

Weed Awareness

Prepared by

Weed Control Authority
Lancaster County



The Weed Control Authority is responsible for implementation of the Nebraska Noxious Weed Control Act throughout Lancaster County. The authority has also provided the inspection and administration of the City of Lincoln's Weed Abatement Program since entering into an interlocal agreement with the city in 1996.

The County Commissioners serve as the Lancaster County Weed Control Authority. Russell Shultz serves as the superintendent and supervises a seasonal staff of six weed inspectors with the assistance of Chief Inspector Barb Frazier and Lori Pracheil, Account Clerk.

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2009 Annual Report

The major goal of the Lancaster County Weed Control Authority is to get voluntary compliance of the landowners with the Nebraska Noxious Weed Control Act and the City of Lincoln Weed Abatement Program.

The first step is to make the landowner aware of these responsibilities and obtain their willingness to abide by them. The second step is to provide any needed assistance to the landowners. And the third step is to carry out an inspection program, as needed, to identify infestations and violations for the purpose of getting landowners to prevent and control the noxious weed infestations or to avoid and correct weed abatement violations when they occur.

Noxious Weed Program

The Lancaster County Noxious Weed Program promotes awareness and knowledge to landowners to carry out effective control programs. The program provides general awareness through the annual Weed Awareness special section in the UNL Extension in Lancaster County NEBLINE, the Lancaster County Weed Control Authority Web page, exhibits and newsletters.

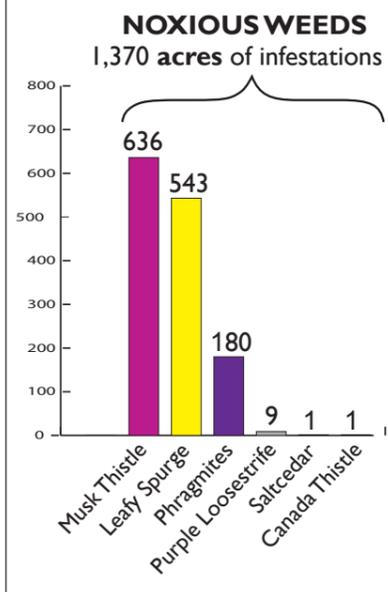
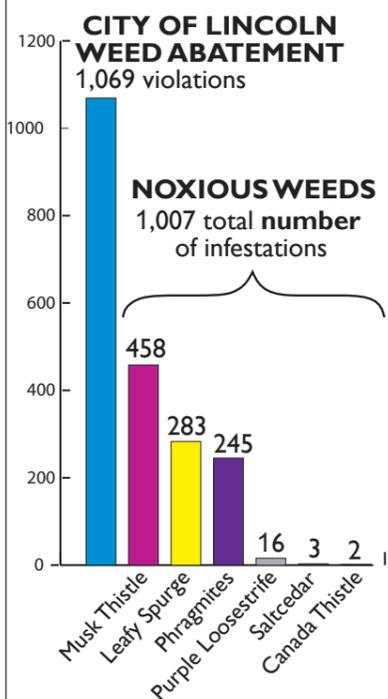
The most direct awareness effort is carried with an extensive survey and inspection program. This program utilizes a computer data base of all inspections since 1994 and the Lincoln/Lancaster Geographic Information System used to record the locations of noxious weed infestations found.

Sites are selected from previous year's inspection information which indicates the severity and extent of the infestation and the control efforts made by the landowner. Sites are selected where it is felt the landowner needs a reminder letter or assistance in control efforts and, in a few cases, the need for possible forced control.

These landowners are provided with an aerial photograph showing the location(s) of the noxious weeds found by the inspector and recommended options for control. Additional landowner sites are inspected when observed or a complaint is received and infestations found. Follow-up inspections are made to assure control is accomplished.

Musk Thistle — In 2009, 528 sites were selected for inspection. An additional 23 sites were inspected because of complaints received and seven sites observed by the inspectors during their other inspections. Over 6,280 acres were

Inspection Summary



inspected resulting in finding 458 infestations on 636 acres. Cards were sent to 58 landowners with only trace infestations, reminder letters were sent to 254 and 89 legal notifications were sent. The Authority contracted for forced control on six sites and seven acres. Landowners controlled 376 sites on 597 acres. Landowners did not completely control 82 sites on 39 acres. These landowners received letters about doing fall control and informed these sites would be inspected in the spring of 2010.

