



# The Weed Watch

A publication of Panhandle Research Integration for Discovery Education Weed Management Area  
in conjunction with High Plains, Sandhills, West Central, Platte Valley, and Twin Valley Weed Management Areas

Spring 2014 Newsletter

## PRIDE 'Teams Up' on Yellow Flag Iris Control

### Kristi Paul, Sheridan County Weed Superintendent

Concern has been growing about the increased infestation of non-native yellow flag iris (*Iris pseudacorus*) within the Niobrara River channel in Sioux County, Nebraska. This has prompted the PRIDE Weed Management Area to assist in initiating project to control yellow flag iris.

The Cook family first introduced the yellow flag iris 25 miles south of Harrison at Agate Springs Ranch around 1906. For many years, the iris spread slowly downstream from Agate Ranch. However, in the last several years, it has spread significantly downstream within the Niobrara River channel. The infestation traverses the 3010-acre Agate Fossil Beds National Monument (AFBNM) and onto adjoining private landowners east of AFBNM. It

now invades an estimated nine miles of the Niobrara River. This expansion has been uncontrolled partly because the iris has been considered a pretty wildflower and not necessarily an invasive plant out of place! The dense monoculture of the plant has out-competed native plants and altered the water flow in some areas.

On private lands where livestock graze the yellow flag iris under a short-duration, high-intensity livestock grazing system, the infestation is much lighter. Even though yellow flag iris is known to be toxic to animals and fish, the ranchers have not noticed any toxic effects to cattle that are allowed to graze yellow flag iris at early growth stage.

AFBNM has a much heavier infestation of yellow flag iris. Current land management policy at the national monument does not allow for cattle or bison grazing.

However, the value of large ungulate grazers as a prairie management tool is recognized, and it may become an option in the future. Another available tool is prescribed fire. Although burning improves upland grassland health, the scientific literature and the monument's prescribed fire experience suggests that it is largely ineffective for controlling the iris.

Sioux County Weed Superintendent, Sioux County Board of Commissioners, Nebraska Game and Parks Commission, Agate Springs Ranch Foundation, and PRIDE are teaming up with private landowners and AFBNM to control the infestation, educate the public about the invasive non-native iris plants, and complete much-needed local research for best control methods for yellow flag iris. A literature search shows that very little, if any, research has been completed on yellow flag iris in Nebraska or Colorado.

The project partners have plans for several events and phases of the project. The first step is to map the infestation. Although the project area has been defined, the downstream area will be inspected to see if the infestation has spread further than expected. Then research will be done by implementing plots to test the success of using mechanical control, herbicide control, re-vegetation, and combinations of control methods. Jordan Spaak, a graduate student in the Department of Forest and Rangeland Stewardship at Colorado State University, will use this project for his Master's Degree in rangeland ecology.

Another step is to educate the public. For years, AFBNM staff has invited the public to view the blooming iris and enjoy the beauty! It is important for the public to understand about the invasive nature of the iris and the benefit of controlling it. Educational kiosks and wayside signs will be placed at the monument's Fossil Hills Trail Bridge, the former Fishing Access, and in or near the Visitor



Yellow Iris at Agate Springs Ranch pond thought to be 1915.

Center to explain how the plants got here, how they spread, and what we can do to help prevent the spread.

Agate Fossil Beds National Monument, PRIDE, and the Panhandle Weed Control Association will host a Weed Walk in June to showcase the project. Weed professionals from other counties or Weed Management Areas will be able to see the yellow flag iris in bloom and be prepared to spot this plant in their communities.



Yellow Flag Iris at Hoffman Bridge

# Statewide Effort “Working Together” to Control Noxious and Invasive Weeds

## Kristi Paul, Sheridan County Weed Superintendent

Nebraska currently has 13 Weed Management Areas (WMAs) across the state. In 2012, representatives from most of Nebraska’s WMAs met during strategic planning sessions to brainstorm about a statewide coalition of all of the state’s WMAs. Topics common within all WMAs include funding, structure, monitoring, and evaluation, messages relevant to a single watershed or larger area, and Early Detection Rapid Response (EDRR). In addition, pooling funds and resources and sharing information across county and WMA boundaries were also discussed, since noxious and invasive plants know no boundaries.

As a result of that brainstorming effort, Nebraska Weed Management Area Coalition (NEWMAC) became legally organized during 2013-2014. The group formed a board and elected officers, hired a statewide coordinator, and encouraged all WMAs to pay a small fee to participate in the coalition. Monthly meetings are held, with members working on several items for Outreach and Education, EDRR, mapping, and monitoring, and control projects. NEWMAC hosts an annual WMA Summit, which provides new information and education for all in attendance. Platte Valley WMA, West Central WMA, Sandhills WMA, Middle Niobrara Weed Awareness Group, and PRIDE WMA (all participants in The Weed Watch) are all members of NEWMAC.

The following information from Rich Walters, NEWMAC Coordinator, represents the collective value and impact of Nebraska’s WMAs:

The following state-designated noxious weeds have been controlled:

- Phragmites – 33,600 acres treated
- Purple loosestrife – 28,400 acres treated
- Saltcedar – 4,740 acres treated
- Musk thistle – 10,540 acres treated
- Canada thistle – 11,760 acres treated
- Leafy spurge – 16,910 acres treated
- Knapweed – 25 acres treated.
- Sericea lespedeza – 30 acres treated
- Over 106,000 acres of noxious weeds have been treated!
- Other invasive weeds (some are “County Added” noxious weeds) have also been controlled:
  - Invasive cattails – 300 acres treated
  - Russian olive – 8,800 acres treated
  - Houndstongue and Scotch thistle – 550 acres treated
  - Eastern red cedar – 1,750 acres treated
  - Giant and Japanese knotweed – 6 spots treated
- Over 11,400 acres of invasive weeds have been treated.
- Almost 2,800 miles of rivers have been monitored and mapped, and invasive plants have been controlled.

Funding was provided for these projects by:

- Nebraska Environmental Trust
- Nebraska Legislature



NEWMAC Demonstration Day.

Nebraska Department of Agriculture  
 Natural Resources Conservation Service (NRCS) –  
 Cooperative Conservation Partnership Initiative (CCPI)  
 Natural Resources Districts (NRDs)  
 Platte River Recovery and Implementation Program  
 Numerous Federal grants along with other local grants or funds

Actual dollars spent on noxious and invasive weed control projects is nearly \$16,000,000 since 2001. The in-kind contributions provided by partners are not included in this figure.

Some of the current projects being completed by NEWMAC WMAs include:

### PRIDE WMA:

- Continue Yellow Flag Iris Control Project along an 8-mile stretch of the Niobrara River, which includes private landowners and the Agate Fossil Beds National Monument. Yellow flag iris will be controlled and public education programs will begin. Funding is provided in part by NEWMAC through Nebraska Environmental Trust.

