PRIDE
Panhandle Research Integration for Discovery Education

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 2013 Newsletter

Give Pasture and Rangeland Recovery a Fighting Chance

Lora O'Rourke, PRIDE President

The continuing drought and last year's extensive wildfires have hit northwest Nebraska very hard. With proper management and adequate precipitation, the badly affected pastures and rangelands can recover and be sustainable. Grass, forbs, and shrubs can be given more opportunity to recover from drought and fire and outcompete noxious weeds.

It is essential to allow grasses to grow to the four- to five-leaf stage before they are grazed. This is when a grass plant can sustain itself and has built up lost root reserves. Grazing plants before this stage can result in loss of valuable root reserves and may result in the death of the plant. Allowing plants to grow and recover by resting or partially resting pastures this growing season will ensure that those desirable plants will be sustained for the long-term.

The following table illustrates the old saying "take half and leave half". Notice that when animals graze up to 50% of a grass plant, its root growth continues unimpaired. At 80% removal of the plant, root growth stops completely. If plants are continually grazed too heavily, they will die out. This could allow undesirable, less palatable plants and noxious weeds to invade pastures. At least 30% of top plant growth is needed annually to maintain and replace roots.

Percent leaf volume removed	Percent root growth stoppage
10%	0%
20%	0%
30%	0%
40%	0%
50%	2-4%
60%	50%
70%	78%
80%	100%
90%	100%

The photo at right shows plants grazed from left to right at 80%, 60%, 50%, and 0%. The removal of the top growth affects the roots.

Leave at least 50% of this year's growth. Leaving this leaf material shades the soil, reduces evaporation of limited soil moisture, collects snow, slows water runoff, reduces soil loss through wind erosion, and creates a "micro-climate" for plants to grow once favorable soil temperatures occur.

In planning grazing programs, many conditions need to be considered. Some of these are the following:

Grazing rotation systems consisting of four or more pastures allow for more management flexibility. Under a multi-pasture rotation, livestock graze each pasture for shorter grazing periods and allow more plants to reach all stages of growth. A rotation system should allow plants to fully mature and set seed.

Pastures that are grazed at the beginning of the season need to be watched closely so that overgrazing does not occur.

Plants need plenty of above-ground material to allow for re-growth after livestock have left the pasture.

Cool-season grasses grow rapidly in the spring, slow growth or go dormant in midsummer, and grow again when temperatures cool in the fall. Warm-season grasses begin growth in early summer and are at their peak by mid-July.

In areas with less than 15 inches of precipitation, it is best to not rotate back into a pasture that has been grazed during that grazing season.

Many other factors should be considered for maintaining the health of your pastures and rangelands, such as existing rangeland condition, livestock accessibility, poisonous plants, and water availability. Discuss these with specialists at the UNL extension office or the Natural Resource Conservation Service.

Keeping your rangeland healthy will ensure long-term forage production for livestock while keeping invasive weed control cost down.

Nebraska's Newest Noxious Weed – Sericea Lespedeza (*Lespedeza cuneata* G. Don)

Compiled by Ann Cotton – PRIDE Board Member and Field Secretary for NRCS and Upper Niobrara White NRD

Designation

The Nebraska Department of Agriculture recently designated sericea lespedeza (*Lespedeza cuneata* G. Don) as a noxious weed in all counties in Nebraska. To protect Nebraska's economy and the quality of its land, the Department has the responsibility to designate which plants shall be considered noxious weeds. It has this authority pursuant to the Noxious Weed Control Act, Nebraska Revised Statutes §§2-945.01 to 2-968 (Act).

This temporary designation is effective from April 1, 2013, until October 1, 2014. During that time, the Department must follow the rule-making process specified in the Act to permanently adopt sericea lespedeza as a noxious weed.

Description and Impact

Sericea lespedeza is also known as Chinese bush clover, Chinese lespedeza, silky bush clover, Himalayan bush clover, and hairy lespedeza. It was initially used as hay, pasture, erosion control, cover crops, and wildlife food and cover. However, it proved to be an aggressive invader with few benefits to livestock and wildlife.

This species meets the Department's criteria for a temporary designation as a noxious weed because it threatens native rangeland, pastureland, and other natural areas. It spreads rapidly to form dense monocultures. The plant produces allelopathic chemicals, such as tannins, that can inhibit growth of other plants.

Sericea lespedeza is a legume. However, the effect of the toxins it produces negates any nitrogen it might have provided for adjacent plants. It is a thirsty plant and uses water less efficiently than most warm-season plants. As it out-competes native grasses, it dramatically reduces species diversity, alters habitat for livestock and wildlife, and

Continued on Page 9

Weed Like to Challenge You

PRIDE is always looking for ideas for new projects that center on controlling the spread of noxious and invasive weeds. As you read this issue of *The Weed Watch,* the articles may spark an idea about a group project that could help stop the spread of weeds. Or they may inspire you to take on a personal project. We are especially interested in projects that will involve our youth, since young people are the future stewards of our natural resources. Think 4-H, FFA, Scouts, or even bored children home for the summer.

Here are some ideas for group, personal, or youth projects that may get you thinking:

• Learn how to identify noxious weeds or Watch List weeds by sight.

• Pick a piece of private or public land and survey it for noxious or Watch List weeds. Make sure you have the owner's permission if necessary.