Leafy Spurge — A total of 345 leafy spurge sites were selected for inspection. County roadsides made up 191 of the sites selected. The 137 county roadside sites found to be infested were contracted for spraying. There was a total of 542

acres found infested on 283 sites. Reminder letters were sent to 95 landowners. A total of 332 acres (96%) were controlled.

Phragmites — We found 245 phragmites sites in 2009. These sites cover almost 180 acres. See the map below right. The 38 sites found on county roadsides were contractor controlled. Landowners were provided control options and they controlled or paid for the control of all the other sites. We will be doing follow-up inspections in May 2010 to determine if any follow-up control is needed.

Purple Loosestrife — All 21 known purple loosestrife infestations were inspected. One ornamental site was also inspected as a result of being observed by an inspector. A total of 45 inspections were made on the 24 sites. Inspectors found 16 violations on nine acres. Landowner notifications included four legal notices and 15 reminder letters. Landowners controlled 15 sites. Follow-up will be made on all 16 violations.

Other Noxious Weeds — Canada thistle inspections were made on two sites and were controlled by the landowners. Saltcedar was controlled on all three sites found.

City of Lincoln Weed Abatement Program

The City of Lincoln Weed Abatement Ordinance requires owners of land within the city limits to maintain the height of weeds and worthless vegetation below six inches. Three seasonal inspectors are used in administering this program. Most inspections are carried out as a result of complaints. There were 123 properties pre-selected for inspection because of past violations and the lack of response to correct the violations. There were 1,430 complaints on 1,214 properties. An additional 189 properties were inspected and observed as having violations.

It required 3,144 inspections to make the initial and follow-up inspections on 1,404 sites on 901 acres. Violations were found on 1,069 sites on 527 acres. Complaints were made on 338 sites that did not have a violation when inspected within three days of the complaint. These sites either were not in violation when the complaint was made, or they were cut prior to the inspection. Notifications of violations were made with 743 legal notices, 497 reminder letters, 15 published in the paper and nine personal contacts. Landowners cut 904 sites and forced cutting was contracted on 157 sites.

Phragmites Control in 2009

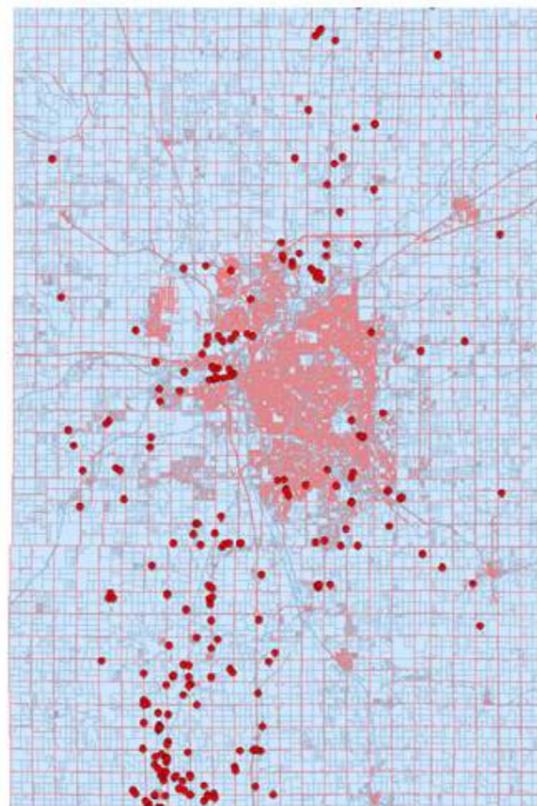


Phragmites was designated a state noxious weed in April 2008. Preliminary surveys found 70 infestations in the county in 2008. All these landowners were sent information on phragmites control methods and a list of contractors. Previous information on phragmites alert was provided by the Weed Control Authorities in the Weed Awareness Insert in the UNL Extension in Lancaster County NEBLINE in 2007 and 2008. The March 2009 Weed Awareness Insert provided a location map and information on the 2009 control strategy.

