Landowners Guide For Controlling Phragmites

An aggressive, nonnative variety of phragmites *(Phragmites australis)*, also known as common reed, is threatening the ecological health of Nebraska wetlands and riparian areas.

Growing Season

Winter

This invasive variety of phragmites is becoming widespread throughout the State of Nebraska. Our neighbor to the East, Lancaster County has over a hundred reported sites (see map at end of brochure). Even though the infested acres are quite small, infestations are scattered throughout the county and have enough seed production to potentially infest any areas having a saturated soil condition sometime during the year. The infestations have been found along streams, wetlands, ponds, lagoons road ditches and railroads. Once started in these areas, it quickly forms a colony that completely crowds out all other plants including cattails. If these scattered infestations are not controlled, solid stands of phragmites will completely cover wetlands and the riparian areas along upland streams. The rapid expansion of this variety of phragmites will result in adverse ecological, economic and social impacts on the natural resources of Seward County and the entire Lower Platte River Basin.

The easiest way to control phragmites is to begin a control program as soon as it is observed on your property, before the plants become well established. With the cooperation of landowners, complete eradication of this early invasion of phragmites may be achievable. An aggressive approach is needed now to prevent the potential for a rapid expansion to Seward County riparian areas. **Contact our office to report an infestation and/or for assistance in developing a control plan.**

Understanding Phragmites

To better control and manage phragmites it is helpful to understand the physical characteristics of the plant, as well as how and when it reproduces and spreads. In Nebraska, phragmites is growing along rivers, streams, floodplains and lakeshores with heaviest concentrations in the central Platte area but is being found throughout the Platte River and other rivers. It now is also beginning to be found in upland sites such as drainage ways, roadside ditches and other low wet areas. Phragmites continues to expand within Nebraska, in part because it reproduces through wind and water dispersal of seeds and vigorous vegetative reproduction through rhizomes, which can grow 30 feet or more in one year. Rhizomes broken by natural actions, such as waves, or man-made actions, such as dredging or disking, readily re-root in new locations.

Phragmites rhizome

Phragmites plants range from 6 to 15 feet in height, yet 80 percent of the plant is contained below ground in a dense mass of roots and rhizomes that can penetrate the soil to a depth greater than six feet. In the summer, its flat gray-green leaves are 2 to 2.5 inches wide, 8 to 15 inches long and alternate along the stem. Phragmites has a distinctive purple-brown seed head with plumes appearing by late July. These feathery plumes that form at the end of stalks are 6 to 20 inches long and up to eight inches wide with many branches.

Phragmites turns a tan color in the fall and most leaves drop off, leaving only the stalk and plume-topped shoot commonly seen throughout winter. Each mature plant can produce as many as 2,000 seeds annually. New stands of phragmites may develop from seed, which is spread by water and the wind, although this is a slower process than spreading by rhizome fragments. There is also a native phragmites plant, which potentially may also be found in Seward County. Before attempting to control phragmites, it is important to identify the native phragmites versus the non-native, invasive variety. Additional information on how to identify native versus non-native phragmites can be found at www.invasiveplants.net/phragmites/phrag/morph.htm. Contact our office and we will assist you in making the identification and provide you assistance in developing a control plan.

Recommended Management Strategies

Controlling the spread of phragmites is crucial to the restoration of native wetland plant communities and protection of vital fish and wildlife habitat. Phragmites can easily spread if improper control methods are used. The following guidelines will help ensure that phragmites control efforts are effective. Phragmites can be controlled using an initial herbicide treatment followed by mechanical removal (e.g., cutting, mowing) and annual maintenance. For large areas with dense stands of phragmites, prescribed burning used after herbicide treatment can provide additional control and ecological benefits over mechanical removal. However, phragmites burns very hot and fast, and only trained personnel should perform prescribed burns. A burn permit and approval is required from local fire departments. No biological control methods for phragmites are currently available. However, researchers at Cornell University are studying several insects native to Europe that are known to attack phragmites as possible biological controls.