• If you find any infestations, draw them on a map. Or better yet, learn to use a GPS unit and map them using that technology.

• Learn how to prevent weeds from entering your property and learn how weeds are spread.

• Learn the importance of controlling small infestations of noxious and invasive weeds.

If you have an idea and want to bounce it off someone, call your Dawes, Box Butte, or Sheridan County weed superintendent or any PRIDE board member. Maybe we could join forces with you on a great project that would increase education as well as benefit noxious and invasive weed control within the PRIDE Weed Management Area.

In addition, landowners, homeowners, natural resources professionals, business owners, and other citizens within PRIDE's Weed Management Area are invited and welcome to attend PRIDE's board meetings and to join the board if so inclined. We welcome your input and continuing efforts to control weeds for a healthier economy and environment.

High Plains WMA Continues Invasive Plant Removal on the North Platte River

Justin Relka – Coordinator, High Plains WMA

High Plains Weed Management Association (HPWMA) has had a fairly productive winter. Coordinator Justin Relka has been busy contracting re-growth spraying of invasive plants. He has also inspected properties for first-time removal of invasive plants along the North Platte River. The High Plains group is excited and ready to implement the many great projects planned for this spring and summer.

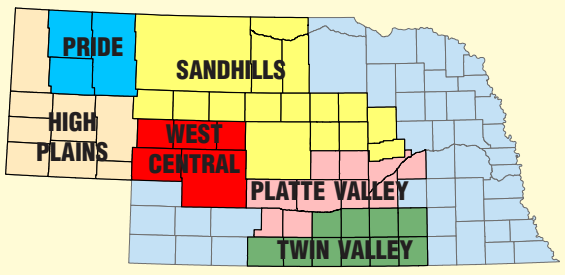
HPWMA has lined up initial removal projects, and we just keep knocking them out. We have been advertising and making direct contact with landowners along the North Platte River. Because of this, the number of projects has increased. We hope to complete a few more projects before the Migratory Bird Act (MBA) takes effect in April and slows us down for a while. So far this winter, we have cleared around 200 acres of Russian olive trees. We have lined up many more acres for clearing later this summer after the MBA deadline passes.

As for re-growth and initial spraying of saltcedar and phragmites, HPWMA has plans for nearly 800 acres this season. If all goes well, that number will increase, and we will be able to help eradicate more of these invasive species as the year progresses.

For more information about HPWMA projects, contact Justin Relka at 402-540-4011.

This photo was taken after Lemburg Tree Removal completed the project. This area on the south side of the North Platte River near Bridgeport is now accessible. Invasive weeds and trees were controlled, and easy access will allow the landowners to do follow-up treatments.

Left: This photo shows a landowner's property before it was cleared. These 40 acres were inaccessible by foot, so paths had to be cut by hand to get to the river.



Six WMAs join forces to provide noxious and invasive weed awareness to 100,000 households in 48 Nebraska counties.

The Nebraska Environmental Trust
"preserving NATURAL NEBRASKA™ for future generations"

Thanks to the Nebraska Environmental Trust for funding projects to control noxious weeds in Nebraska

HIGH PLAINS
Weed Management Association

Coordinator - Justin Relka 402-540-4011

Banner County
Dick McGowan
308-436-4460

Cheyenne County
Brian Hiett
308-254-3459

Deuel County
Cris Burks
308-874-2433

Garden County
Terry Raymer
308-772-4311

Kimball County
David Hottell
308-235-2681

Morrill County
Owen Walker
308-262-0372

Scotts Bluff County
Jeff Schledewitz
308-436-6709

Sioux County
Nick Sanderson
308-668-9453

Platte Valley and West Central WMAs – Gaining on Success

Rich Walters – USFWS Biologist and Coordinator for Platte Valley and West Central WMAs

Platte Valley and West Central Weed Management Areas (WMAs) have collaborated for the past four years on removing invasive plant species. This large-scale project extended along the Platte River from Ogallala to Columbus. It encompassed over 320 river miles. Helicopters and amphibious vehicles used herbicide to treat over 22,000 acres of invasive species, primarily phragmites and purple loosestrife. In that time, the WMAs spent over $3.2 million that came from multiple partner contributions and grants.

The Platte River has fluctuated greatly in those four years, from drought to flood and back to drought again. Through all the extremes, the WMAs have seen much success. River flow conveyance has increased. Water usage by invasive species has decreased. Overall wildlife habitat has increased. Many wildlife species have responded to the success of the WMAs. In particular, the sandhill crane and the endangered whooping crane have found increased open sandbar habitat to roost on as they migrate through Nebraska in the spring and fall.

With the improved condition of the Platte River, it is critical that landowners continue to monitor and control invasive plant species. Despite recent success, stands of phragmites remain along riverbanks, side channels, and adjacent lowlands. Without continued management, these remaining infestations will expand and encroach into previously treated areas. The WMAs have produced a best management guide for controlling invasive plants. It will be mailed free to participating landowners. Additional copies will be available at your local county weed office.

Within the Platte Valley and West Central areas, the WMAs will continue to assist landowners in 2013. They plan to perform monitoring flights and implement control activities along active river channels. In addition, they have a cost-share program for off-channel infestations of invasive plant species and locations unreachable from active channels. For more information on this and other programs, contact your local county weed superintendent.

