



Control of *Phragmites australis* in CT

Paul Capotosto, Roger Wolfe, Bonnie Lathrop

CT DEEP, Bureau Nat. Res., Wildlife Division, Wetland Habitat and Mosquito Management (WHAMM) Program

Abstract

What is *Phragmites australis*? Common Reed (*Phragmites australis*) is an invasive and exotic grass that dominates thousands of acres of wetlands in Connecticut. This invasive perennial plant can grow up to 7m tall in brackish, tidal fresh and non-tidal freshwater wetlands. *Phragmites* forms dense colonies, or clones, which can spread by seed but also through thick underground rhizomes with new shoots forming at each node along the rhizome. The Wetland Habitat and Mosquito Management (WHAMM) Program of the Connecticut Department of Energy and Environmental Protection (CT DEEP) has actively worked to control and manage invasive *Phragmites* for over 20 years. The WHAMM Program integrates various methods to control *Phragmites* including restoration of tidal salt-water flows, and/or a combination of herbicide applications and mowing. Control of *Phragmites* is a vital component of the WHAMM Program's more comprehensive Integrated Marsh Management (IMM) Program for restoring tidal wetlands in Connecticut.



a) *Phragmites* forms tall, dense stands; b) Monotypic clones of *Phragmites* dominate the marsh at Poquetanuck Cove, Preston; c) New shoots forming along the nodes of a *Phragmites* rhizome; d) fires from *Phragmites* burn hot and spread quickly.

Control Methods

Restoring tidal salt-water flow

Phragmites is intolerant of soil salinities greater than 18 ppt. Restoring tidal salt-water flow to areas previously altered by impounding or other means of tidal flow restriction helps eliminate *Phragmites* while promoting growth of native halophytes.



a) Culvert installation increases tidal flow at Little River, New Haven; b) Waterman's Self Regulating Tide Gates (SRTs) at Old Field Creek, West Haven.

Mowing

Low ground pressure equipment, such as a Marsh Master® or ARGO®, as well as hand cutting, can be used to mow *Phragmites* and remove dead stems.



a) Marsh Master II with an attached brush hog-style mower will cut brush up to 1" diameter; b) ARGO® with an attached tow-behind Swisher® mower (or DR® mower).

Herbicide Application

Applying systemic herbicides for 2-3 consecutive years has proven to be an effective control method. The following herbicides are applied at an average rate of 25 gallons per acre. For large stands, spraying is conducted using pump sprayers mounted on low ground pressure equipment, while backpack sprayers are used for re-treatments, lighter applications or in sensitive areas.

- Imazapyr** (1.5% solution) mixed with **MVO Plus** (methylated vegetable oil; 0.5%)
- Glyphosate** (2.5% solution) mixed with **Alligare 7** (drift control agent, defoamer, and acidifier; 0.5%)



a) Treating a tall *Phragmites* stand using the Marsh Master® and hydraulic pump sprayer; b) backpack sprayer used to target recurring *Phragmites* stems at Dodge Paddock, Stonington, one year after initial application.

Conclusion

Controlling *Phragmites* allows native vegetation to reestablish with each growing season.



a) Restored salt hay meadow at Groton Long Point; b) *Salicornia* and other pioneering species following *Phragmites* abatement on the Connecticut River.