- Produce 2014 spring and fall editions of The Weed Watch. This 12-page educational publication is currently sent to 110,000 homes in 48 Nebraska counties.

- Provide education on noxious and invasive plants, prevention, and spread to over 200 fifth graders from our area at the 2014 Upper Niobrara White NRD Conservation Festival.

### Platte Valley and West Central WMAs:

- Continue to monitor and control invasive phragmites and purple loosestrife along the central Platte River.

- Implement cost-share program with landowners to do control work on backwater channels.

- Mailed an educational letter to over 720 landowners.

- Continue to support and distribute over 35,000 copies of The Weed Watch.

- Remove Russian olive and eastern red cedar along riparian zones, partnering with U.S. Fish and Wildlife Service and Nebraska Department of Agriculture.

Sandhills and Middle Niobrara Weed Awareness Group WMAs:

- Surveyed 41 sections (over 20,000 acres) and controlled purple loosestrife in Cherry County. Purple loosestrife had spread as far as 15 miles away from the river. Sandhills WMA has over 3,700 miles of rivers and streams in its area.

- Sent 21,000 copies of The Weed Watch to landowners in spring and fall 2013.

- Used an airboat and an Argo to control small infestations of phragmites in five counties.

- Completing herbicide application on small infestations of phragmites along the Scenic Niobrara River.

- Perform EDRR control of houndstongue in Rock County.

- Sandhills WMA is partnering with the Loup Rivers Scenic Byway and the Loup Basin RC&D Council in celebrating Pollinator Week June 16 – 20, 2014. An informational meeting will be held at the Ord Volunteer Fire Hall on June 19 at 1:00 p.m.

- Sandhills WMA will have a booth at the 2014 Farm

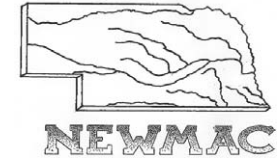


Attendees hear interesting facts about aerial application using a helicopter.

and Ranch Expo in Bassett on June 11-12, 2014.

NEWMAC focuses on invasive species control through collaboration and partnerships. Through its multiple individual WMAs, NEWMAC can collaborate and work throughout Nebraska on a variety of invasive vegetation issues.

NEWMAC focuses on Early Detection and Rapid Response (EDRR), which means finding and treating an invasive plant species while its population is relatively small. By detecting infestations early, they can be quickly treated in a cost-effective manner (rapid response). EDRR saves landowners and partners thousands of dollars in control costs. It also reduces degradation of Nebraska lands from invasive species by preventing infestations before they get started.



## PLATTE VALLEY WMA

**Buffalo County**  
 Mitch Huxoll  
 308-236-1244

**Dawson County**  
 Marty Craig  
 308-324-3771

**Hall County**  
 Rob Schultz  
 308-385-5097

**Hamilton County**  
 Brian Crabtree  
 402-694-3666

**Howard County**  
 Rob Schultz  
 308-380-2099

**Merrick County**  
 Kevin Koziol  
 308-536-2523

**Phelps County**  
 Charles Brooks  
 308-995-6688

**Polk County**  
 Jim Carlson  
 402-747-2921

**Sherman County**  
 Mitch Dzingle  
 308-745-1513 Ext. 111

**PVWMA Coordinator**  
 Rich Walters  
 308-390-2511

# Microscopic Mites Battle Bindweed

## Jan Bruhn, Box Butte County Weed Superintendent

All of Nebraska's noxious weeds are native plants somewhere in the world – but they are not native to the North American continent. Where field bindweed is native, it is not considered a problem because natural, native enemies help keep it in check. One of the natural enemies for field bindweed is *Aceria malherbae*, better known as the “bindweed gall mite” or “bindweed mite.” These mites are so tiny they cannot be seen without a microscope. But, what they do to bindweed plants can be seen. Visible effects include

stunted plants, curled leaves, reduced size of plants and flowers, and the complete dying and drying up of the plants.

Many years of research are required to match a native control agent like bindweed mites with the plant species it controls. Research must also determine that the control agent will not cause more problems by attacking any plant species other than the one it is intended to control. If it attacks any other species, it cannot be released in the United States. This “attacking only one species” is called being “host-specific.” *Aceria malherbae* has been deter-

mined to be host-specific for field bindweed only. If the mites run out of field bindweed and cannot access other bindweed plants, they die. This is why weed control professionals monitor sites where the mites have been released and move the mites to new bindweed locations when the time is right.

To gain control of bindweeds, county weed superintendents in the Panhandle Weed Control Association (PWCA) have acquired some of these mites. Several Panhandle counties have deployed them in 200 locations. We are monitoring the

release sites and determining the right time to move some of the mites to new locations so they can continue the fight against bindweed.

For more information about noxious weeds and their control, contact your local County Noxious Weed Control Authority.



Bindweed leaf damage caused by bindweed mites.

# Invasive Weed Control Begins on Little Blue River

## Merle Illian, Twin Valley WMA Project Coordinator

Twin Valley Weed Management Area will carry out a management program of spraying invasive weeds later this summer along the Little Blue River in Clay, Nuckolls, and Thayer counties.

Excessively dense stands of willow along the riverbanks, and some islands within the river, are impeding the flow of water. Since there has not been a heavy flooding event in years, willows have naturalized in shallower areas. As the willow roots stabilize the sandbars and islands, they trap more soil particles flowing from upstream, increasing deposition. As a result, Clay County Weed Superintendent Bruce Rumsey said, “the river’s carrying capacity and flow have been choked down, substantially increasing the risk of potential flooding in localized areas”.

In addition, Rumsey believes the density of willow stands has made some areas of the river and islands inaccessible for some species of wildlife. Rumsey also said, “This heavy vegetation is sucking up a tremendous



A growth of willows on an island in the Little Blue River.

amount of water, which could otherwise be used for irrigation downstream.”

“We are by no means removing all the willows along the riverbanks. However, because of the impact on the river, landowners have voluntarily agreed to selective control of

willows.” Isolated areas of saltcedar and phragmites are intermixed in the willow stands. “Since both of those species are considered noxious in Nebraska, we will treat them along with the willows” said Rumsey.

“Landowners along the river in these three counties have been notified, and they have the option to spray. It is strictly up to each landowner, as willows can stabilize the bank in certain areas and prevent erosion. We will be hiring a contractor with an all-terrain vehicle equipped with necessary spraying equipment to do the job,” said Rumsey.

In the summer of 2015, a follow-up deep disking of the sprayed area is planned. This will break up the root mass of the vegetation and then allow the river to scour and open the channel once again. This method of river reclamation was used on the Republican River several years ago and proved to be very effective.