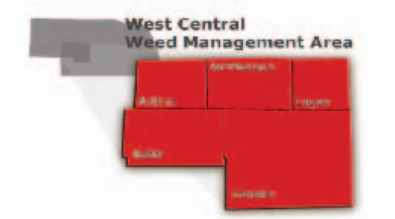
Noxious and invasive weed control on the sand islands of the Platte River opens up the area for migratory birds to roost.

PLATTE VALLEY WMA

Buffalo County Mitch Huxoll 308-236-1244	**Merrick County** Corwin Roscoe 308-946-5375
Dawson County Marty Craig 308-324-3771	**Phelps County** Charles Brooks 308-995-6688
Hall County Rob Schultz 308-385-5097	**Polk County** Jim Carlson 402-747-2921
Hamilton County Brian Crabtree 402-694-3666	**Sherman County** Erv Dzingle 308-745-1513 Ext.111
Howard County Rob Schultz 308-380-2099	**PVWMA Coordinator** Rich Walters 308-390-2511

PRIDE

	Dawes County Shane Cullan 308-432-3056
Box Butte County Jan Bruhn 308-487-3755	**Sheridan County** Kristi Paul 308-327-5629



WEST CENTRAL WMA

Arthur County Kent Anderson 308-764-2203	**Keith County** Donald Chandler 308-726-3375	**Lincoln County** Rod Yost 308-532-4590	**Logan-McPherson** Richard Cook 308-636-6157

PRIDE Update

Kristi Paul – PRIDE Board Member and Sheridan County Weed Superintendent

Over the past year, PRIDE has been busy with all types of projects. We completed the two-year Riparian Project on several miles of rivers and creeks in all three counties. Landowners were very pleased with the project, as hundreds of acres of noxious and invasive weeds were treated.

Each April, PRIDE has a "Weed Watcher" station at the Upper Niobrara White Natural Resources District Conservation Festival. We have a great time teaching 200 area fifth graders about noxious and invasive plant identification, prevention, spread, and control. Students also spend "hands-on" time with Gretel the goat. They also hear about grazing and other biological methods of weed control.

PRIDE members attended the Weed Management Area (WMA) Summit in North Platte in January. All WMAs in Nebraska presented updates about noxious and invasive plants and projects across Nebraska.

PRIDE once again published editions of *The Weed Watch* in the spring and fall of 2012. This 2013 spring edition is our 10th anniversary edition! It has grown by leaps and bounds and now involves six WMAs. The larger effort provides a great opportunity for 100,000 homeowners in 48 Nebraska counties to learn about noxious and invasive weeds.

PRIDE will not sponsor any major projects in 2013. But we will be inspecting and monitoring to see what happens to all the acres that were burned in the 2012 fires in Dawes and Sheridan counties. When Mother Nature provides an opportunity, weeds will be the first to fill the void! Landowners and operators need to be on the lookout for "plants out of place" that could have been brought into our counties by equipment from elsewhere. Thousands of acres are suffering from drought, so care must be taken to give the desirable vegetation a fighting chance.

PRIDE members congratulate Lora O'Rourke on her retirement from the U.S. Forest Service, where she completed 28 years of service. Among her other contributions, Lora was instrumental in obtaining Forest Service grants for both PRIDE and the Sandhills Weed Management Area.

The good news for PRIDE is that as a landowner, Lora can now serve as our PRIDE president!

We wish Lora all the best in her retirement. We are excited to have her as our leader.

Lora O'Rourke
PRIDE President

Sandhills WMA Update

JD Tetschner, Garfield County Weed Superintendent

An Early Detection Rapid Response (EDRR) Grant from U.S. Fish and Wildlife Service enabled Cherry, Brown, Loup, and Garfield Counties to survey riparian and wet meadow areas for invasive phragmites and purple loosestrife. Surveys were conducted on 8,000 to 10,000 acres, and all infestations were controlled.

Another grant allowed Sandhills Weed Management Area (WMA) to aerially survey control measures that were done in 2011 and to check for new infestations in 2012. This was the Nebraska Natural Legacy Innovation Grant, which was also an EDRR grant. The Platte Valley WMA and the Lower Loup NRD also supplied funding for this effort. In the winter of 2012, an adjustment in grant budget categories shifted a portion of the remaining budget into the supplies category. This allowed five counties to cost share on GPS cameras.

Invasive phragmites found with aerial surveying in August 2011.

The same patch of phragmites in May 2012 after control measures were done in September 2011.

Astounding Numbers!

At January's WMA Summit, host Rich Walters shared numbers with the group that are astounding!

In the past seven years, WMAs across Nebraska have expended $15,160,000. These funds have had great effect:

- 96,000 acres of noxious weeds have been controlled.
- 12,000 acres of Watch List or County-Added weeds have been controlled.
- 2,500 miles of river have been inspected and any noxious weeds treated.

Working Together Works!

