

# Weed Alert

## Common reed

(*Phragmites* spp.)



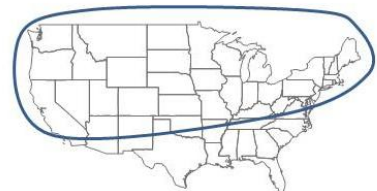
Gulf Coast *Phragmites* (Lee Co., Florida)



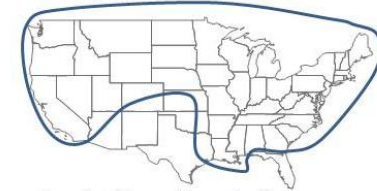
Eurasian *Phragmites* (Georgetown Co., South Carolina)

*Phragmites* spp. are tall, perennial, wetland grasses, occurring in both fresh and brackish waters. Three genetic lineages are known to occur in North America; 1) native North America types of *Phragmites australis*, 2) a non-native Eurasian type of *P. australis*, and 3) a Gulf Coast type which is now considered to be a distinct species, *Phragmites karka*. The native North American types occur in the Northeast, Midwest and Western USA. The Eurasian type is an aggressive invader which has outcompeted and replaced virtually all the native types along the Atlantic coast of the United States, and has also invaded coastal areas of South Carolina and Georgia where *Phragmites* was not previously known to occur. It has also moved into the upper Midwest, the Mississippi River Delta, and into western states.

The Gulf Coast lineage (*Phragmites karka*) occurs widely from the Eastern Atlantic coast of Florida, along the Gulf Coast from Florida to Texas and south into Mexico, Central America and South America. *Phragmites karka* also occurs in Australia and Polynesia, suggesting that the Gulf Coast type may not be native to North America.



Native *Phragmites australis*



Eurasian *Phragmites australis*



Gulf Coast *Phragmites karka*

A survey conducted in 2009/2010 by the University of Florida identified non-native Eurasian populations of *P. australis* in Georgia, South Carolina, and Louisiana. The closest the Eurasian type was found to Florida was 42 miles north of the Florida border along Interstate 95 in Georgia.

**Reproduction of *Phragmites***

There are reports of prolific seed production in some populations of *Phragmites*, but seed germination is typically low. In many populations, little or no seed production has been observed. During a recent survey of *Phragmites* at 102 locations in Florida, Georgia, South Carolina, Alabama, Mississippi and Louisiana, no plants bore seeds, despite the presence of mature panicles at all locations. The lack of seed may be due to self-incompatibility, as all plants at a given location may belong to a single clone. *Phragmites* does spread through the growth of rhizomes, and it is thought that the majority of spread within a population is due to clonal growth. Broken pieces of rhizomes may be responsible for dispersal of *Phragmites* along water courses.



**Why be concerned about possible invasion of non-native Eurasian *Phragmites* into Florida?**





The Eurasian type of *Phragmites* has proven to be a highly aggressive invader, particularly in the Northeastern and mid-Atlantic states, where it has largely displaced native *Phragmites*. A study conducted in the Mississippi River Delta in Louisiana demonstrated that the non-native type can outcompete the Gulf Coast type. Thus, the non-native *Phragmites* may have the potential to displace Gulf Coast *Phragmites* and other wetland plants if it invades Florida.

**How can Gulf Coast and Eurasian *Phragmites* be distinguished?**

Eurasian and Gulf Coast *Phragmites* are morphologically distinct, and can be separated by the three characters indicated in the table below. Fine longitudinal ribbing on the stems of Eurasian *Phragmites* may be the best character to separate the two types. The ribbing can be detected visually, but also by slowly rotating the stem under a finger nail.

**Characters to distinguish Gulf Coast (*P. karka*) and non-native Eurasian *P. australis*.**

Character	Gulf Coast	Non-native
Stem texture	Smooth, shiny 	Ribbed, slightly dull 

Panicle form	Open, often drooping 	Compact, typically erect 
Stem color	Red where exposed (green behind leaf sheath) 	Green where exposed 

Information compiled by W. A. Overholt<sup>1</sup>, D. A. Williams<sup>2</sup> and R. Diaz<sup>1</sup>. Distribution maps based on 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* 99: 2445–2449 and Overholt, W. A., R. Diaz, M. Hanson and D. Williams. 2011. *Phragmites in Florida. Aquatics* 33: 6-7.

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