PRIDE
Panhandle Research Integration for Discovery Education

The Weed Watch

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

Fall 2012 Newsletter

Be Smart ... Do Your Part

To prevent the spread of weeds and seeds while enjoying the "Great Outdoors" ...

While Horseback Riding

Stephanie King, NRCS and PRIDE board member

Increasing numbers of horseback riders and other equine enthusiasts are finding both adventure and solace in our nation's backcountry. Many do not realize that they can unwittingly cause lasting impacts whether riding on the groomed trails or in the wild backcountry of their state and federal lands. Unless done with care, these activities can increase the possibility of resource damage, encroachment of undesirable vegetation, and habitat destruction. Horseback riders need to do their part to keep the land in good condition. Here are some principles to follow when riding in the great outdoors.

Plan Ahead and Prepare: Know the regulations and special concerns of the area. Ride only where permitted. Always carry any required permits with you. Public lands require that livestock be fed certified weed-free forage. It is advisable to start horses on the special forage at least three days before the ride to make sure that any weed seeds have passed through their digestive systems.

Camp and Travel Smart: Stay on durable surfaces by using established trails and campsites, rock, gravel, dry grasses, or snow. Protect riparian areas by camping at least 200 feet from lakes and streams. Restrict horses with

a highline using tree savers. Concentrate use on existing trails and focus activity on areas where vegetation is absent. Try to stay in groups no larger than 4 to 6 riders.

Pack it In, Pack it Out: Inspect your campsite and rest areas for trash and spilled food. Properly dispose of what you cannot pack out.

Leave What You Find, Preserve the Past: You can examine, but don't remove. Leave rocks, plants, fossils, and other natural objects as you found them. Avoid introducing or transporting non-native species. Of special concern is introducing noxious weeds, either by bringing in forage that is not certified, by leaving manure that has unwanted seeds, or by bringing in seeds or plant parts that are attached to your horse's coat or hooves.

Minimize Campfire Impacts: Know what fire restrictions are in place. If fires are allowed, consider using a lightweight stove instead of a campfire; where fires are permitted, use established rings; keep fires small and burn all wood and coals to ash. Do not burn trash in your fires unless it is totally consumed. Put fires out completely and scatter cool ashes.

Respect Wildlife: Observe wildlife from a distance. Do not feed, follow, or approach them. Control pets at all times or leave them home. Avoid wildlife during sensitive times, such as mating, nesting, raising young, or winter.

Be Considerate of Others: Ask permission to ride across private property. Leave gates as you find them, and respect private lands and livestock.

With these principles in mind, you are ready to experience the pleasure and the challenge of a trail ride. With just a little effort, we can all enjoy the backcountry for many years without the threat of resource and habitat damage or encroachment of invasive or noxious vegetation.

Follow a few rules to avoid damaging the beauty you are enjoying.

While Hunting

Jan Bruhn, Box Butte County Weed Superintendent and PRIDE board member

Ahh, the smell of fresh air in the "great outdoors." There is a special feeling when you are outdoors, away from the hustle and bustle of the daily grind. And your best and most faithful friend, your dog, is at your side. You are going hunting!

Hunting has been important in the development of our country. It is easy to understand how a person can get lost in the idea of a great hunting expedition even if it is only a weekend outing. However, it is hard to understand that the places we enjoy hunting are in danger of being destroyed.

Hunting areas are under attack. Silent invaders are waiting to take advantage of you and your hunting partner. These invaders come in many sizes, often blending in with their surroundings, hiding in out-of-the-way places, and waiting for an opportunity to hitch a ride from an unsuspecting passerby to further their stealthy invasion. They don't care who they ride with or where they might be dropped off. They don't seem to mind if they go unnoticed and are just left alone to grow, produce their young, and continue to overtake spaces that they belong to native inhabitants.