SANDHILLS WMA

Blaine/Thomas Carol Conard 308-346-4047	**Garfield** Jay D Tetschner 308-346-5696	**Loup** Lynn Strong 308-942-6218
Boone Russell Stokes 402-386-5284	**Grant** Jan Burgess 308-458-2821	**Nance** Kevin Koziol 308-536-2523
Brown Doug Mulligan 402-387-2287	**Hooker** Neal Hayward 308-546-2706	**Rock** Rod Stolcpart 402-822-0186
Cherry Barbara Small 402-322-1067	**Greeley** Walter Bjorklund 308-428-5955	**Valley** Darrell Kaminski 308-383-2701
Custer Shawn Owens 308-872-2410	**Keya Paha** Travis Mundorf 402-497-3800	**Wheeler** Doug Reiter 308-654-3397

Invasive Weed Control and Channel Restoration to Begin on the Little Blue River

Merle Illian – Coordinator, Twin Valley WMA

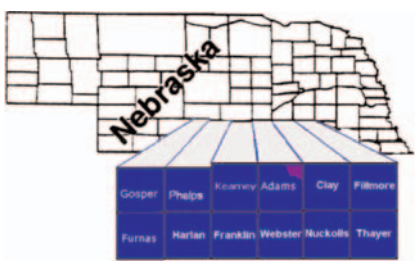
Twin Valley Weed Management Area (TVWMA) will begin work on the Little Blue River this summer. So far, 98% of the work and funding that TVWMA has received has been earmarked for the Republican River. This year, TVWMA received $568,000 from the Nebraska Environmental Trust. Over half of it will be allocated to the Little Blue River.

The objective of the project is to clear the river channel of woody debris and herbaceous vegetation that could impede water flow. This effort could reduce potential flooding during high water flows.

The project is similar to the Republican River Restoration Project implemented during the past four years. The WMA will hire a contractor with an excavator to work along the river channel and remove fallen timber and other woody vegetation. Noxious weeds and other invasive vegetation will then be chemically treated within the channel.

The project will cover about 120 miles along the Little Blue River from the Franklin-Webster county line to the Thayer-Jefferson county line. The WMA contacted 265 landowners and asked them to sign agreements to allow the project to proceed across their property.

Additional woody debris will accumulate against this fallen tree and create a blockage that will impede water flow.



TWIN VALLEY WEED MANAGEMENT AREA

Adams County Eric Walston 402-461-7173	**Fillmore County** Todd Boller 402-366-1921	**Furnas County** Todd Weverka 308-268-2824	**Harlan County** Tim Burgeson 308-928-9800	**Nuckolls County** Tim Stutzman 402-225-2361	**Webster County** Dennis VenWay 402-746-2890
Clay County Bruce Rumsey 402-762-3652	**Franklin County** Mark Goebel 308-425-3716	**Gosper County** Marty Craig 308-324-3771	**Kearney County** Joseph D. Anderson 308-832-2854	**Thayer County** Brian Schardt 402-365-4366	**TWIN VALLEY WMA** Project Coordinator Merle Illian 402-746-3560

Spotlight on Spotted Knapweed and Diffuse Knapweed

Kristi Paul, PRIDE Board Member and Sheridan County Weed Superintendent

Spotted knapweed and diffuse knapweed are both native to Europe. They were brought to North America in the 1800s. Nebraska added both knapweeds to the noxious weed list in 1991 in response to the negative impact they had in other states. In addition, these invasive weeds began showing up in many Nebraska counties. Once established, spotted knapweed can become a monoculture and take over large areas, thereby reducing forage and wildlife habitat.

Although spotted knapweed is believed to be more invasive, both knapweeds were added to the noxious weed list. This was because it is difficult to differentiate between the two species in their rosette stage.

Acres Infested in Nebraska

When initially listed in Nebraska, 9,000 acres of spotted knapweed were reported. Current reports indicate that 15,000 acres of knapweed infest Nebraska pastures, roadsides, railroad rights-of-way, woodlands, and disturbed areas. Increased education and awareness about noxious and invasive plants and better mapping technology have resulted in the counties more correctly reporting the number of acres that are infested.

Mature spotted knapweed plant.

Appearance

Both spotted and diffuse knapweeds have highly branched stems with gray-green hairy foliage and a stout taproot. These two plants are similar in some ways, but they have some distinctive differences.

Height:

Spotted knapweed is a short-lived perennial or biennial growing 24-48 inch tall.

Diffuse knapweed is a short-lived perennial or biennial growing only 6-24 inches tall.

Flowers:

Spotted knapweed has pink or purple flowers that bloom from June through September.

Diffuse knapweed most often has white or sometimes pink flowers that bloom from June through September.

Spotted knapweed flower.

Reproduction and Seeds:

A single spotted knapweed plant can produce well over 100 flower heads. This can result in more than 25,000 seeds that can lie dormant in the soil for up to eight years. Spotted knapweed can also reproduce when lateral shoots form new rosettes near the parent plant.

Diffuse knapweed produces 18,000 seeds per plant.

Both knapweeds can be spread by wind, water, wildlife, vehicles, contaminated hay, farm machinery, gravel distribution, logging equipment, and road construction.

Interesting Facts:

Spotted knapweed is allelopathic, which means it produces a natural herbicide that eradicates plants around it. This can result in a monoculture of spotted knapweed.

If you are "pulling" the weed as a method of control, be sure to wear long sleeves and gloves. The chemicals in spotted knapweed can be a skin irritant to some people.

Treatment Options

Mechanical: Unless tillage is used with other control methods, it is not recommended because it may further spread knapweed infestation. Mowing during the early vegetative and bolt stages can be used to reduce flowering and seed production. Mowing mature plants is not recommended because it will worsen seed dispersal and spread. Mowed knapweed plants often produce side branches with greater numbers of flowers, even with repeated mowing. Prescribed fire is likely to result in crown resprouts and increased seed germination. Fire by itself is not an effective means to control knapweeds.