Survey of Locations

A 1,400 mile county road survey was made during March and April 2009. Ten landowners reported 10 sites, and an unknown number controlled infestations without reporting as a result of information received in previous Weed Awareness inserts. A total of 245 infestations were found on 180 acres. These infestations were found in the full-length of the county with an average size of less than one acre (see map below). These infestations have a seed source with the potential to infest all the wetlands in the county. One-third of the infestations and 50% of the acres are on

continued on next page



Locations of phragmites infestations found in Lancaster County during 2009.

Weed Awareness

Phragmites Control

from previous page



Map showing phragmites areas treated by helicopter at the 48th Street Landfill.

public land or railroads. Contacts were made with managers of these public lands and railroads:

- County Road Engineer
- Nebraska Game & Parks
- Lincoln Parks and Recreation
- Nebraska Public Power District
- Lower Platte South NRD
- Nebraska Roads Department
- Lincoln Sanitary Landfill
- BNSF Railroad
- UP Railroad
- County Commissioners

All of them responded positively and controlled their infestations. The County Commissioners provided funds to have the county roadside infestations controlled.

Developing a Control Plan

A list of contractors willing to provide phragmites control was prepared. A helicopter applicator was also contracted to be available for landowners. The county commissioners budgeted the anticipated cost of the helicopter applications. Landowners who chose to use the helicopter applicator were issued a legal notice and billed for their application. The county then paid the helicopter applicator. A Landowner's Guide for Controlling Phragmites was developed, printed and placed on the Weed Control Authority Web site at lancaster.ne.gov/cnty/weeds/.

Notifying Landowners

All landowners were notified of their responsibility for controlling phragmites. They were provided a location map and photo of their infestation, contractors available for hire, landowner's guide, offer for assistance in developing a control plan and a self-addressed planned treatment card.

Landowner Response

Many thanks go to the landowners for their control efforts. Positive responses were received from 94% of the landowners on 99% of the infested acres. The helicopter applicator treated 90 acres (50%) of the infested acres. The availability of the helicopter applicator was very important to the overall control effort. The multi-acre sized infestations would have been very difficult to control satisfactorily from the ground. Landowners willingly provided 100% of the cost of the control.

Follow-up

The effectiveness of the 2009 treatments will not be evident until regrowth this spring. All sites will be inspected in May 2010. Landowners will then be notified of any follow-up control needed. Inspectors will be on the lookout for any new infestations. Landowners and the public are asked to do likewise.

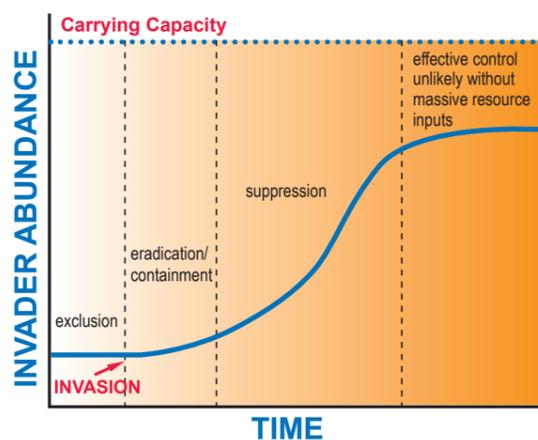
Nebraska Noxious Weed Control Act Revision Proposal

Situation

The Nebraska Noxious Weed Control Association is proposing a revision of the rules and regulations for the Nebraska Noxious Weed Control Act. Nebraska, along with most states lists a weed as noxious only in the late stage of the invasion. Only seven states have multi-category designations that address potential noxious weeds not yet in the state and at a very early stage of their invasion. If such provisions would have been in place in Nebraska 10 years ago, we would have dealt with phragmites and saltcedar at the early stages of their invasion and we would have had the needed strategy to eradicate it or at least have kept it in check at a small fraction of the cost required now.