By now you have guessed that the invaders are noxious and non-native weeds. But you probably wonder what noxious, non-native, invasive weeds have to do with you, hunting, and your dog. The answer is to avoid transporting noxious and invasive weeds. When you go hunting, be aware of where you camp. Don't drive, walk, or ride through weed-infested areas. Noxious and invasive weeds produce seeds that can get caught in your clothing and in your dog's coat. When you find burs or seeds on your vehicle, in your clothing, or on your dog, don't just brush them off. The seeds will grow wherever they can root. Give yourself and your dog a thorough checking because seeds can hide in tight places. Gather the seeds and place them in a sealed container. Do not dispose of them in dumpsters intended for composting. If you want to know what plants the seeds come from, take them to your local weed control office where your county weed superintendent can help you identify them. If you spot any of the growing invaders while hunting, let your weed superintendent know where you saw them.

Before your hunting expedition, learn to identify noxious and invasive weeds. These are the Nebraska noxious weeds and the weeds on the Nebraska weed "Watch List." Learn to identify the weeds on both of these weed lists and keep an eye out for them. See pictures of Nebraska's noxious and Watch List weeds in this publication.

Be good stewards of our land when you hunt. Help save the experience of hunting in the great outdoors for future generations. When you get caught up in the thrill of the hunt, remember to prevent the invaders from robbing you, and others, of the opportunity to have and enjoy your favorite hunting spots.

Continued on Page 4

Updates from High Plains, PRIDE, Platte Valley and West Central WMAs

HIGH PLAINS
Weed Management Association

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Cheyenne County
Brian Hiett
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Deuel County
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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

High Plains Weed Management Association – Justin Relka, Coordinator

High Plains Weed Management Association has had a productive summer and early fall. We have been placing contracts for spraying of re-growth of Russian olive and saltcedar and looking at private properties where we can concentrate on re-growth and first-time removal. We also have projects in the works for this fall and winter that have the High Plains WMA excited and ready to go.

Another project involves educating and informing landowners and communities about the High Plains WMA program through postcards and fliers. We have contacted landowners along the Platte River about removal and spraying. We will continue this work by contacting and working with landowners along tributaries and waterways. We hope, through this direct contact, that High Plains WMA will be able to set up new projects and continue to fight against invasive weeds along the river.

During the summer, we set up booths and spoke to many people at the Morrill and Scotts Bluff County fairs. By doing so, we shared information about invasive plants and their impact to our ecosystem.

For more information about High Plains WMA and how you can become involved, call Justin Relka, Field Coordinator, High Plains Weed Management Association. Office - 308-633-1264, Cell - 402-540-4011

PRIDE

Box Butte County
Jan Bruhn
308-487-3755

Dawes County
Pat Deaver, Interim
308-432-3056

Sheridan County
Kristi Paul
308-327-5629

PRIDE WMA – Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member

The PRIDE group has had a busy year, with four different grants being applied for, received, and completed. Two of the grant projects involved controlling houndstongue and Scotch thistle as well as other noxious weeds on the Niobrara River and Snake Creek in Box Butte County, the White River in Dawes County, and White Clay Creek in Sheridan County. Jason Rust of Midwest Vegetation did most of the control work in the 100-foot stretch on either side of the rivers or creeks. These projects helped many landowners get started controlling the weeds. We hope they will continue to control them now that the project is over. These "Riparian Habitat Recovery through Noxious Weed Control" projects were funded by the Nebraska Department of Agriculture (NDA) from the Nebraska Environmental Trust (NET). Funds were also received from the U.S. Forest Service through Dawes County Weed Control.

PRIDE also received a small grant from the Nebraska Academy of Sciences to study the effectiveness of control on houndstongue and Scotch thistle. We used several different herbicides in September 2011 on different plots. After the mild winter and very little moisture this spring, the results were not very decisive. However, all areas that were sprayed in the fall had great results. Since both houndstongue and Scotch thistle are biennials that reproduce only by seed, the fall control of the rosettes was a success.

PRIDE hosted a booth at the Upper Niobrara White Natural Resource District's Conservation Festival to educate nearly 200 students about noxious weed prevention, identification, control, and spread. Gretel the goat was once again a hit with the students, who petted her and heard about grazing with goats as a tool for weed control.

PRIDE is pleased once again to publish two editions of The Weed Watch. A grant from the NDA funded last spring's edition. All participating WMAs are funding this fall edition, with 100,000 copies going to households in 48 counties!

Jason Rust of Midwest Vegetation with Dale Wellnitz prepare to treat private land along White Clay Creek for PRIDE's Riparian Habitat project.