Cultural: Education and prevention are most important. Be sure vehicles are not traveling through infestations and spreading the seeds. Inspect your ATV or vehicle after driving in areas with knapweed to be sure that you are not transporting seeds. Use certified weed-free hay.

Biological Control: Intense short-term grazing in spring or when desirable grasses are dormant can reduce young knapweed plants. Grazing animals usually avoid mature knapweed plants. However, knapweed seed can be inadvertently eaten and spread in manure. Take care when moving livestock from infested to uninfested areas.

Using insects to control spotted and diffuse knapweed may help to reduce infestations. However, insects will not eradicate the knapweeds. Three insects have been used in Nebraska in the past: the seed head weevil (*Larinus minutus/obtusus*), the root-boring weevil (*Cyphocleonus achates*), and the seed head gall fly (*Urophora quadrifasciata/affinis*). For more information on biological control insects for knapweed, work with your local county weed superintendent.

Herbicide: The narrow leaf structure of spotted and diffuse knapweed plants does not provide much surface for herbicide. Nevertheless, a single herbicide spray application will reduce knapweed populations. It is important to anticipate the need for follow up treatments for several years to ensure long-term success. See the UNL Extension EC-130 2013 *Guide for Weed Management* for recommended herbicides and correct application amounts and times. Always read and follow the label on the herbicide because the label is the law.

The most effective time to spray spotted or diffuse knapweeds is in the fall during the seedling-to-early-rosette stage. This is the time that lower rates of herbicide can be used. In spring, higher rates should be used on plants either in the late rosette or bolting stage or before flowering when there are 4 to 6 inches of growth and good growing conditions.

Effectiveness of herbicide spraying is lower when plants are drought stressed or leaf damaged. Therefore, herbicides are not recommended when growing conditions are severe. Consider rotating herbicides from year to year to prevent resistance.

Combining methods of control (spraying, grazing, mowing, and burning) can be successful to control knapweed infestations. Regardless of the initial strategy used, the key to successful knapweed control is long-term planning, integrated management, and monitoring of treatment areas on an annual basis. If necessary, reseed with perennial native grasses or other desirable plants to increase competition with knapweed.

What can you do to help prevent the spread of spotted and diffuse knapweed in Nebraska?

Learn to recognize these noxious weeds. Report the weeds to your local county weed superintendent. Request help with identification or control recommendations. Minimize soil disturbance. Reestablish desirable vegetation when disturbance does occur. Do all that you can to prevent the spread of spotted or diffuse knapweed in Nebraska.

References:

U.S. Forest Service. 2012. *Field Guide for Managing Spotted Knapweed in the Southwest*. Southwestern Region TP-R3-16-5, Dec. 2012. http://www.fs.usda.gov/main/r3/forest-grasslandhealth/invasivespecies (accessed March 7, 2013).

Diffuse knapweed plant.

Did You Know?

UNL Extension Specialist Bob Wilson recently stated, "Weeds will change weed control programs in the next decade." This is due to herbicide resistance. The weeds confirmed as herbicide resistant in Nebraska are marestail, ragweed, kochia and tall waterhemp. Land managers need to make changes in crop rotation and herbicide products to obtain successful weed control.

If YOUR weed control program is not as effective as it once was, maybe you should "**CHANGE IT UP**"!

Invasive Plants Watch List: 2013

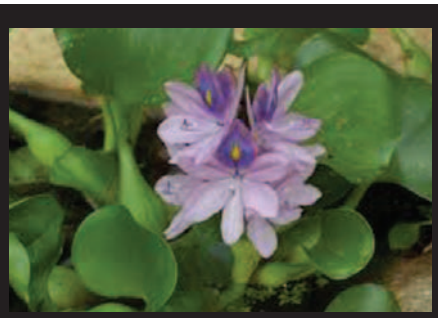
Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member

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

Giant Reed

Oriental Bittersweet



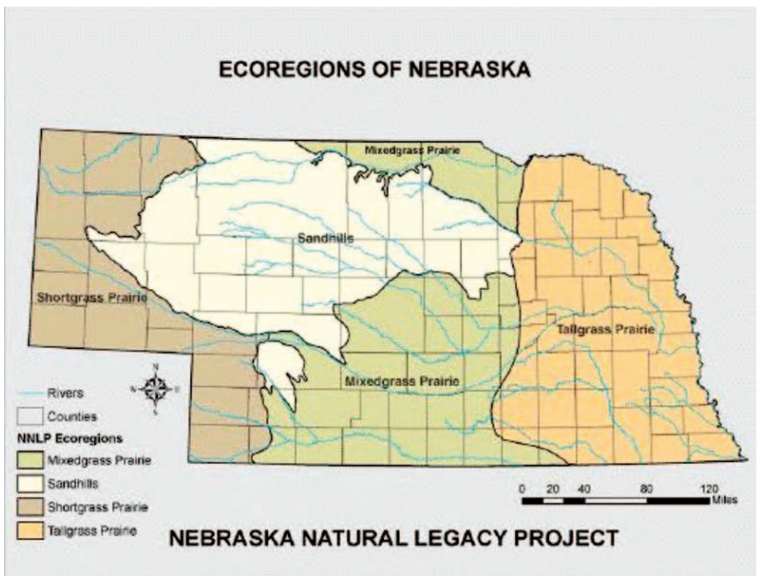
Water Hyacinth

Brittle Naiad

Hydrilla

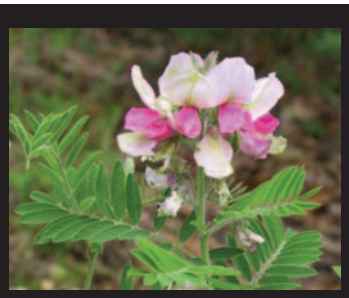
Giant Salvinia

WIth the exception of Giant Reed, these species have not been found in Nebraska yet, but they pose a significant risk if introduced. These plants are the same for all ecoregions of the state.