To date, field experience and research have shown that using herbicides is the most effective method and is recommended as the first step toward effective control of phragmites. Glyphosate and imazapyr (Habitat) are two herbicides known to be effective in controlling phragmites. These herbicides are non-selective and will affect any plant species through contact with the leaves and stems. However, when applied using the correct method and used according to chemical manufacturer's instructions, impacts to native plants, as well as mammals, birds, and fish can be minimized. The aquatic formulations of these herbicides are

required for use in wetlands. An additional chemical called a surfactant should be added to these aquatic formulations to improve the effectiveness of the treatment.

Herbicide Selection

While the cost per gallon of Habitat can be significantly higher than Rodeo or other glyphosate products, results from recent studies suggest that Habitat used alone or in combination with glyphosate can control phragmites for a longer period of time. When using herbicides, phragmites should be treated in early to late summer (June – September) using Habitat, or late summer (August – September) using either glyphosate or a glyphosate/Habitat mixture, to achieve effective control. Indications are that earlier applications are the most effective.

Methods of Application

Numerous methods may be used to apply these herbicides, depending on the size of the phragmites stand and existing site conditions. Herbicide application methods for scattered plants or isolated plant stands include: injecting stems, hand swiping or selective hand spraying. Spot treating areas with scattered plants or isolated stands can prevent the establishment of large dense stands and is more cost effective.

Large dense stands may require use of commercial equipment. The use of a licensed or certified applicator is recommended to minimize damage to native plants and to ensure that safety requirements are met. The use of a licensed applicator certified in aquatic pest management is recommended for herbicide application in wetlands. Pesticide use certification is required prior to using Habitat according to the manufacturer's label and is recommended prior to using glyphosate.

As with most invasive plants and animals, complete eradication of phragmites is unlikely. Phragmites control requires a commitment to an integrated and long-term management approach. To achieve desired results, herbicides must be used in conjunction with mechanical methods or burning, and re-applied in subsequent years to spot-treat individual plants or patches of plants that were not completely eliminated in the first application. Large, dense phragmites stands will likely require follow-up spot treatments, and phragmites will continue to re-establish from remnant and neighboring populations, as well as the existing seed bank. Phragmites typically begins to recover three years after treatment and will become reestablished unless follow-up annual maintenance occurs, including spot treatment with herbicides.

Application Rates

Wet Sites - Sites with standing water at the time of the application must use an aquatic labeled herbicide.

HABITAT - Apply to actively growing green foliage after full leaf elongation and up to first killing frost, ensure 100% coverage. (i.e., July up to first killing frost). Earlier applications have shown to be most effective. If stand has a substantial amount of old stem tissue, mow or burn, allow to re-grow to approximately 5' tall before treatment. Mowing and spraying the re-growth also would make it easier to spray and to get complete coverage.
Application rates – 6 pints per acre (1.5% solution) with a nonionic surfactant at the rate of 0.25% or MSO at the rate of 1.5 to 2 pints per acre.

RODEO OR OTHER AQUATIC LABLED GLYPHOSPHATE - Apply after plants are in full bloom and up to first killing frost, ensure 100% coverage. (i.e., Late August up to first killing frost). Earlier applications have shown to be most effective. If stand has a substantial amount of old stem tissue, mow or burn, allow to re-grow to approximately 5' tall before treatment. Mowing and spraying the re-growth also would make it easier to spray and to get complete coverage.
Application rates – 6 pints per acre (3/4% solution) with a nonionic surfactant containing 80% or more active ingredient. It is important to use clean water.

Dry Sites – Sites without standing water at the time of the application

Roundup Pro and other glyphosphate products may be used in accordance with their labels. Apply 3-5 quarts per acre (1-2% solution) after full bloom and up to first killing frost, ensure 100% coverage.

Seward County Weed Control
P.O. Box 153
Seward, Nebraska 68434
402-643-3525
sewardweed@windstream.net

2008 PHRAGMITES