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
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Howard County
Rob Schultz
308-380-2099

PVWMA Coordinator
Rich Walters
308-390-2511

Platte Valley WMA and West Central WMA – Rich Walters (The Nature Conservancy, WMA Coordinator) and Bill Carhart (Twin Platte Natural Resource District)

The West Central (WCWMA) and Platte Valley (PVWMA) Weed Management Areas are continuing the effort of invasive plant education and awareness by joining forces with other Weed Management Areas to publish The Weed Watch. This fall's edition is being inserted into local papers and being delivered to approximately 30,000 households in our WMA counties. Landowner awareness is the best asset we have for invasive species control.

We have monitored and controlled many areas this summer. During July and August, we sprayed phragmites and purple loosestrife by airboat and tracked vehicle on infestations within the Platte River corridor. These were areas that previous helicopter spraying could not treat. A contracted helicopter service will fly the corridor again and treat remaining in-channel infestations of phragmites and purple loosestrife in late August. In addition to spraying, the helicopter will do a survey to document successes from previous years and map any remaining infestations. The Nebraska Environmental Trust, Platte River Recovery and Implementation Program, Central Platte NRD, and the Nebraska Department of Agriculture are funding these current projects. Phragmites control within WCWMA and PVWMA has reached a management phase. Communication and cooperation from landowners is vital to maintain control and to limit re-infestation.

WEST CENTRAL WMA

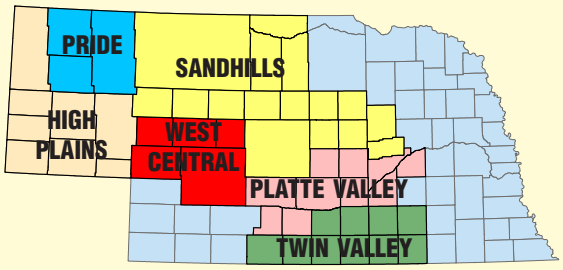
Arthur County
Kent Anderson
308-764-2203

Keith County
Donald Chandler
308-726-3375

Lincoln County
Rod Yost
308-532-4590

Logan-McPherson
Richard Cook
308-636-6157

Updates from Sandhills and Twin Valley WMAs



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

Sandhills WMA – Larry Gibbens, Bureau of Educational Lands and Funds

The focus of the Sandhills WMA is protecting this unique region from the adverse impact of noxious and invasive plants. Activities include educating the public about cost-effective methods of controlling weeds as well as mapping and eradicating invasive plants.

This season, the Sandhills WMA received grants from the U.S. Forest Service. For one project, we used funds to provide a cost-share program to map and spray leafy spurge and work with landowners to help them become self-sufficient in noxious weed control. In addition, Forest Service funds provided the opportunity for noxious weed education and awareness through The Weed Watch, which is mailed directly to 2,100 landowners in our WMA.

In addition, we collaborated with the U.S. Fish and Wildlife Service. Sandhills WMA member Barbara Small, Cherry County Weed Superintendent, is continuing a project of Early Detection and Rapid Response. She is working with Mark Lindvahl of the Valentine Wildlife Refuge to control purple loosestrife and invasive phragmites. These noxious weeds started at the refuge, expanded, and are now found in several counties of the SWMA.

The Sandhills WMA is concerned about all noxious and invasive weeds, with particular emphasis on leafy spurge and sulphur cinquefoil on rangeland, along with phragmites and purple loosestrife in riparian areas. These plants are more than a nuisance because they can displace native species found only in the Sandhills.

This region of grass-covered sand dunes contains the largest wetland region in the United States and is home to over 300 animal and 700 plant species. The Snake, Dismal, Loup, Calamus, Elkhorn, and Cedar Rivers originate here. The Niobrara River travels the full length of the Sandhills. These important resources are the reason the members of the Sandhills Weed Management Area are committed to controlling invasive weeds.

For more information, contact your local Noxious Weed Superintendent or the office of the Sandhills WMA at 308-346-3393.

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

Twin Valley WMA – Merle Illian, Twin Valley WMA Coordinator

Twin Valley WMA has had success this season using grant funds from Nebraska Environmental Trust. The WMA has overseen the following removal projects:

82 miles of debris and logjams from Republican River channel (from the Harlan County Dam to the Kansas-Nebraska state line south of Superior, Nebraska).