Category 2: Shortgrass Prairie Ecoregion

Russian Knapweed



Goatstrue

Black Henbane

Houndstongue

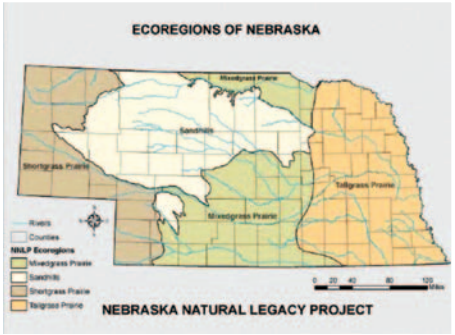
Saltlover

Perennial Pepperweed


Black Knapweed


Houndstongue

Category 2: Sandhills Ecoregion




Perennial Pepperweed


Yellow Bedstraw


Eurasian Watermilfoil

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.


Sulphur Cinquefoil


Amur Maple


Russian Knapweed

Category 2: Mixedgrass Prairie Ecoregion


Garlic Mustard

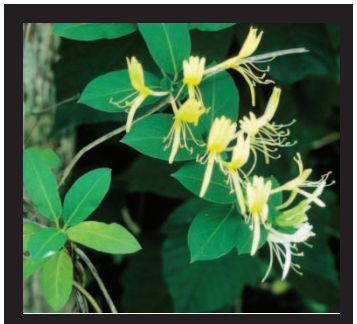

Caucasian Bluestem


Sulphur Cinquefoil


Cutleaf Teasel


European Alder


Eurasian Watermilfoil


Japanese Honeysuckle

Involving Youth in Conservation Projects

Kyle Graham, USFWS,
Partners for Fish and Wildlife Program

How can young people affect positive change in rural Nebraska? Historically, organizations such as the Civilian Conservation Corp (CCC) provided opportunities for young men to work on large "labor" projects, often in rural areas. Workers received many rewards – a boost toward a lifetime of productive work, fond memories, and a "connection" to the natural world that was often maintained and passed on to the following generation.

This past June, a recent project involved young people and enhanced an area important to people, livestock, fish, and wildlife. Over 50 students from the Pine Ridge Job Corps hand planted over 8,000 sandbar willows on two miles of stream banks. The project actually began in 2010 when dense thickets of invasive Russian olive trees were removed from the banks of Box Butte Creek and portions of the Upper Niobrara River. Then the project continued into the summers of 2011 and 2012 with the planting of native willows.

Russian olive trees became established after Box Butte Reservoir was constructed in 1948 and the Niobrara River was diverted. Limited flow in the river channel reduced the viability of native plants that historically kept erosion of stream banks in check. Similar to most invasive plants, Russian olive trees quickly occupied the space once occupied by native plants. These invasive trees replaced the extensive root systems of the native species with shallow roots. In 2010, in a project involving several partners including PRIDE, these Russian olive trees were removed.

Next, the U.S. Fish and Wildlife Service, Nebraska Game and Parks Commission, Sandhills Task Force, Rocky Mountain Bird Observatory, and Natural Resource Conservation Service joined with the several landowners to develop a project to replace the Russian olive trees with native plants. Over the winter of 2011 to 2012, over 8,000 sandbar willows were raised in a nursery in eastern Nebraska. By early June, the willows had developed leaves and a network of roots. They were nearly two feet tall. Each willow had to be hand planted into the soft sand adjacent to the live stream where the roots could remain wet.

Kyle Graham talking to Job Corps students about the project.

Job Corps students planting willows along Box Butte Creek.

Not intimidated easily, the Job Corps students quickly grasped the concept. They made it their mission to provide a new home for the willows. A large effort such as this is a wonderful way to build a sense of teamwork and accomplishment among younger people. Most of the students had no prior history with Box Butte Creek. But by the end of the day, it was evident that the students had great ownership in the success of the project. Eventually, the willows will provide shade and cover, improve water quality, and stabilize erosion-prone soils.

The potential for young people to participate in similar projects across rural Nebraska is vast. Working on stream restoration projects is rewarding and important. Projects such as these help build an appreciation for all of our important natural resources.

Willow seedlings ready to be planted.

Why Use Weed-Free Forage?

Jan Bruhn, Box Butte County
Weed Superintendent

Demand is growing for certified weed-free forage and mulch in Nebraska, our neighboring states, and other western states. Many 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. 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.

Nebraska's weed control authorities offer a ground-level inspection program to producers of hay, forage, and mulching materials before the product is cut or harvested. The program in Nebraska adheres closely to standards set forth by the North American Invasive Species Management Association (NAISMA). This makes our certified products highly marketable in many states and Canadian provinces.