“This entire effort is funded by the Nebraska Environmental Trust,” said Rumsey. “Without their support, none of this work would have been possible.”

# Phragmites Spraying Continues on Republican River

## Merle Illian, Twin Valley WMA Project Coordinator

Twin Valley Weed Management Area continues its annual effort to eradicate the noxious weed phragmites and keep it from spreading. “We do our spraying in late fall each year at the optimum time along the 142 miles of the Republican River and its tributaries from Cambridge to Superior, Nebraska,” said Dennis VanWey, Webster County Weed Superintendent. “However, it is no different than musk thistle in its ability to survive and continue to come back the following year.”

“You can look at areas that were sprayed the previous year, and the phragmites appears dead. However, when you look around the perimeter of the sprayed area, invariably you see new runners that have rooted down and are starting to grow back. Being a rhizomatous plant it is difficult to completely kill,” said VanWey.

“In addition we continue to have new out-croppings each year along the river. We have educated the general public in the identification of this plant, and we continue to get phone calls each year of new sightings along the river and isolated lowland areas off the river.”

“We have an all-terrain vehicle equipped to do the spraying ourselves,” said VanWey. “However, on the large patches of phragmites or isolated areas that are inaccessible, we hire a helicopter each year. It is unbelievable the area in which phragmites are showing up. Regardless of how good a job you think you’re doing, you continue to miss some affected areas.”

“We have been very fortunate for the continued funding provided by Nebraska Environmental Trust,” said VanWey. “We would like to bring closure to this spraying effort, but we certainly don’t see it happening any time soon.”



Dennis VanWey, Webster County Weed Superintendent, observes a recently reported phragmites infestation.

## TWIN VALLEY WMA



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402-762-3652

**Fillmore County**  
Todd Boller  
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**Franklin County**  
Mark Goebel  
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**Furnas County**  
Todd Weverka  
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**Gosper County**  
Marty Craig  
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**Harlan County**  
Tim Burgeson  
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**Kearney County**  
Joseph D. Anderson  
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**Nuckolls County**  
Tim Stutzman  
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**Webster County**  
Dennis VenWay  
402-746-2890

**TWIN VALLEY WMA**  
Project Coordinator  
Merle Illian, 402-746-3560

# Safe Plant Identification (Or, ‘When A Picture Is Worth More Than a Thousand Words’)

**Ann Cotton, Upper Niobrara White NRD/NRCS Field Office and PRIDE Board Member**

“What is this plant?” The customer tossed the semi-dried plant on the counter, spewing seeds as it landed.

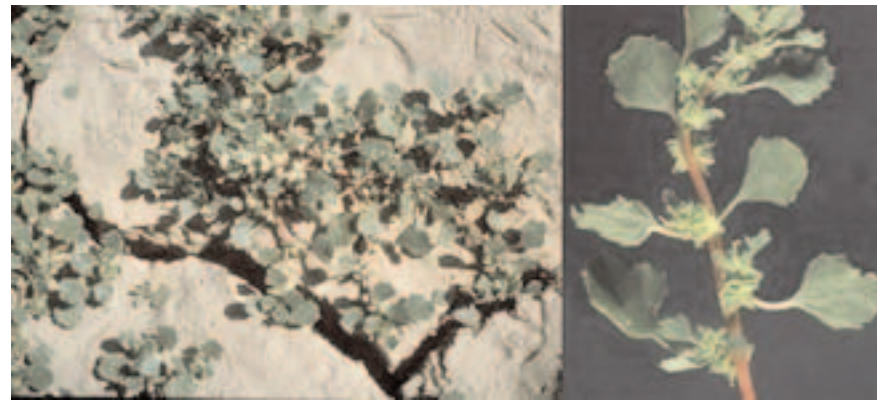
“Good question.” I said. “It looks like a weed. Where did you find it? Let’s put it in an envelope before it loses any more seeds.”

The customer reported that the plants covered the bottom of a dried lakebed, which he planned to lease for cattle grazing. The land was in Colorado, over 200 miles from our office. He had pulled the plant and tossed it in the seat of his truck. I imagined the seeds sticking to his clothes, bouncing around the truck, and escaping out the door each time he stopped for gas, food, or errands.

Our office frequently receives plant identification requests, mostly for grasses, occasionally for trees or shrubs. Often, the customer walks in and thrusts part, or all, of a plant at me. Unless I can positively identify the plant, I refer to our range specialist. If it is a phone inquiry, I ask the caller to pull the plant if possible, so as to include the root structure, and then take several close-up photos of the plant. For shrubs and trees, we prefer to see enough of a branch, with leaves and attached flowers or seed bracts, to compare it against a classification key.

Plant identification and descriptions involve the following:

- Habitat, or the area and type of ecosystem in which the plant is commonly found
- Flower and seed shapes, size, color



Poison suckleya.

- Leaf shape, size, color, edge (smooth or serrated), and attachment location on the twig
- Branching and growth pattern of the overall plant
- Root structure

**The safest way to identify a plant is to take several good photos that illustrate all of those plant attributes, and share them with a plant specialist.** Schedule an appointment for plant identification with a local botanist, Extension educator, range or horticulture specialist, Natural Resources Conservation Agency, Natural Resources District, college, or Weed Management Area to ensure the right person will be available to assist you. Collecting plant specimens is illegal in state and national parks and national monuments, so photos are your best method.

**Instead of photos, the next best method is to collect the plant specimen (with permission, if it is not on your land) and take**

**notes on the area in which it was collected. Put the specimen in a zipper locking storage bag, trash bag, or large envelope and close it securely to prevent it from losing seeds or other parts.**

Our office was unable to identify the plant, so we referred the customer to Dawes County Extension Educator, Scott Cotton. He identified the plant as the immature stage of poison suckleya, *Suckleya suckleyana*, which is very toxic to livestock, pets, and humans, and can result in death if enough is ingested. He dealt with this plant several years ago, during drought in southern Colorado. At that time, our local veterinarian and other ranchers asked him to conduct a field inspection to identify the cause of death in over 30 head of horses, mules, and cattle. The dead animals were near a water tank, but the water had tested clean of adverse chemicals, minerals, and biological agents.

Poison suckleya is a native forb through-

out the Great Plains, from southern Saskatchewan and Alberta to Mexico. It is often found near water sources. Although the plant is not normally consumed by livestock, they may eat it during drought or when preferred forage is scarce. The plant contains cyanogenic glycosides, which cause cyanide poisoning when ingested.

