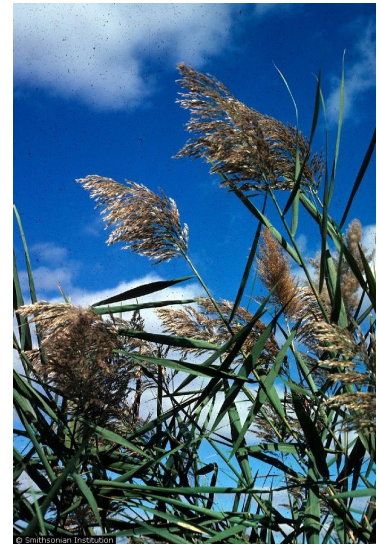


Phragmites: ID, habitat, and management

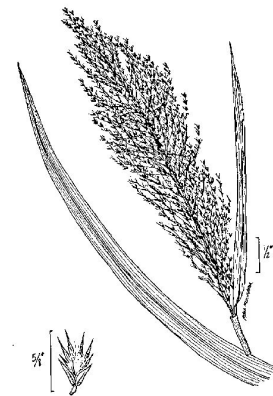
Identification

Phragmites australis (Cav.) Trin. Ex Steud. (USDA, NRCS, 2021) also known as common reed, is a perennial grass. Phragmites can grow 8-12 feet tall with long, flat leaves that are about 24 in. long and 2 in. wide. Purple flowers can be seen August-September and will turn white/brown over time. These flowers are arranged in panicles that can be up to 12 in. long with extending ascending branches (Magee, 1981). The flowering portion of the plant has long silky hairs. Phragmites may be confused with wild rice but it can be differentiated because Phragmites has a strong rootstock so it is more difficult to pull up (Fassett, 2006).



Phragmites australis by Richard A. Howard, from USDA- NRCS PLANTS database

The stem of the plant is hollow and round and is held upright by long, stout, hairy rhizomes. Seventy percent (70%) of the plant's biomass consists of the roots and rhizomes (Sandler et al., 2015). Phragmites spread through these rhizomes as well as through seeds. It was thought that Phragmites reproduce primarily through vegetative growth since viable seeds are rarely found, but a 2015 North American study found that 84% of new common reed along roads in southern Quebec originated from seeds rather than plant fragments. Once initiated, however, local stands spread through vegetative growth (Uva et al., 1997; Albert et al., 2015). During the winter, rigid stems can persist and continue to bear plume-like seed heads (Uva et al., 1997).



From USDA-NRCS PLANTS database. Created by NRCS National Wetland Team.

Phragmites is believed to have originated from the Middle East, but today in North America, three subspecies (ssp.) have been identified (Swearingen et al., 2012). One subspecies of Phragmites is native to marshes in eastern Massachusetts, but the most invasive subspecies of Phragmites, which is also the most prevalent type today in Massachusetts, is likely native to Europe (Saltonstall,

2001). These two subspecies are the most widespread subspecies in North America. The native species is ssp. *americanus* and the introduced subspecies from Europe is ssp. *australis*. A third subspecies found mainly in the southern United States has possible hybrid origins and is known as ssp. *berlandieri* or the Gulf Coast type (Allen, 2017).

Habitat

Phragmites can be found in marshes and other natural wetlands as well in highway margins and pipeline corridors since it is able to tolerate salty and alkaline conditions. It favors wet open locations with a soil pH of 5.5-8 and can grow in stagnant or flowing water. Phragmites devalues wetland habitats for wildlife by colonizing the habitat at the expense of other vegetation. (Uva et



Phragmites australis by Larry Allain, from USDA- NRCS PLANTS database



al., 1997; Sandler et al., 2015; Somers et al., 2008). *Large rhizomes.* Great Lakes Phragmites Collection

Management

For MA cranberry production, Phragmites is considered to be a very high priority weed and should be eradicated before getting a foothold. Plants growing near the bog should also be managed as Phragmites can easily spread. Bogs should be scouted frequently and young plants should be pulled immediately, with care taken to remove the entire root. The bog can be made less favorable for Phragmites by maintaining good drainage (Sandler, 2021).



Phragmites being mowed

If smaller plants are established and it is not possible to remove all the stems and roots by hand, targeted herbicide applications such as glyphosate wipes can be used to manage the weeds. Plants should be wiped as soon as possible, as some regrowth may occur and multiple applications may be needed. Delaying applications can give the fast-growing plant the opportunity to establish large root systems and may make eradication more difficult (Ghantous, pers. obs.). For large established stands, management methods include cutting, herbicide application, hydraulic controls, dredging, and summer/fall burning. Cutting, however, can be labor intensive (Somers et al., 2008). Combining herbicide

treatment with mowing is effective. In early to mid-summer, glyphosate applications followed by mowing 3-4 weeks later can help control infestations. Alternatively, mowing first then applying glyphosate when the plants regrow can also be effective (Sandler, 2021).

References

- Albert, A., Brisson, J., Belzile, F., Turgeon, J., Lavoie, C. 2015. Strategies for a successful plant invasion: The reproduction of *Phragmites australis* in Northeastern North America. *Journal of Ecology* 103(6):1529–1537. doi:10.1111/1365-2745.12473.
- Allen, G.A., McCormick L.J., Jantzen, J.R., Marr, K.L., Brown, B.N. 2017. Distributional and morphological differences between native and introduced common reed (*Phragmites australis*, Poaceae) in Western Canada. *Wetlands* 37(5):819–827.
- Magee, D.W. 1981. *Phragmites communis* Trin. In *Freshwater Wetlands: a Guide to Common Indicator Plants of the Northeast*. University of Massachusetts Press, 72 p.
- Fassett, N.C. 2006. *A Manual of Aquatic Plants: Second revised edition*. The University of Wisconsin Press, 416 p.
- Saltonstall, K. 2002. Cryptic invasion by a non-native genotype of the common reed, *Phragmites australis*, into North America. *Proceedings of the National Academy of Sciences of the United States of America*, 99(4):2445–2449.
- Sandler, H.A. 2021. Weed Management 2021-2023. In *Cranberry Chart Book 2021-2023 Management Guide for Massachusetts*, edited by K.M Ghantous, M.M. Sylvia, and D. Gauvin.

University of Massachusetts Amherst. <https://ag.umass.edu/cranberry/publications-resources/cranberry-chart-book>.

Sandler, H.A., Dalbec, L. Ghantous, K.M. 2015. *Identification Guide for Weeds in Cranberries*. CRAAQ, Centre de Référence en Agriculture et Agroalimentaire du Québec. 293 pp.

Somers, P., Kramer, R., Brumback, B. 2008. *A Guide to Invasive Plants in Massachusetts, Second Edition*. Massachusetts Division of Fisheries & Wildlife.

Swearingen, J., Saltonstall, K., and Tilley, D. 2012. Phragmites Field Guide: Distinguishing native and exotic forms of common reed (*Phragmites australis*) in the United States. TN Plant Materials No. 56.

https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmctn11494.pdf

USDA, NRCS. 2021. The PLANTS Database. National Plant Data Team, Greensboro, NC. <http://plants.usda.gov>.

Uva, R.H, Neal, J.C., and DiTomaso, J.M. 1997. *Weeds of the Northeast*, Comstock Publication Associates, Cornell University. 408 pp.

Phoebe Antonio, Hilary Sandler, and Katherine Ghantous, November 2021

UMass Cranberry Station
1 State Bog Road, East Wareham, MA 02538
www.ag.umass.edu/cranberry