When inspecting, weed superintendents look for all Nebraska noxious weeds, Watch List weeds and county-added noxious weeds. Although the NAISMA Standards contains 54 weeds, local weed superintendents may not be familiar with all 54. Therefore, they may inspect for Nebraska noxious, Watch List, and county-added species only.

Producers who take advantage of this program can be sure that their fields are clean of at least all of Nebraska's noxious weeds and local county-added weeds. In addition, users of certified weed-free forage from Nebraska can be assured that the products are free of Nebraska's worst invasive plants.

For more information concerning weed free forage products, contact your local weed control authority superintendent. Producers should take advantage of this opportunity to improve the quality of their hay. Users should ask the producer about noxious weeds before purchasing. Both of these actions help reduce the invasive weed threat.

Nebraska's Newest Noxious Weed – Sericea Lespedeza (*Lespedeza cuneata* G. Don)

Continued from Page 1

reduces the carrying capacity for livestock.

In addition to the tannins, it is unpalatable to most livestock and wildlife (other than goats) because its stems become tough unless it is regularly mowed or grazed below 12 inches. Sericea lespedeza spread throughout the eastern United States due to its initial use as a cultivated livestock forage and because wildlife spreads its seeds. It is now becoming established in eastern Nebraska.

Appearance: Sericea lespedeza is a perennial, warm-season legume with multiple erect, light green stems that are 3 to 5 feet tall and have few branches. General growth occurs from April through November. The peak growth period is June through August. New shoots grow succulent and tender from the crown each year. They become fibrous and woody once they reach 12-18 inches. A two- or three-year old plant may have up to 30 stems. After mowing or grazing, new growth arises from buds on the stubble, rather than from the crown.

Leaves are compound, trifoliate, and alternate along the stems. Leaflets are about 1/2 to 1 inch long, narrow, oblong, spatulate (wider at the end than the base) and have a small spike at the very tip. Leaflets are covered with densely flattened hairs, producing a grayish-green or silver appearance.

Flowers: Blooms are small, about 1/4 inch long with a shape similar to those of other legumes or peas. They are creamy white with pink to purple veins. Flowers bloom in late summer to fall, singly or in clusters of two to four near the axils of upper and median leaves.

Seeds: Each flower may produce one shiny, slightly flattened, ellipsoid to oval seed in late summer or fall. The hull color is tan, brown, olive, or purple. Each stem may contain up to 1,000 seeds. Each seed can maintain viability up to 20 years in the soil. Pure stands may produce 430 to 850 pounds of seed per acre, per year. Up to 30% of the seeds may be "hard" seeds, which need to be scarified to germinate. One pound of unscarified seed contains approximately 372,000 seeds; there may be up to 335,000 seeds per pound of the scarified seed.

Roots: Sericea lespedeza has a strong tap root system that branches up to three feet from the crown.

Commonly confused with: This legume can be confused with desirable native legumes, particularly slender lespedeza (*Lespedeza virginica*). However, the native plant has leaflets that are more rounded and do not contain a sharp point.

Habitat

Sericea lespedeza grows best on deep, well-drained, clayey, and loamy upland soils. However, it easily adapts to a variety of habitats, including severely eroded, sterile soils. It tolerates light to moderate shade, but it is not known to survive in heavy shade. It has invaded open woodlands, grasslands, savannahs, roadsides, fence lines, fields, prairies, drainage areas, wetland borders of ponds and swamps, meadows, and open disturbed ground such as construction and mine sites, crop fields, and burned areas. It tolerates soils ranging from very acidic to slightly alkaline, but it prefers a pH of 6.0 to 6.5. It performs best when annual precipitation is at least 30 inches. However, it may still be very aggressive in drier regions.

Sericea lespedeza flowers.

Treatment Options

As with most weedy plants, control is most effective with early detection, isolation of infested areas, and control of individual plants. An integrated approach helps minimize damage to native plants. Expect the same areas to require treatment for several years.

Biological Control: Sericea lespedeza is fairly resistant to diseases and insects. Grazing young shoots in early spring can help control the height and may prevent flowering. However, effective control should include herbicides to prevent regrowth and flowering once livestock are removed.

Herbicidal Control: Sericea lespedeza responds best to herbicides in early- to mid-summer, after the stem has branched but prior to seed production. See the UNL Extension EC-130 2013 *Guide for Weed Management* for recommended herbicides and correct application amounts and times. Always read and follow the label on the herbicide. After all, the label is the law. Due to the nature of the seeds in the soil bed, repeated applications may be necessary.

Mechanical Control: Sericea lespedeza has not been effectively controlled using the conventional management practices of prescribed grazing or mowing and prescribed burning in rangelands, pasturelands, and forests. Plants in the flower bud stage (before seed production) can be mowed close to the ground for two to three consecutive years to reduce or prevent seed production. Mowing should be followed by herbicide application to prevent regrowth from the crown. Burning is not recommended because it scarifies seeds in the soil and can induce growth of new plants. If burning is used to remove weed stubble, diligent follow-up with herbicide is recommended to kill newly germinated plants. In pasture and cropland, after the herbicide application-waiting period, seeding heavily with annual cereal grains and warm-season grasses to produce rapid growth and shade may inhibit germination of new sericea lespedeza plants.

Sericea lespedeza leaflets.