28,996 cubic yards of sediment from a two-mile stretch of the Republican River south of Riverton, Nebraska, where Thompson Creek empties into the river. This sediment created a tremendous pinch-point, causing constant flooding problems.

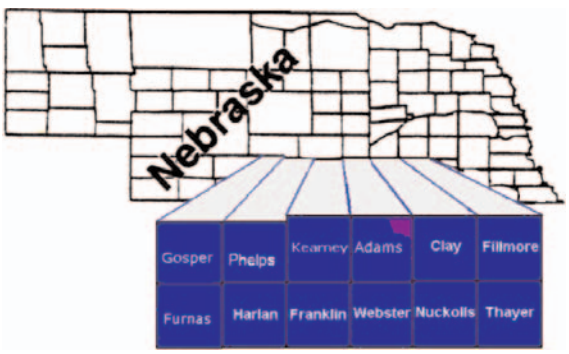
21.5 miles of debris from Turkey and Indian Creeks, which are tributaries of the Republican River.

160 acres of invasive trees and shrubs along the perimeter of the Republican River. This work involved eight different landowners.

In addition, there was follow-up ground control of phragmites along 172 miles of the Republican River from Cambridge, Nebraska, to the Kansas-Nebraska state line south of Superior, Nebraska. Another 33.5 acres were treated by air.

Frahm Construction clearing log jams from the Republican River in the Twin Valley

TWIN VALLEY WEED MANAGEMENT AREA



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

While Travelling

This is taken from an article that first appeared in the Great Falls Tribune.

Jeannie Olmstead, Montana State University, Toole County Extension Agent

Weeds, both noxious and simply obnoxious, are often found growing along roads and trails. Vehicles have long been suspected of causing this proliferation by picking up weed seeds and dispersing them to new locations. Roads and trails are especially susceptible to weed growth because of disturbances such as trampling, mowing, or road maintenance. These weaken the native plant communities and allow weed establishment. Research conducted by Dr. Lisa Rew and her associates at Montana State University demonstrate the extent to which vehicles can pick up and disperse weed seeds. She also looked into how much vehicle washing would be necessary to remove the seeds from vehicles to prevent the spread of weeds.

Three separate field studies were conducted to determine the number of seeds gained and lost by vehicles over varying distances. One study determined how many seeds all-terrain vehicles (ATVs) accumulate by driving on- and off-trail in Montana. Another determined how long seeds stay attached to the vehicle before they are dispersed when driven along paved and unpaved roads under both wet and dry conditions.

Seeds stick easily to tires. Who knows where they will drop off?

In the first study, ATVs driven on- and off-trail collected a large number of seeds in both spring and fall. Not surprisingly, ATVs picked up more seeds when driven off-trail than on-trail. They also picked up more seeds in the fall than in the spring and more under wet conditions than dry conditions. In the fall, up to 5,500 seeds per mile were picked up off-trail compared to about 400 seeds per mile on-trail. The other study found that up to 99 percent of seeds stayed attached to a vehicle after traveling 160 miles under dry conditions. Seed retention was much lower under wet conditions, where seed retention varied from zero to 60 percent, depending on where the seed was attached to the vehicle and whether the road was paved or unpaved. In summary, these three research studies showed that vehicles can pick up large numbers of seeds, especially when driven off-trail and under wet conditions. If seeds are picked up in mud that is then allowed to dry on the vehicle, they can travel almost indefinitely until the mud is washed off by rain, wet road conditions, or washing.

Washing the undercarriage of vehicles to remove soil and weed seeds is often recommended to prevent the spread of weeds and is standard procedure for many groups working in undisturbed areas. Dr. Rew and her associates also conducted a series of studies to determine optimal vehicle washing duration and to compare the effectiveness of various commercial portable vehicle wash units. Results from these studies suggest that wash length and number of washes is important when cleaning a vehicle to remove soil that may contain weed seeds. Vehicles washed for six minutes in one wash or two to three successive three-minute washes were the cleanest. A three-minute wash removed much more soil material than a 1.5-minute wash, which is considered standard by some wash unit operators. All commercial wash units, regardless of water pressure or water use, performed similarly.