Colorado Extension Veterinarian, E.N. Stout, reported in 1944 that one gallon of ground-up plants was fatal for cattle, and one quart was fatal for ewes. Cattle and sheep on the range are usually poisoned around noon, as they graze away from the watering hole. The animals are found dead by evening, or early the next morning.

Scott educated the customer and gave him photos and information about the plant, its effects on livestock, and the importance of not transporting weeds across state and county lines. Scott kept the plant for proper disposal.

Just think, if the customer had taken a few good photos of the plant and left the weed where he found it, he could have prevented the potential spread of a deadly weed along his route from Colorado. I cleaned the counter and vacuumed the office floor to capture the seeds, but who knows how many more escaped his vehicle? What price will other producers pay when the weed becomes established on their pastures?

*Suckleya Suckleyana. A Poisonous Plant.* USDA Bulletin 359-A, 1939, 24pp. Thorp F, Deem AW, Harrington HD, Tobiska JW. Reprinted by E.N. Stout, Extension Veterinarian. Colorado State College, Extension Service. July 1944.

## Why Use Weed-Free Forage?

**Jan Bruhn, Box Butte County Weed Superintendent**

We are all affected by noxious and invasive weeds. We all benefit from stopping their spread. Non-native weeds invade roadsides, take over waterways, reduce pasture and field-carrying capacities, and erode the attractiveness of our landscapes. Nebraska’s Weed Control Association members receive up-to-date training to recognize Nebraska’s noxious and invasive weeds. They also learn to recognize 54 weeds that typically are found in neighboring states. Collaboration with other states and several Canadian provinces has opened new markets. Consumers are assured that weed headaches will not accompany the hay, forage, and mulch they buy when the products bear the mark of “Certified Weed Free”.

Demand is growing for certified weed-free forage and mulch in Nebraska, our

neighboring states, and other western states. **Federal and state properties are requiring certified weed-free products for restoration projects following devastating fires or construction of roads, for wildlife-feeding projects, and for animals used for recreational trail riding and packing. The list of uses and demands for “Certified Weed Free” products grows each year.** Many states have enacted laws concerning transporting and using forage products brought in from out-of-state.

In Nebraska, the Weed-Free Forage (WFF) Certification Program is voluntary. However, participating in WFF certification is a win/win program for those who use it. Nebraska’s weed control authorities offer a ground-level inspection program to producers of hay, forage, and mulch before the product is cut or harvested. This program has been in place for a number of years and utilizes standards established by the Nebraska Weed Control Association. Standards for the

Weed-Free Forage Certification program in Nebraska adhere closely to those set forth by the North American Weed Management Association (now known as the North American Invasive Species Management Association or NAISMA). This makes our certified products highly marketable in many states and Canadian provinces.

Producers who take advantage of this program can be sure that their fields are clean of at least all of the 54 weeds listed by NAISMA. In addition, users of certified weed-free forage from Nebraska can be assured that the products are free of Nebraska’s noxious weeds. Other states recognize weed-free forage from Nebraska only if certification is done under the authority of the Nebraska Weed Control Association and carries its official marking or designation.

To qualify for certification as “weed-free forage” in Nebraska, the field that is

producing the forage must be inspected by a qualified county weed superintendent before it is cut or harvested. This provides the producer with the assurance that his field has been inspected by a professional who knows what weeds are listed. Besides, who is better qualified to provide the most current techniques to control weeds than the local weed superintendent? The qualified superintendent has the authority and knowledge to work with each producer to customize a weed-control plan to make the product acceptable, marketable, and certified.

Producers should make plans now to have their fields included in their respective county’s inspections. Forage producers and users can check with weed superintendents in their counties for information concerning certified weed-free forage. For more information, contact your county weed superintendent.

# Spotlight on Phragmites

**Compiled by Lora O'Rourke, president of PRIDE.** *Information comes from Reference – Noxious Weeds of Nebraska, Common Reed, University of Nebraska–Lincoln Extension EC166 2008, Stevan Z. Knezevic, Integrated Weed Management Specialist, Avishek Datta, Weed Science Post-Doctoral Fellow, Ryan E. Rapp, Weed Science Graduate Student.*

## Identification

What is common reed and do I need to worry about it? Doesn't it only grow along river channels like the Platte River?

Common reed is also known as phragmites. Two types of phragmites grow in Nebraska. The native species is *Phragmites australis* subsp. *Americanus*. The non-native common reed (*Phragmites australis* subsp. *australis*) is a major weed species in Nebraska wetlands and is highly invasive. Although Weed Management Area projects have treated 33,600 acres of phragmites, 2013 county reports indicate over 17,600 acres are currently infested. That's quite an impact on Nebraska's river systems!

Invasive phragmites is a large plant that can grow to 12 feet tall. It expands using runners (rhizomes and stolons) to form very dense monocultural stands. Once it invades, it outcompetes most of the native plants, changes wetlands, alters habitat, and increases fire danger.

Dense stand of phragmites.

These stands reduce plant diversity, prevent growth of more desirable species, and create an unsuitable habitat for bird species, including migrating waders and waterfowl species. Rare and threatened bird species commonly associated with native, shortgrass habitats are also impacted by phragmites invasion. Native riparian plants such as cattails are quickly displaced by phragmites, which then displaces native grasses and forbs. Invasive phragmites has choked wetlands along the Platte and Republican rivers, thereby altering the river flow.

Invasive phragmites is a perennial grass. It produces a vigorous system of root structures, including belowground rhizomes and aboveground stolons. These root structures are the driving force for rapid growth and invasion. Annual lateral



Invasive phragmites infestation along the Platte River before control.

spread of the rhizomes ranges from one to 10 feet. Stolons grow up to 80 feet long. Roots can penetrate soils 3 to 9 feet deep and be very difficult to remove. Root structures can produce up to 200 stems per square yard that reach up to 12 feet high with a large fluffy seed head. Flowering occurs from July to September. Although phragmites spreads mostly through rhizomes and stolons, seed dispersal also occurs.



Rhizomes of invasive phragmites.

## Control Methods

Choosing a control method depends largely on the layout of the land and the funding available. In most cases, an integrated management approach works better than an individual control method. Before beginning any project in riparian areas or wetlands, the proper permits and/or approvals of conservation plans are required from state or federal agencies (such as the NRCS, Bureau of Reclamation, or Corps of Engineers) to ensure your project will be in compliance.

**Chemical** – Chemical control is probably the most widely used method for controlling invasive phragmites. The ED-130 Guide for Weed Management in Nebraska recommends several herbicides for control of phragmites. Aquatic herbicides and special certification may be necessary. Always read and follow the herbicide label, as the label is the law.

