phragmites typically grows as scattered individual stalks.



Native Phragmites
(*Phragmites australis* subsp. *americanus*)



Non-native Phragmites
(*Phragmites australis* subsp. *australis*)

Photos: Julia Bohnen – University of Minnesota;
Department of Fisheries, Wildlife and Conservation Biology;
St Paul, MN

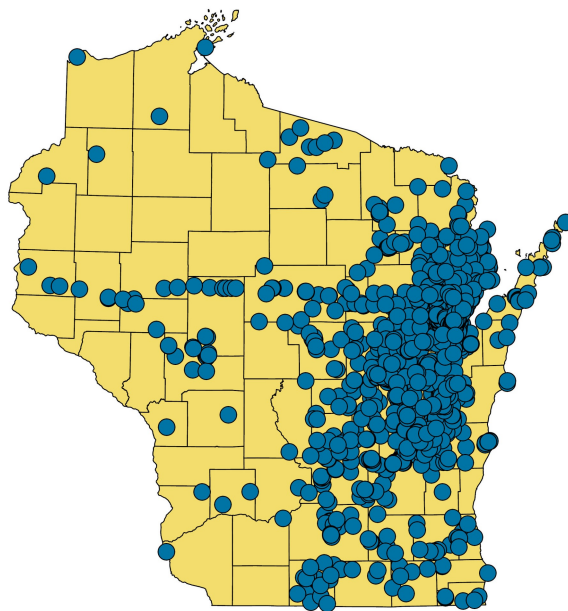


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Where is it found?

Phragmites is found in wetland and shoreland areas around the Great Lakes, the Mississippi River, and numerous lakes, creeks and rivers in almost every county in Wisconsin. It is also common in moist disturbed areas such as roadways and constructed wetlands. Phragmites is currently widespread and well established in the eastern portion of Wisconsin, with sparser and more isolated populations in the western portion. Phragmites can tolerate brackish waters, alkaline to acidic soils, and drought.



Locations of verified Phragmites populations in Wisconsin as of 2023



Photo: Matt Pütz—Wisconsin DNR

How does it spread?

Phragmites spreads through seed dispersal, vegetative reproduction, and fragmentation. Seeds can be transported to new locations naturally by wind or water, or if soil containing seeds is moved by human activity (e.g., transported in the tires of maintenance or recreational equipment). Vegetative reproduction occurs when an existing plant sends out adapted stems that either run along the soil surface (i.e., stolons) or underground (i.e., rhizomes). Fragmentation can occur when stems and rhizomes are broken, either from natural causes or human activity, and grow new roots and shoots.

What are the impacts of Phragmites?

Phragmites can create tall, dense stands that may shade out and displace native plants. In addition, Phragmites can alter a wetland’s nutrient cycling and hydrology, which can result in the wetland drying out.

Dense stands can also cause public safety concerns by blocking sightlines along roads, damaging infrastructure through root growth, and obstructing or delaying construction and maintenance. Phragmites can affect recreational activities by limiting access to waterbodies. Dead stands are highly combustible and, if left unmanaged, can increase the fire risk to surrounding properties.



Photo: Amanda Smith—Wisconsin DNR



What can be done to manage it?

Implementing simple aquatic invasive species prevention and restoration steps can reduce impacts from invasive species even when other management options are unavailable (see next section for examples). Given the distribution of Phragmites across Wisconsin's landscape, and with present capacity, funding, and technology, statewide eradication is unrealistic. Phragmites management and control is a long-term commitment that often requires significant resources and effort over several years to be effective. Rhizomes, which make up around 80% of the biomass of a Phragmites plant, store nutrients while the plant is dormant in the winter. The nutrients are then used for regrowth come spring. Therefore, management efforts that only target the aboveground stalks may alleviate impacts in the short term but are ultimately ineffective at controlling Phragmites growth and spread in the long term.