Stages of Invasion

Strategies for managing invasive plants should be applied for each of the four stages of the invasion process. We first must try to exclude potential invaders and have provisions for the eradication of new invaders. We also need well-thought out strategies to deal with those noxious weeds well established in the state. Organizing by invasion stage emphasizes rapid response to new invaders which has been shown to be more cost-effective than prolonged management of widespread



Adapted from Chippendale 1991; Hobbs and Humphries 1995.

species. In order to implement these provisions, we need to know what highly invasive, hard-to-control plants have a potential to invade Nebraska. A Weed Risk Assessment should be used to identify specific "classes" of invasiveness of potential noxious weeds present in the state in surrounding states or plants from elsewhere that may find a favorable habitat in the state. The Nebraska Department of Agriculture, with input from the Nebraska Weed Control Association, could then develop noxious weed categories. The status of designated noxious weeds may range from not known to be present to being established and widespread in the state. This would give County Weed Control Authorities the authority to exclude invasive plants from entering the state and eradicate

Rapid response to new invaders has been shown to be more cost-effective than prolonged management of widespread species.

them if they show up in the state.

Proposed Revision

The revised rules and regulations will have to go through a comment period and a hearing, then be approved by the Governor. The Nebraska Weed Control Association is developing recommended revisions of rules and regulations that would include noxious weeds designation process, a listing of noxious weeds by categories and the inclusion of species specific weed management plans. The Nebraska Department of Agriculture would use these recommendations to finalize the revised rules and regulations in consultation with the Nebraska Weed Control Association and others.

See the article "Lancaster County's Invasive and Noxious Weed Alert List" (on page after next) to see how the Lancaster County Weed Control Authority is asking for help in locating invasive plants rare to non-existent in the county and pose the greatest threat.

Weed Control Resources

University of Nebraska–Lincoln Extension's current Guide for Weed Management in Nebraska (EC130) is the Nebraska Department of Agriculture's (NDA) official reference for the herbicide control of noxious weeds. The guide has a special section on noxious weeds prepared in cooperation with NDA. This section provides information options for herbicide control for each noxious weed. It provides information application rate and timing with estimated chemical cost. It has an excellent section on application equipment and practices which includes nozzle selection, calibrating sprayers, and spray additives. Cost for printed book is \$10 plus tax or it can be viewed online free.

UNL Extension and the NDA have developed a series of free publications on the biology, identification,

distribution and control of the state's noxious weeds.

- Canada Thistle (EC171)
- Plumeless Thistle (EC172)
- Spotted and Diffuse Knapweed (EC173)
- Leafy Spurge (EC174)

- Purple Loosestrife (EC176)
- Musk Thistle (EC177)
- Saltcedar (EC164)
- Common Reed (Phragmites) (EC166)

These UNL Extension publications can be obtained at County Weed Control offices, extension offices or viewed online at www.ianrpubs.unl.edu.



Weed Free Forage Certification Program

You can prevent potential noxious weed infestations by insisting on Certified Weed-Free forage. As a buyer, you should be aware noxious weed infested forage products can cost you hundreds or even thousands of dollars down the road. Ask your forage supplier to have their hay certified prior to harvest. Forage growers must call the Lancaster County Weed Control Authority one to two weeks prior to harvesting. There is no charge for the field inspections. There

is a small charge for the cost of bale tags. Nebraska carries out its Weed-Free Forage Certification Program in accordance with the standards of the North American Weed Management Association. Certified weed-free forage products include: straw, alfalfa/grass hay, forage pellets/cubes, alfalfa hay, grain hay and grass hay. Weed-free forage is required on many U.S. Forest Service and Bureau of Land Management lands, in National Parks, Bureau of Reclamation land, military

locations, tribal lands, as well as, National Fish and Wildlife refuges. The Nebraska Department of Roads requires weed-free forage on highway projects. Restrictions may apply to other lands administered by county, state or federal agencies. If you have questions about certification regulations or weeds not allowed in certified forage, please see the North American Weed Management Association's (NAWMA) Web site at www.nawma.org for a complete list of weeds and regulations.

Weed Awareness

Lower Platte River Weed Management Area Report

The Lower Platte Weed Management Area (LPWMA) has been working with landowners in the Lower Platte River Basin since 2003 fighting the non-native plants invading the Platte River and its tributaries. The LPWMA includes the ten counties in the Lower Platte River Basin, including Lancaster County.