**Mechanical** – Mechanical control of invasive phragmites includes disking, mowing, burning, flooding, grazing, and

digging. Mechanical control is possible during dry periods in areas that are periodically flooded. Mechanical control slows the spread of established stands. Methods such as cutting, grazing, and mowing destroy the aboveground part of the plant but result in only a temporary setback to the stand. At worst, these methods could actually increase stand density, particularly if applied in the spring or early summer.

**Disking** – A rotary disk can be used to chop through the dense root structures. Repeated disking can help control phragmites. Disking in summer or fall reduces stem density. However, disking from late winter to midsummer stimulates bud production and results in stands with greater stem density. Disking is more effective than plowing because it creates smaller rhizomes that are less aggressive due to low food reserves. In drier areas, when disking is done in the fall, rhizome fragments aboveground may dry out or freeze.



Disking operation.

**Mowing** – Wetland areas that are dry during summer may be mowed with sickle bar mowers, rotary brush cutters, or other mowing implements. Mowing that is repeated several times during the season is more effective than a single mowing. Common reed stands mowed in the spring will recover with shorter but denser growth than the original stands. They will usually develop fully within the same season. Thus, mowing is most effective in August and September.

**Burning** – Fire used alone as a control measure is not effective in controlling phragmites because the original stand is simply replaced with growth that is more vigorous. Burning late in growing season reduces stand vigor only temporarily.

**Flooding** – This method can be used along the edges of small lakes or ponds. Flooding will not alter established stands. However, colonies of phragmites will not expand if water is maintained at least a foot deep. Runners will not anchor at this water depth and will float to the surface.

Seedlings are easily killed by raising water levels. Timing of flooding must be carefully planned to be both effective and avoid conflicts with other management objectives.

**Grazing** – Prolonged, intensive grazing removes aboveground young buds and shoots and reduces the size of stands. Grazing does not control the rhizomes. So, when grazing is stopped, primary shoots that are grazed may produce secondary shoots and increase the density of stems. Grazing animals also may trample desirable vegetation.

**Digging** – It is very labor intensive and often impossible to remove the root structures. Digging is practical for only small colonies growing in loose or sandy soils. Because digging disturbs the soil, it also may provide excellent conditions for re-infestation.

**Biological** – Currently, no biological agents (for example, insects) are approved for use on phragmites in Nebraska.

Typically, invasive phragmites is most effectively controlled by combining treatments. For example, a combination of chemical and mechanical treatments can be effective and easily applied in semi-dry areas. Stands that are repeatedly mowed, disked, and treated with herbicides can be better controlled than ones where a single weed control method is used.

Monitoring the impact of control methods is crucial for the overall success of the control program. Monitoring information is needed to determine if the control methods are effective under Nebraska's environmental conditions and if further control methods are required. At many sites, control may require a long-term effort, and monitoring for several years may be necessary.



Members of Sandhills WMA show how one phragmites "runner" grows across the top of the soil, sprouting new plants every few inches.

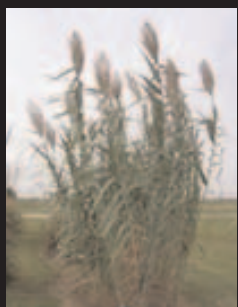
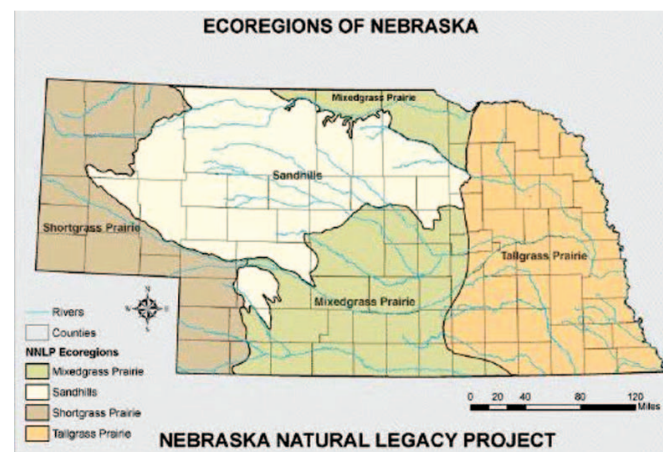
# Invasive Plants Watch List: 2014

**Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member**

These lists were developed to provide a region-based list of invasive plants to be “on the watch for” in Nebraska. Each ecoregion’s species were categorized based on early detection and rapid response potential. A complete list and images of invasive plants in Nebraska can be found at <http://snr.unl.edu/invasives>.

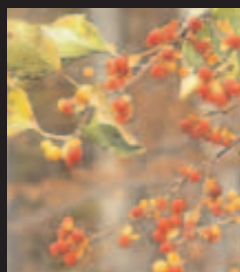
## Category 1: Future Invasive Species

These 6 plants are the same for all ecoregions in Nebraska, as they pose a significant risk if introduced. The aquatic weeds are just one boat ride away from invading any Nebraska lake.



**Giant Reed**

Giant Reed (*arundo donax*) is known to be growing in eastern Nebraska.



**Oriental Bittersweet**



**Water Hyacinth**



**Brittle Naiad**



**Hydrilla**



**Giant Salvinia**



**Russian Knapweed**



**Goat's-rue**



**Black Henbane**



**Houndstongue**



**Saltlover**



**Perennial Pepperweed**

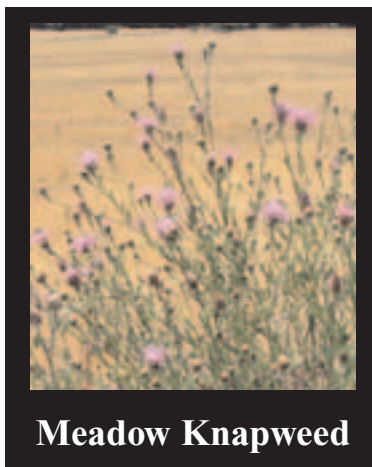
## Category 2: Shortgrass Prairie Ecoregion

## Category 2: Sandhills Ecoregion

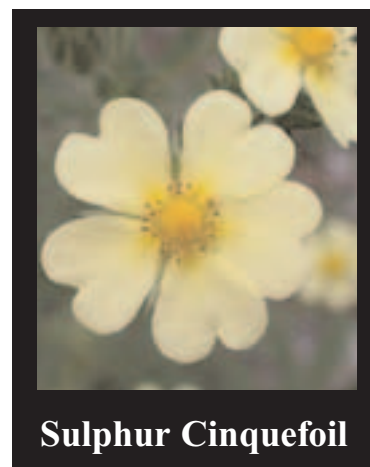
*Black knapweed*  
*Houndstongue*  
*Yellow bedstraw*  
*Broadleaf pepperwort/*  
*Perennial pepperweed*  
*Eurasian water-milfoil*  
*Sulphur cinquefoil*