Methods for controlling and mitigating impacts from Phragmites include manual removal, mechanical treatments (i.e., using mowers, weed whackers, etc.), prescribed burns, flooding, herbicide treatments, grazing, and restoration. While any of those methods may be used alone to alleviate impacts in the short term, any long-term control strategy should use multiple methods together as part of an Integrated Pest Management (IPM) approach. Timing management actions to coincide with specific Phragmites life cycle events can further deplete the resources it needs to grow, making those actions more effective. Management plans should be tailored to each patch by considering site-specific characteristics such as environmental conditions, the size, age, and density of the patch, and the resources available to managers. One example of an IPM-based strategy that could be used on small, low-density patches is treating stands with herbicide in mid-late summer and cutting or mowing the dead stalks later in the fall (at least 2 weeks after the herbicide application) or winter. Management actions may need to be repeated for several years to achieve Phragmites control. Reseeding with a native plant mix may be necessary to help reestablish native species after management; however, ensure that the Phragmites population has been successfully controlled before attempting restoration. Note that an approved Chapter NR 107 permit is required to use herbicides in or near any Wisconsin waterbody, and only herbicide products that are approved for aquatic use may be applied. An approved Chapter NR 109 permit would be required for mechanical control in navigable waters. Please [contact your regional Wisconsin DNR APM coordinator](#) for more information on Phragmites management strategies and associated permit requirements.

The DNR prioritizes sites for Phragmites management to make control methods more cost effective and increase the likelihood of success. Factors that the DNR considers when prioritizing sites include the species' NR 40 designation, the size, age, and density of the patch, the surrounding habitat quality, and the broader landscape/watershed context. For more information on IPM approaches to Phragmites management and the DNR's strategy for managing the species on a statewide level, see the [Phragmites Statewide Management Strategy](#).



Photo: Amanda Smith—Wisconsin DNR

How can I help prevent the spread of Phragmites?

All recreational users of lake or wetland areas should make sure that their boats and equipment, including waders, boots, blinds, and dogs, are free of mud and plant material before leaving or entering a waterbody or wetland. A stiff brush can be useful for dislodging seeds from the treads of footwear. Hunters should try to use artificial materials for blinds when possible. Phragmites cannot be used as blind material in Prohibited counties. Dead Phragmites stems can be used as blind material in Restricted counties, however the roots and seedheads should be removed first.

Property owners should take precautions when removing cut Phragmites plants. Plants cut near riparian areas should not be allowed to float away from your property, as they can potentially drift to new locations and re-grow. Composting plant parts is not recommended since the seeds could still be viable after the compost is finished, which may allow Phragmites to spread wherever the compost is distributed. Instead, bag the plant parts in clear plastic garbage bags and label the bags "Invasive plants – approved by DNR for landfilling".

Reporting invasive species is important in containing their spread. You can find instructions for reporting an invasive species finding to the Wisconsin Department of Natural Resources [here](#).



For more information:

Common Reed, United States Geological Survey, Nonindigenous Aquatic Species Database: nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=2937

Great Lakes Phragmites Collaborative: greatlakesphragmites.net

Guide to the Control and Management of Invasive Phragmites, Michigan Department of Environmental Quality: michigan.gov/-/media/Project/Websites/invasives/Documents/Response/Status/egle-ais-guide-phragmites.pdf?rev=99773b1ab927407ba5cd7e4532a3ad4d

McTavish, M., Smith, T., Mechanda, S., Smith, S., & Bouchier, R. (2023). Morphological traits for rapid and simple separation of native and introduced common reed (*Phragmites australis*). *Invasive Plant Science and Management*, 16(2), 110-118. doi:10.1017/inp.2023.15

Non-native Phragmites or Common Reed, Wisconsin Department of Natural Resources: dnr.wisconsin.gov/topic/Invasives/fact/Phragmites

Phragmites australis: A Statewide Management Strategy, Wisconsin Department of Natural Resources: apps.dnr.wi.gov/swims/Documents/DownloadDocument?id=345040156

Saving our Waters: Protect you Wetlands from Invasive Phragmites, Wisconsin Department of Natural Resources: dnr.wisconsin.gov/sites/default/files/topic/Invasives/ProtectWetlandsPhragmitesBookletWeb.pdf



Photo: Travel Wisconsin



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