References:

Ball, Don, Extension Agronomist and Professor; and Mosjidis, Jorge, Professor. *Sericea Lespedeza: A Pasture, Hay, and Conservation Plant*. Alabama Cooperative Extension System. Auburn University. July 2007, ANR-1318.

Forest Health Staff. *Sericea Lespedeza, Lespedeza cuneata (Dum.-Cours.) G. Don*. Weed of the Week. USDA Forest Service, Newtown Square, PA. WOW 08-20-06.

Missouri Department of Conservation. *Sericea Lespedeza*. Invasive Species Fact Sheet. Jefferson City, MO. WOOO39 5/2010.

Technotes – Prairie. *Sericea Lespedeza (Lespedeza cuneata) Management with Selective Herbicides*. May 2011.

Vandevender, John. *Sericea Lespedeza Lespedeza cuneata (Dum. Cours.) G. Don*. USDA-NRCS. Alderson West Virginia Plant Materials Center.

Vermeire, Lance T., Rangeland Research Associate; Bidwell, Terrence G., Professor and Extension Rangeland Specialist; Stritzke, Jim, Professor and Extension Weed and Bush Control Specialist. Ecology and Management of Sericea Lespedeza. Oklahoma Cooperative Extension Service, Oklahoma State University. PSS-2874.

What Does It Mean?

Scarify – To cut, soften, or otherwise treat the wall of a hard seed to hasten germination.

Allelopathic – Producing a substance that is harmful or lethal to another plant.

KIDS OF ALL AGES PAGE

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

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

acre
aggressive
annual
biennial
bindweed
biocontrol
Canada thistle
competition
drought
erosion
Europe
fire
goats
grass
graze
Gretel
grow
houndstongue
insects
invasive
knapweed
knotweed
landscape
leafy spurge
loosetrife
management
mow
musk thistle
night
perennial
pests
phragmites
plan
PRIDE
recovery
red cedar
roots
Russian olive
saltcedar
Sandhills
Scotch thistle
search
seed
sericea lespedeza
shovels
strategic
target
ten
tillage
timing
undesirable
water
Weed Free Forage
weeds
WMA

Also -

help
long
lung
maps
milk
paces
pod
quad
rod
smell
toe
towns
toy
valley
whew
worry
wow
zoo

Can you find the differences?

There are 8

ANSWERS to differences: 1. Red cap is different; 2. Green hat is different; 3. Toy is different; 4. Black hair is different; 5. Flower is missing from black hair; 6. Leaf is missing from flower; 7. Mud is different on shovel; 8. Pink headband is shorter.

County-Added Noxious Weeds

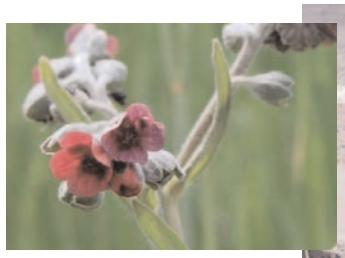
Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member

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
Box Butte
Cheyenne
Dawes
Deuel
Garden
Morrill
Scotts Bluff
Sheridan

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



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

Houndstongue

Dawes
Sheridan

Tall Thistle

3 to 5 feet tall. Biennial - spreads only by seeds.

Fillmore

Flodman Thistle

Scotch Thistle

Banner
Cheyenne
Dawes
Morrill
Sheridan
Sioux

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

Notice the underside of the leaves of both Tall and Flodman Thistles is silver, which is a characteristic of native thistles.

1 to 3 feet tall. Biennial - spreads by seeds and rhizomes.

Woolyleaf Bursage

Banner

Bull Thistle

Rock

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

Perennial Yellow Bedstraw

Cherry

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

GOOD NEIGHBORS CONTROL NOXIOUS WEEDS!

Nebraska's Noxious Weeds

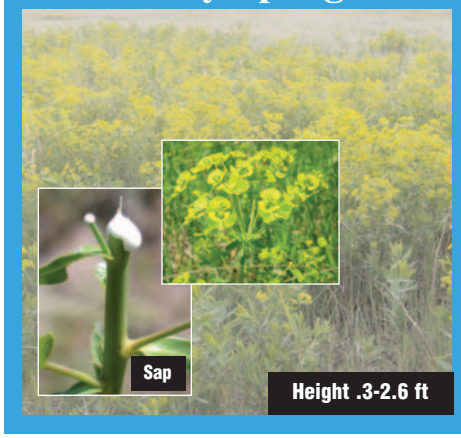
It is the duty of each person who owns or controls land to effectively control noxious weeds on such land.

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

Musk Thistle

Leafy Spurge

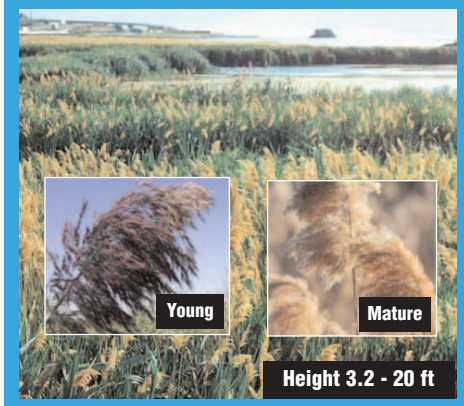


Spotted Knapweed

Plumeless Thistle

Saltcedar

Phragmites



Diffuse Knapweed

Japanese Knotweed

Giant Knotweed

Purple Loosestrife

Sericea Lespedeza

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