In 2009, the treatment of over 2,000 acres of phragmites infested sandbars was completed on 120 miles of the Lower Platte River. A total of 751 acres on 56 miles of the river below Fremont were treated in 2008 leaving 64 miles to be treated. The goal of the Lower Platte River Weed Management Area (LPWMA) was to complete the treatment of the vegetated sandbars in the 120 miles of the Lower Platte River and to provide control of all upland phragmites sites found to prevent them from re-infesting the river.

Control

About 1,300 acres of sandbars of the remaining 64 miles on the river was treated by helicopter in 2009. An additional 34 acres of the river were treated by County Weed Control Authorities from airboats with the operators' time donated. A total of 206 acres were treated on 279 upland sites of phragmites in the 10 counties. This included 102 acres on 19 sites treated by helicopter in Lancaster and Saunders Counties. The areas sprayed by helicopter are shown on the map above right and also can be viewed at www.nrdmapmaker.org

Surveys

Follow-up surveys of the river from the 2008 survey were made in order to provide the helicopter operator with maps to guide his applications. Road surveys were made in March and April for upland phragmites sites. These sites can also be viewed at www.nrdmapmaker.org.

An area survey was also made of the 56 miles of river treated in 2008. About 10 acres of missed areas were treated.

Landowner Information

A *Lower Platter Newsletter* was prepared and sent out to about 500 landowners outlining the 2009 plans. A *Landowner's Guide for Controlling Phragmites* available at www.lowerplattewma.org was also prepared and distributed. All landowners found to have phragmites infestations, were provided a map of the locations with control recommendations.