**Yellow Bedstraw**



**Meadow Knapweed**



**Sulphur Cinquefoil**



**Eurasian Watermilfoil**

## Category 2: Mixed-grass Prairie Ecoregion

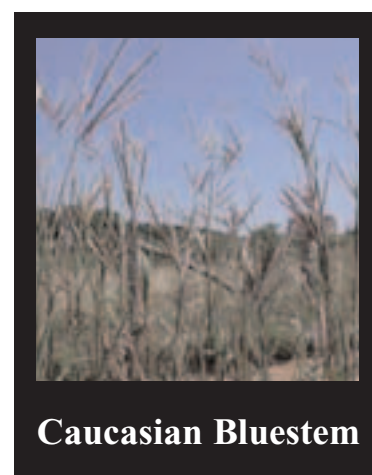
*Amur maple*  
*Russian knapweed*  
*Garlic mustard*  
*Australian beardgrass*  
*(Caucasian bluestem)*  
*Cutleaf teasel*  
*European alder-buckthorn*  
*Japanese honeysuckle*  
*(also Morrow, Showy Fly)*  
*Eurasian water-milfoil*  
*Sulphur cinquefoil*



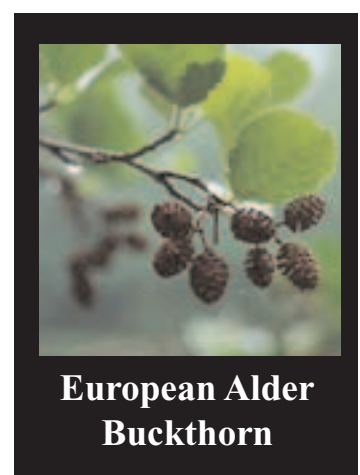
**Amur Maple**



**Garlic Mustard**



**Caucasian Bluestem**



**European Alder  
 Buckthorn**

## Category 2: Tallgrass Prairie Ecoregion

*Amur maple*  
*Russian knapweed*  
*Garlic mustard*  
*Australian beardgrass*  
*(Caucasian bluestem)*  
*Yellow bluestem*  
*Black knapweed*  
*Yellow star thistle*  
*Sweet autumn virgin's-bower*  
*Houndstongue*  
*Cutleaf teasel*  
*Sicklweed*  
*Goat's-rue*  
*Yellow bedstraw*  
*Japanese honeysuckle*  
*Eurasian water-milfoil*  
*Kudzu*  
*Hoary cress*  
*St. John's wort*  
*Crown Vetch*



**Cutleaf Teasel**



**St. John's Wort**



**Japanese  
 Honeysuckle**

The complete list of Invasive Plants in Nebraska along with species photos can be found at the Nebraska Invasive Species Project website: <http://snr.unl.edu/invasives>.

The Invasive Plants Watch List also lists which counties in Nebraska have "County Added" noxious weeds. This list is described on page 11 of *The Weed Watch*.

# High Plains Weed Management Area Projects Continue

## Clinton Reisen, HPWMA Project Coordinator

High Plains Weed Management Association (HPWMA) is actively working to inform and educate landowners about Russian olive trees, saltcedar, and phragmites, as well as the program we are offering to remove these species. HPWMA will cost-share with the landowner for removal and re-growth treatment at the rate of 75% of the cost for removal, 50% for second year treatment, and 40% for third year treatment if needed.

We want to thank the Nebraska Environmental Trust for their generous funding of HPWMA. In addition, many thanks go to Justin Relka, Field Coordinator, for the work he has done. Effective March 1, Justin stepped down to an as-needed basis. Clinton Riesen was

hired and started full time as the HPWMA Field Coordinator. Clinton grew up on a farm north of Minatare and currently lives and farms in that same area. Being from this area, Clinton understands the problems that invasive species can cause to agriculture and recreation. He also has many contacts with people that are affected by invasive species. In his new position, he has attended events such as the Farm and Ranch Expo in Mitchell, No-Till conference in Gering, Crop Production Services banquet in Bridgeport, and Spring Expo at the Cheyenne County Fairgrounds. These venues have provided exposure for HPWMA and offer good information to landowners.

Last fall, Provine Helicopters sprayed approximately 300 acres of phragmites and saltcedar along the North Platte River.

They completed one project area just before the Migratory Bird Act restriction date. Over the winter months, other removal projects were scheduled; however, the harsh winter slowed progress.

We recently sent letters to landowners requesting them to check for re-growth on project areas treated in the past few years. Many have contacted HPWMA saying that treatment may be needed where removal was completed. Many new areas have also been identified for removing invasive species.

Since the program began in 2008, almost 4,000 acres in HPWMA counties have had removal projects done. Of those acres, a small percentage has been checked and had re-growth treated. One of the goals for 2014 is to meet with other landowners to check their acres for re-growth and to

complete landowner agreements for treatment of those areas. Another goal for 2014 is to contact landowners who have not used the program and offer them cost-share assistance for removal projects.

The High Plains Board members and staff would like to offer our condolences to the Robin Coulter Lapaseotes family. Robin shared her enthusiasm, ideas, and suggestions while serving on our board and other community organizations for several years. She was a great asset to the board and will be sadly missed by the High Plains Weed Management Board.

If you are interested or have questions about the program, please check out the web site at [www.HPWMA.com](http://www.HPWMA.com) or contact Clinton Riesen at (308) 633-1264 or (308) 225-0146.



**HIGH PLAINS**  
Weed Management Association

**Coordinator - Clint Riesen**  
308-633-1264

<b>Deuel County</b> Cris Burks 308-874-2433	<b>Morrill County</b> Owen Walker 308-262-0372
<b>Garden County</b> Terry Raymer 308-772-4311	<b>Scotts Bluff County</b> Jeff Schledewitz 308-436-6709
<b>Banner County</b> Dick McGowan 308-436-4460	<b>Cheyenne County</b> Brian Hiatt 308-254-3459
<b>Kimball County</b> David Hottell 308-235-2681	<b>Sioux County</b> Nick Sanderson 308-668-9453



**SANDHILLS WMA** 308-346-3393

<b>Blaine/Thomas</b> Carol Conard 308-346-4047	<b>Cherry</b> Barbara Small 402-322-1067	<b>Grant</b> Jan Burgess 308-458-2821	<b>Keya Paha</b> Travis Mundorf 402-497-3800	<b>Rock</b> Rod Stolcpart 402-822-0186
<b>Boone</b> Todd Buettner 308-750-5214	<b>Custer</b> Ridge Horky 308-872-2410	<b>Hooker</b> Neal Hayward 308-546-2706	<b>Loup</b> Lynn Strong 308-942-6218	<b>Valley</b> Darrell Kaminski 308-383-2701
<b>Brown</b> Doug Mulligan 402-387-2287	<b>Garfield</b> Jay D Tetschner 308-346-5696	<b>Greeley</b> Walter Bjorklund 308-428-5955	<b>Nance</b> Kevin Koziol 308-536-2523	<b>Wheeler</b> Doug Reiter 308-654-3397

PRIDE wants to say **THANK YOU** to Leslie Stewart Phelps, Ann Cotton and Stephanie King for their years of service to the PRIDE WMA board of directors. Leslie recently retired from the Nebraska Forest Service, Ann will soon be moving to Casper, WY and Stephanie has accepted the position of Soil Conservationist in Bozeman, Montana. These three ladies were a great asset to PRIDE, and to *The Weed Watch* publication!

