common reed (Phragmites australis)

Description

- Common reed is usually known simply as 'phragmites'.
- Refer to the DCNR Invasive Plants page, and the phragmites factsheet.
- Herbaceous, rhizomatous, perennial, cool-season grass.
- Grows in tall (6- to 12-plus feet), dense stands that exclude almost all other vegetation.
- The invasive form of phragmites is an exotic genotype likely introduced via ship ballast. There is a native form that is non-weedy and much less common.
- Grows in tidal and non-tidal marshes, other wet areas, and will persist in terrestrial settings when introduced via rhizome fragment.

Management Keys

Due to its sheer size, density and persistence, phragmites is difficult to control, but as long as you are willing to invest the effort and follow a few guidelines, it can be successfully suppressed.

Another complicating factor is that phragmites is a wetland species, and will commonly be growing in sites with surface water or saturated soil present at least seasonally. This hinders mechanical operations and adds regulatory requirements to herbicide applications.

Treatment Timeline

The steps in an ideal phragmites suppression program include two years of suppression and ongoing monitoring, knocking down the persistent stems to improve access and monitoring, and burning or scarifying the accumulated residue to expose the soil surface and release native emergent plants from the seed bank.

Be Persistent

There are two phases of invasive species management – control and maintenance. The control phase for phragmites requires two seasons. A rigorous follow-up treatment is necessary in the second season to complete the reduction resulting from the initial treatments.

After your control efforts have nearly eliminated phragmites, you need to periodically monitor the sites and spot-treat any new growth to prevent re-infestation. The critical objective is to remove phragmites and promote revegetation from the native species in the seedbank.

Target the Rhizomes – Timing is Key

To eliminate phragmites, you have to injure the rhizomes. This is most effectively done with systemic herbicides. Systemic herbicides are most effective when applied later in the growing season. This is when the foliage is sending sugars produced through photosynthesis to the roots and rhizomes. Systemic herbicides move through the plant with the sugars. Applications made too early in the season do not translocate as effectively to the rhizomes, and only injure the top growth.

Patches, or Plague?

The size of the infestation will dictate the utility of operations such as mechanical disturbance or prescribed fire. Best case, you detect phragmites when there are few stems, and you treat them individually with a 'wipe' treatment, without disturbing the site or adjacent desired vegetation. If you have discrete patches that you could effectively spray from the perimeter of the patch, you do not need to conduct more intensive practices such as cutting or burning. Operations to reduce the height and density of phragmites are beneficial when infestations are large enough that you cannot treat without having to plod into the dense interior of the growth. In that setting, effective spray coverage is challenging, at best.

Should I Disturb?

Cutting, disking, rolling, or other operations that knock down the persistent dead stems do not *control* phragmites. However, if soil conditions permit, they definitely make continued work on the site easier. Doing this in June would also set back the new growth and leave a shorter, sparser stand to treat later in the season. In extensive patches, even just creating some parallel vehicle-width pathways would make subsequent spraying much more efficient.

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Recommended Herbicides

Glyphosate is very effective and has the advantage of no soil activity. G*lyphosate* products typically available on the PA statewide herbicide contract with aquatic labeling are 'Rodeo', 'Aquaneat', and 'Glyphomate 41'.

Imazapyr (e.g. 'Polaris', 'Habitat') is commonly regarded as the most effective herbicide against phragmites. However, *imazapyr* has considerable soil activity, and application near desirable trees is not recommended.

Our current recommendation is to apply a mixture of *glyphosate* and *imazapyr,* with *imazapyr* rate adjusted as needed based on proximity of desirable trees. This may seem to be overkill, but you cannot effectively restore the site until the phragmites is controlled. When you've made the effort to treat, you should have the most effective herbicide mix possible.

Where's the Water?

If standing water is present, a spray application requires the presence of an applicator certified for aquatic application, and a permit from the PA Fish & Boat Commission. On sites that are only occasionally saturated or inundated, it is easier to wait for drier conditions so that a permit is not required.

Figure 1. The management calendar for phragmites emphasizes late-season applications of systemic herbicides to maximize injury to the rhizomes.

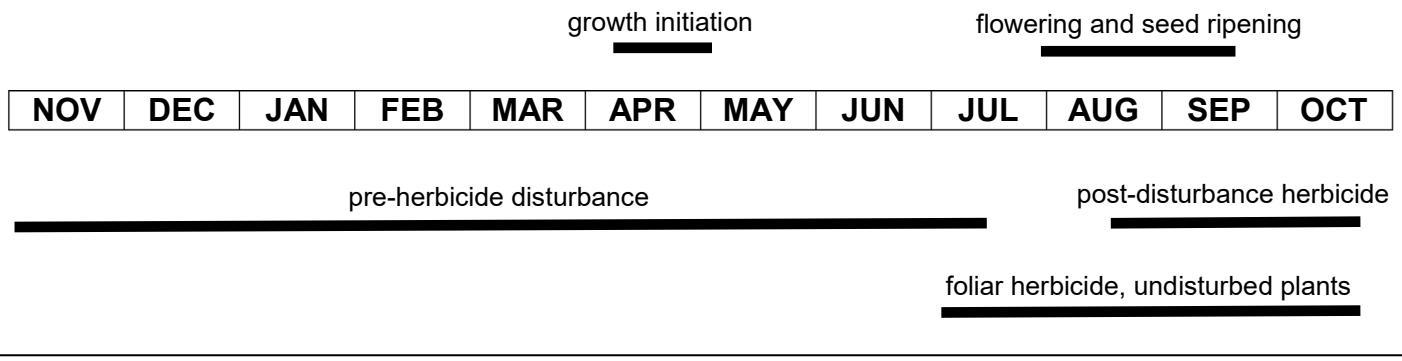

Table 1. Prescriptions for elimination of phragmites stress proper timing of operations to maximize injury to rhizomes. Improper timing (impatience) will result in treatments that provide 'topkill' (shoot injury) but no net effect.

Timing	Treatment	Product Rate	Comments
At least 8 weeks prior to herbicide application	Cutting, tillage, rolling, or prescribed fire to knock down stems	n/a	The most useful operation will knock down the persistent, dead stems *and* set back the current year's growth. Dead stems can make up 2/3 of the stand, and setting back the new growth in June will result in a shorter, sparser stand to treat later in the season. Disking or similar shallow soil disturbance will knock down stems *and* expose soil, enhancing germination of desired native species in the seed bank after phragmites are killed. Prescribed fire has the advantage of removing much of the persistent biomass, making subsequent operations easier.
July to October	Foliar Herbicide: 'Rodeo' (or equivalent) with/without 'Polaris (or equivalent)'	96 oz/ac with/without 16 to 64 oz/ac	Use either of these mixes for foliar application, waiting eight weeks after a cutting to treat, or treat undisturbed phragmites after July 1. Use an aquatic surfactant such as 'CWC 90'. Phragmites will usually remain green into October, allowing time for a follow-up application as well. 'Polaris' (*imazapyr)* has significant soil activity and should not be used in close proximity to desirable trees. For high-volume (spray-to-wet), mix on a 100 gal/ac basis (e.g. 'Rodeo' would be 96 oz/100 gal, or 0.75 percent by volume). For spot treatment, calibrate your sprayer ("Simplified Sprayer Calibration").
July to October	Stem Wipe with 'Rodeo' (or equivalent)	1:1 mix with water	Highly selective method to treat sparse stands. Use a cloth glove over a chemical resistant glove, wet the cloth glove with spray mix, grasp the stem and wipe about a 12-inch band. Add spray colorant to track treated stems.