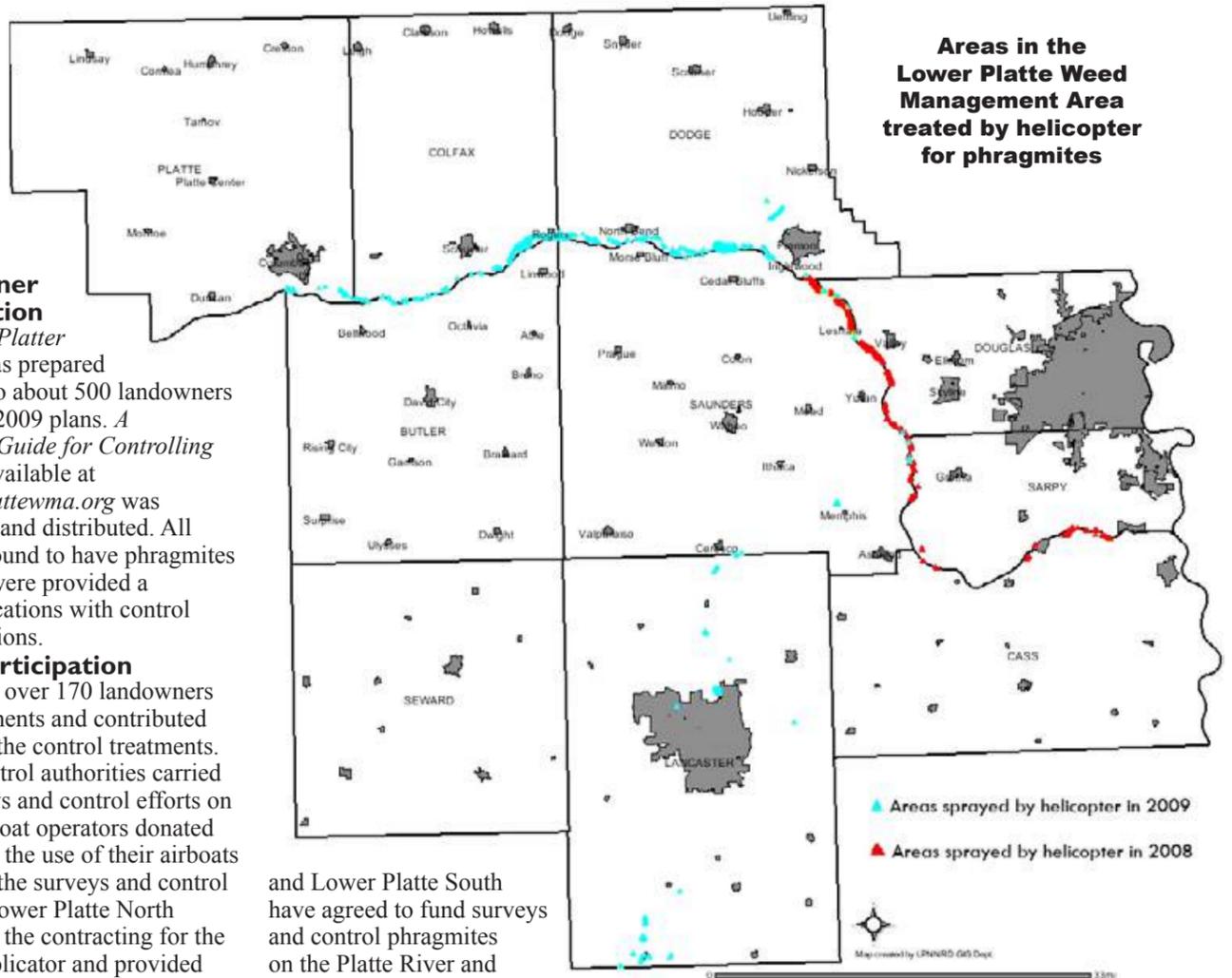
Participation

All of the over 170 landowners signed agreements and contributed to the cost of the control treatments. The weed control authorities carried out the surveys and control efforts on the river. Airboat operators donated their time and the use of their airboats to assist with the surveys and control efforts. The Lower Platte North NRD handled the contracting for the helicopter applicator and provided cash match for the application of a \$46,000 grant from the Nebraska Department of Agriculture.

2010 Plans

An aerial survey of the river will be made to determine if there needs to be follow-up helicopter applications, airboat surveys to find and control small infestations and upland surveys for phragmites. These efforts will have broad support and input. Three natural resources districts, Papio, Lower Platte North

and Lower Platte South have agreed to fund surveys and control phragmites on the Platte River and tributaries. The funding for control would be 50% cost share with cooperating landowners. Ducks Unlimited, Nebraska Game and Parks, Lower Platte River Corridor Alliance and the NRDs will be involved in planning and funding for the removal of the treated dead vegetation on the sandbars for the benefit of flood control, reduced ice jams and least terns and piping plovers.



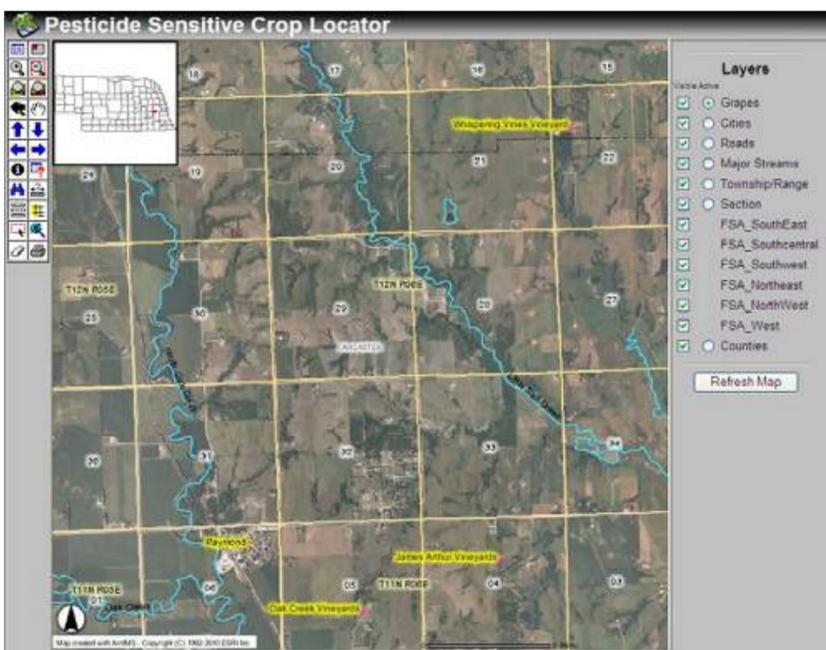
Pesticide Sensitive Crop Locator Online

While all agricultural crops can be damaged by accidental pesticide drift, many "new" crops are especially sensitive to pesticides, causing drastic economic impacts to individual growers. The Nebraska Department of Agriculture (NDA), in conjunction with the University of Nebraska Center for Advanced Land Management Information Technologies, has developed an on-line locator for pesticide-sensitive commercial crops on the web at www.agr.state.ne.us/division/bpi/ps/psci.htm.