*Happy trails to all of you!*

**PRIDE** serves as a cornerstone to build and maintain partnerships between the many cooperators in invasive weed management and education. With this collaborative effort, a more efficient and successful approach to invasive weed management and awareness is achieved. PRIDE's efforts in pooling of funds and resources from contributors will result in a compounding of investments and rewards.

For more information or to get additional copies of *The Weed Watch*, contact Kristi Paul, Sheridan County Weed Superintendent, PO Box 449, Rushville, NE 69360. Phone 308-327-5629



## Did you know??

Saltcedar, phragmites and purple loosestrife invade riparian areas (mostly along rivers and streams). Nebraska has 3,700 miles of rivers and streams, more than any other state.

## Did you know??

A landowner visited my office, and requested that we stop publishing *The Weed Watch*. When I inquired why, he said, "Because my wife reads it from cover to cover, and then constantly nags me to spray the weeds!"

## Did you know??

When doing a "cut stump treatment" on trees, you should apply the herbicide within a few minutes of cutting the tree. If you wait more than 15 minutes, the sap will seal the stump, and the herbicide will not penetrate to kill the roots.

Rod Stolcpart of Rock County caught this invader, a leafy spurge plant taking up residence in a tree trunk!





# Cedar Trees – One of Nebraska's Threats to the Rangeland Resource

## Shelly Kelly, Director, Sandhills Task Force

Scientifically, eastern red cedar trees are known as *Juniperus virginiana*, and they are not a true cedar tree. They are easy to grow, they make a wonderful windbreak, and they provide food and nesting habitat for birds and small mammals. Unfortunately, they are also spreading and threatening some native rangelands.

Eastern red cedar trees are planted all across Nebraska. In eastern Nebraska and areas of the Nebraska sandhills, they are encroaching onto grasslands and reducing the amount of forage that can be produced. This is bad news for ranchers and anyone who enjoys the native rangelands of Nebraska.

## Why are there so many cedars?

Eastern red cedars are effectively controlled with fire, but fire has been mostly prevented on the landscape. This explains why there are far more cedar trees present now than 50 years ago.

Eastern red cedars are native to Nebraska, but before European settlement, they were confined to steep slopes and areas where wildfires would not affect them. The overall population of red cedars was quite sparse.

As settlers moved in and staked claims across Nebraska, they began planting trees. Millions of cedar trees have been planted in the last several decades, thus successfully creating a massive seed source. Cedars are dioecious, which means that there are male and female trees. Only

the females produce seeds in a small, blue-green berry. Female trees do not produce seeds until they are 5 to 10 years old or approximately four feet tall. Each berry contains two or three seeds. Birds and mammals feed on the berries and spread the seeds significant distances away from the seed source in their droppings. As seed-bearing trees become established across the grassland, the encroachment of cedar trees proceeds at exponential rates.

## How are eastern red cedars detrimental?

Drastic reduction in the fire frequency and the huge seed source explain why cedar trees are encroaching on Nebraska's rangelands. Cedars reduce the amount of forage that a pasture produces because:

- Grass does not readily grow under a cedar tree.
- Grass that is shaded by the cedar is stunted.
- The roots of a cedar tree can rob water and nutrients from nearby grasses.

A reduction in forage produced can be handled one of two ways. Either a rancher can reduce the amount of grazing that occurs by destocking or shortening the grazing period, or the rancher can graze as before the cedars were present. The latter option results in overgrazing. Overgrazing can speed up the cedar encroachment by providing bare ground for new cedars to become established and by reducing the competition from other native species. Both overgrazing and destocking reduce the financial return on the property. The loss of economic opportunity is typically motivation enough to initiate management.

But in many cases, there is a big problem before most ranchers notice it.

## How can cedars be controlled?

Cedar trees do not re-sprout if they are cut below the lowest branch; they spread only by seed. Mechanical treatment, or the physical cutting of trees with equipment, is an effective treatment. This is the best way to manage small trees to keep them from getting established and producing seed. It is best to cut small trees every year so the workload doesn't pile up. However, if there is already a thick infestation of cedar trees, mechanical treatment can be very costly.

Another viable option for control is prescribed burning. Cedars burn well and can be controlled effectively with prescribed burning. This option is quite inexpensive but careful planning is required before a prescribed burn takes place.

Chemical treatment on a landscape scale is very expensive, and it will not effectively control larger trees. Read chemical labels carefully and consider the impacts spraying may have on the various beneficial forbs and shrubs that may be present.

For more information or to develop a treatment plan that works for you, visit your local USDA Natural Resources Conservation Service (NRCS) office and speak to a trained professional.

The NRCS is an equal opportunity provider and employer.



Eastern red cedars encroaching on native rangeland southeast of North Platte, NE.

On the left –  
September 1965.

On the right –  
January 2011.



**PRIDE  
WMA**

**Box Butte County**  
Jan Bruhn  
308-487-3755

**Dawes County**  
Shane Cullan  
308-432-3056

**Sheridan County**  
Kristi Paul  
308-327-5629

**Sioux County**  
Nick Sanderson  
308-668-9453



## WEST CENTRAL WMA

**Arthur County**  
Kent Anderson  
308-764-2203

**Keith County**  
Tim Ryan  
308-284-6601

**Lincoln County**  
Rod Yost  
308-532-4590

**Logan-McPherson**  
Richard Cook  
308-636-6157

# Something for the Kids

Y R A Z E D E P S E L A E C I R E S E M C W N  
 T E W W E T L A N D V A D R Y R A U F U I E O  
 R V L A N D S C A P E I N A E E T N I S T E N  
 E I C L T W R E D D S S T D R A O B R K Y D R  
 P R O K O E E I E T C I I A E L N I T T E F I  
 O A N D V W R E U D A R T R N O T O S H L R P  
 R R T I M R F R D W P N T S E N O C E I L E A  
 P A R R D E B L K I E Z S N E D O O S S A E R  
 P R O J E C T N A M D E A W N R L N O T V F I  
 E B L C R K O Q E G R T D A N R E T O L T O A  
 R O T O O T P G T T I E I A N S A R L E T R N  
 E I P L W N A X S V E R M D E T F O E E A A R  
 N N S E A N T U E W A E I T W O Y L L L L G A  
 N E E L A R O A P P N A I S M O S D P T P E D  
 I D T M L I U A I T Q M Z E A R P A R S L E E  
 A O L T X I N R A N G W O P C E U E U I A R C  
 L I P O A K H L S A L T C E D A R R P H R A D  
 A N N U A L T D R U M A P P I N G P E T T W E  
 I F U V A N P H N M S O U T H W E S T A N A R  
 N E B R A E P E G A E G A R U O C S I D E T N  
 N S E L T S I H T S S E L E M U L P P A C C R  
 E T P I U H I G H P L A I N S E E D S N T H E  
 I S M P B B G V E G E T A T I O N E I A S L T  
 B E N E F I T I E N V I R O N M E N T C E I S  
 H A R A R B O I N E L D D I M F R E S H W S A  
 E U G N O T S D N U O H Y E L L A V N I W T E

**HIDDEN WORD FIND** – Responsible landowners take pride in their management efforts to control weeds on private lands in order to protect our environment. Sometimes the greatest challenge is to understand how invaders spread, the groups involved in treating them, and tools they use. Find the words listed below in the puzzle to the left.

Words are arranged horizontally, vertically, diagonally, forwards (left to right), backwards (right to left) and top to bottom or bottom to top.

## Word List for Word Find

- |                   |                 |                    |                   |
|-------------------|-----------------|--------------------|-------------------|
| annual            | goat            | noxious            | rural             |
| aware             | High Plains     | old                | saltcedar         |
| benefit           | houndstongue    | ornamental         | Sandhills         |
| biennial          | infest          | perennial          | seeds             |
| biocontrol        | invasive        | pest               | sericea lespedeza |
| bulb              | knapweed        | phragmites         | Southwest         |
| Canada thistle    | knotweed        | plant              | spread            |
| city              | land            | Platte             | stress            |
| contain           | landscape       | plumeless thistle  | sun               |
| control           | leafy spurge    | PRIDE              | tips              |
| crop              | management area | project            | tool              |
| desired           | mapping         | property           | treat             |
| dim               | Middle Niobrara | purple loosestrife | Twain Valley      |
| discourage        | mite            | weed free forage   | vegetation        |
| dry               | musk thistle    | West Central       | Watch List        |
| eastern red cedar | new             | radar              | water             |
| EDRR              | NEWMAC          | real               | weed              |
| environment       | night           | rid                | weed ID           |
| escape            | Niobrara River  | riparian           | wetland           |
| feed              | nonnative       | river              | WMA               |
| fresh             | nonriparian     | roots              | yellow flag iris  |

## Can You Find the Differences?



**ANSWERS to differences:** 1. Butterfly is missing. 2. Bird is missing. 3. Tree is shorter. 4. Music note is missing. 5. Bidwatcher's cap is different. 6. Badminton posts are shorter. 7. A tree branch is missing. 8. A tree branch is shorter.

There are 8

# County-Added Noxious Weeds

**Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member**

In addition to the ten weeds that have been declared noxious in Nebraska, every county has the option to petition the Director of the Department of Agriculture to place additional weeds on the “county-added noxious weed” list. Many counties in Nebraska have county-added noxious weeds, which landowners are required to control.



**Field Bindweed**

- |           |              |
|-----------|--------------|
| Banner    | Garden       |
| Box Butte | Morrill      |
| Cheyenne  | Scotts Bluff |
| Dawes     | Sheridan     |
| Deuel     |              |



5 to 6 feet long. Perennial - spreads by seeds and rhizomes.



1 to 4 feet tall. Biennial - spreads only by seeds.



**Houndstongue**

- Dawes  
Sheridan



**Scotch Thistle**

- Banner  
Cheyenne  
Dawes  
Morrill  
Kimball  
Sheridan  
Sioux

1 to 10 feet tall.  
Biennial - spreads only by seeds.

**Bull Thistle**  
Rock

1.5 - 6.5 feet tall.  
Biennial - spreads only by seeds.



**Woolyleaf Bursage**

- Banner

1 to 2.5 feet tall.  
Perennial - spreads by seeds and rhizomes.

**Perennial Yellow Bedstraw**  
Cherry

2 to 4 feet tall.  
Perennial - spreads by seeds and rhizomes.



**GOOD NEIGHBORS CONTROL NOXIOUS WEEDS!**



# Nebraska's Noxious Weeds

*It is the duty of each person who owns or controls land to effectively control noxious weeds on such land.*

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 and 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.

### Canada Thistle



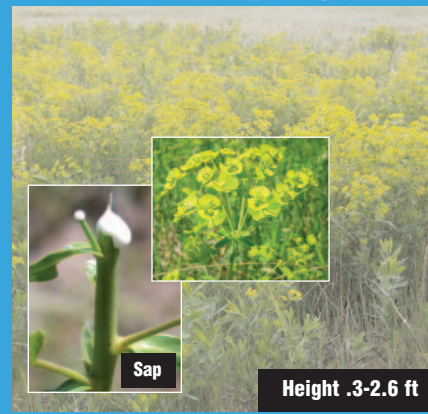
Height 1-3.9 ft

### Musk Thistle



Height 1.6-9.8 ft

### Leafy Spurge



Height .3-2.6 ft

### Spotted Knapweed



Height 1-3.9 ft

### Plumeless Thistle



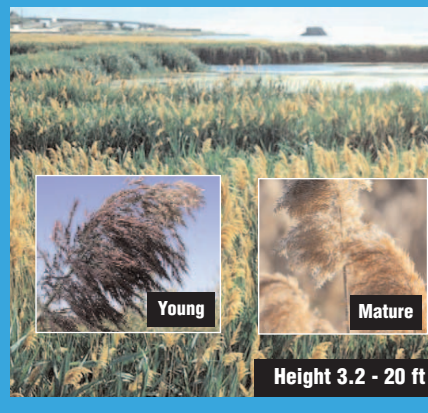
Height 1-4.9 ft

### Saltcedar



Height 3.3 - 20 ft

### Phragmites



Height 3.2 - 20 ft

### Diffuse Knapweed



Height 1-3.9 ft

### Japanese Knotweed



Height 3 - 10 ft

### Giant Knotweed



Height 8 - 13 ft

### Purple Loosestrife



Height 1.3 - 8 ft

### Sericea Lespedeza



Height 1.5 - 6.5 ft