Pesticide Applicators

Pesticide applicators are encouraged to use this Web site to determine if any sensitive crops are near a planned pesticide application site, and adjust their procedures (timing or application method) accordingly. Keep in mind, however, listings in this locator are voluntary, and not all sensitive crop locations may be listed at any one time. Applicators are encouraged to use this service and document known locations in your application records, or simply print out a view from this locator.

It would also be a good idea to scout the area beforehand to become familiar with the landscape. Stop and visit with neighbors who may have sensitive crops to let them know of



The Pesticide Sensitive Crop Locator online at www.agr.state.ne.us/division/bpi/ps/psci.htm features a database and a mapping system (shown above).

your intentions, and try to allay any concerns.

Commercial Growers of Pesticide-Sensitive Crops

NDA encourages commercial growers of pesticide-sensitive crops to register their locations on this Web site so pesticide applicators can access information for their area. This service is only as good

as the information contained here, so new information should be updated as soon as possible. In addition, growers should take the time to contact their neighbors and/or local pesticide dealers/co-ops to let them know of concerns about the potential for pesticide damage. Good communication is the key to avoiding problems.

Lancaster County Weed Control Web Site



The Lancaster County Weed Control Authority Web site at www.lincoln.ne.gov/cnty/weeds provides very useful information about the Authority's program and activities and about weed control and management. The site is continually being updated. Via the Web site, you can:

- Contact the Weed Control Authority.
- Make a weed complaint.
- Make a real-time search of current weed inspections.
- Look at a map of noxious weed locations in the county.
- See the latest listing of possible weed special assessments.
- Study noxious weed and weed abatement laws and regulations.
- Learn about noxious weed identification.
- Read about the County Noxious Weed and City Weed Abatement Programs.
- See plans and reports.
- Check on noxious weed controls.
- Learn about managing natural areas in an urban setting.
- Link to other weed control Web sites.

Weed Awareness

Learn to Recognize Lancaster County's Noxious Weeds

The Nebraska Noxious Weed Control Act states it is the duty of each person who owns or controls land to effectively control noxious weeds on such land. Pictured are Nebraska's noxious weeds which are common Lancaster County.

Noxious weed is a legal term used to denote a destructive or harmful weed for the purpose of regulation. The Director of Agriculture establishes which plants are noxious. These non-native plants compete aggressively with desirable plants and vegetation. Failure to control noxious weeds in this state is a serious problem which is detrimental to the production of crops and livestock and to the welfare of residents of this state. Noxious weeds may also devalue land and reduce tax revenue.



Musk Thistle



Leafy Spurge



Purple Loosestrife



Canada Thistle



Plumeless Thistle

Lancaster County's Invasive and Noxious Weed Alert List

This list focuses on invasive and noxious weeds — rare to non-existent in the county — posing the greatest threat.

This list has been developed as a tool to focus management efforts on the early stages of plant invasions. The public and land managers can assist in this effort by being on the look out for plants on this list and report any findings to the Lancaster County Weed Control Authority.



Phragmites



Saltcedar



Spotted and Diffuse Knapweed



Sericea Lespedeza



Japanese Knotweed

Phragmites

Common reed, or Phragmites, is a tall, perennial grass that can grow to over 15 feet in height. Phragmites forms dense stands which include both live stems and standing dead stems from previous year's growth. Leaves are elongate and typically 1–1½ inches wide at their widest point. Flowers form bushy panicles in late-July and August and usually purple or golden color. As seeds mature, the panicles begin to look "fluffy" due to the hairs on the seeds and they take on a grey sheen. Below ground, Phragmites forms a dense network of roots and rhizomes which can go down several feet. The plant spreads horizontally by sending out rhizome runners which can grow 10 feet or more in a single growing season if conditions are optimal.

Once Phragmites invades a site, it quickly can take over riparian communities, crowding out native plants and altering wildlife habitat. Its high biomass blocks light to other plants and occupies all the growing space below ground so plant communities can turn into a Phragmites monoculture very quickly. Phragmites can spread both by seed dispersal and by vegetative spread via fragments of rhizomes breaking off and transported elsewhere. New

populations of the introduced type may appear sparse for the first few years of growth, but due to the plant's rapid growth rate, they will typically form a pure stand choking out other vegetation very quickly. In Lancaster County, a total of 245 infestations on 180 acres were found in 2009. Most sites are recent infestations with potential to grow larger and to contribute to new infestations by the wind blown seeds. It is very important infestations be controlled to prevent this spread. See the article "Phragmites Control in 2009" on the front page of this Weed Awareness special section.

Saltcedar

Most saltcedars, or tamarisks, are deciduous shrubs or small trees growing 12-15 feet in height and forming dense thickets. Saltcedars are characterized by slender branches and gray-green foliage. The bark of young branches is smooth and reddish-brown. As the plants age, the bark becomes brownish-purple, ridged and furrowed. Leaves are scale-like, about 1/16-inch long and overlap each other along the stem. They are often encrusted with salt secretions. From March to September, large numbers of pink to white flowers appear in dense masses on 2-inch long spikes at the branch tips.

Saltcedars have long

tap roots allowing them to intercept deep water tables and interfere with natural aquatic systems. Saltcedar disrupts the structure and stability of native plant communities and degrades native wildlife habitat by outcompeting and replacing native plant species, monopolizing limited sources of moisture and increasing the frequency, intensity and effect of fires and floods. Although it provides some shelter, the foliage and flowers of saltcedar provide little food value for native wildlife species depending on the nutrient-rich native plant resources. In Lancaster County, a total of nine sites have been found. Only three were wild infestations. The other six were ornamental plantings.

Spotted and Diffuse Knapweed

Spotted and diffuse knapweeds are a biennial or short-lived perennials. They typically form a basal rosette of leaves in the first year and flowers in subsequent years. Flowers are purple to pink, rarely white, with 25–35 flowers per head. Plants bloom from June to October, and flower heads usually remain on the plant.

Spotted knapweed infests a variety of natural and semi-natural habitats including barrens, fields, forests, prairies,

meadows, pastures, and rangelands. It out competes native plant species, reduces native plant and animal biodiversity, and decreases forage production for livestock and wildlife. These are state noxious weeds with only one site found in Lancaster County.

Sericea Lespedeza

Chinese lespedeza is a warm-season, perennial herbaceous plant. It has an erect growth form, ranging from 3–5½ feet in height, and leaves alternate along the stem. Each leaf is divided into three smaller leaflets, ½–1 inch long, which are narrowly oblong and pointed, with awl-shaped spines. Leaflets are covered with densely flattened hairs, giving a grayish-green or silvery appearance. Mature stems are somewhat woody and fibrous with sharp, stiff, flattened bristles. Small (about ¼ inch) creamy-white to pale-yellow flowers emerge either singly or in clusters of 2–4, from the axils of the upper and median leaves.

Sericea lespedeza is primarily a threat to pastures and CRP. Once it gains a foothold, it can crowd other plants and develop an extensive seed bank in the soil, ensuring its long residence at a site. Established dense stands of lespedeza and its high tannin content makes it unpalatable to native wildlife as

well as livestock. It is a noxious weed in Kansas and some southeast Nebraska counties and found in a few sites of the county where it was planted and some escapees from these plantings.

Japanese Knotweed

Japanese knotweed is an upright, shrublike, herbaceous perennial that can grow to over 10 feet in height. Stems of Japanese knotweed are smooth, stout and swollen at joints where the leaf meets the stem. Leaves are broadly oval to somewhat triangular and pointed at the tip. The minute greenish-white flowers occur in attractive, branched sprays in summer and are followed soon after by small, winged fruits.

This plant threatens riparian corridors, wetlands and stream sides. It spreads quickly to form dense thickets that exclude native vegetation and greatly alter natural ecosystems. It poses a significant threat to riparian areas because of its ability to survive severe floods and rapidly colonize banks and islands. Once established, populations are extremely persistent. It has been planted as an ornamental with some reports of plantings in Lincoln. We would like reports of any wild infestation or ornamental plantings. It has become a serious problem in Iowa.