You can read more about this research in two new MSU Extension MontGuides "Weed Seed Dispersal by Vehicles" and "Washing Vehicles to Prevent Weed Seed Dispersal". The publications are free and can be downloaded or ordered through MSU Extension Publication online at http://www.msuextension.org/store/ or by calling (406) 994-3273.

Leafy Spurge Test Plots Show Promising Results

Rod Stolcpart (Rock County Weed Superintendent), Bob Schwartzkopf (Bureau of Educational Lands and Funds), and J.D. Tetschner (Garfield County Weed Superintendent)

The 25th anniversary of the Nebraska Leafy Spurge Working Task Force Tour and Conference was scheduled for early August 2012 in Ainsworth, Nebraska. For the conference, weed specialists created herbicide test plots to test the effectiveness of several herbicides on leafy spurge. Some plots used the old standard products, and some used the newest herbicides available.

On September 1, 2011, ten test plots were established near Bassett with differing combinations of herbicides applied on each test plot. The test plots were sprayed from an ATV that applied 13 gallons per acre at 4 miles per hour.

On August 2, 2012, the specialists checked each test plot for the percent of leafy spurge that was controlled. The following table shows each plot, the percent of control, and the cost per acre for each combination of herbicides. In the table, M.S.O. stands for methylated seed oil. N.I.S. refers to non-ionic surfactant.

Plot #	Rate	Control %	$ per acre
#1	4 ounces Perspective + 16 ounces M.S.O.	98%	$24.40
#2	4 ounces Perspective + .25% N.I.S.	98%	$22.80
#3	5 ounces Perspective + 16 ounces M.S.O.	98%	$29.90
#4	5 ounces Perspective + .25% N.I.S.	98%	$28.30
#5	32 ounces Grazon P+D + 4 ounces Overdrive + 32 ounces M.S.O	95%	$26.40
#6	8 ounces Tordon 22K = 4 ounces Overdrive + 32 ounces M.S.O.	95%	$21.20
#7	32 ounces 2,4-D +4 ounces Overdrive + 32 ounces M.S.O.	25%	$23.20
#8	32 ounces HiDep + 4 ounces Overdrive + 32 ounces M.S.O.	60%	$24.80
#9	6 ounces Plateau + 32 ounces M.S.O.	95%	$18.75
#10	5 ounces Plateau + 32 ounces M.S.O.	95%	$12.55

The results for Plateau are favorable. However, those plots did show some damage to cool-season grasses. The percent control for Perspective is also very high, although it is not yet labeled for use on rangeland and pastures.

Mother Nature had a plan of her own when the conference was scheduled. Fire burned for several days, affected thousands of acres, and caused the Leafy Spurge Task Force group to cancel the conference and tour. Nonetheless, many thanks to those who completed the test plots. By including the information here, we hope that landowners and managers can benefit from the hard work!

Spotlight on Canada Thistle *(Cirsium arvense)*

Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member

Description and Impact

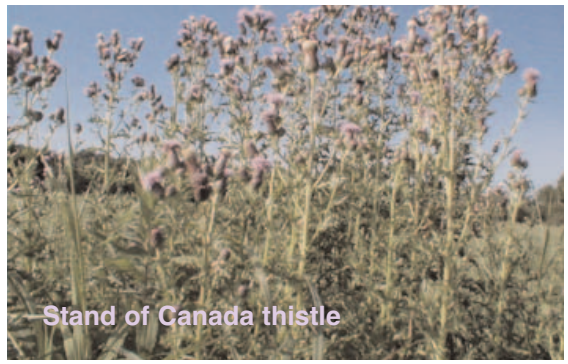
Canada thistle is a persistent perennial plant originating in Europe. It was named Canada thistle because the early residents of New England blamed its introduction on French traders from Canada. However, historians now believe it arrived from Europe in both countries about the same time. Canada thistle can form dense monocultures, displacing desirable vegetation and reducing available forage for livestock and wildlife. It also has a large economic impact due to its effect on crop yields and control costs.

Appearance: 2 to 4 feet tall with leaves that are oblong, spiny, bright green in color.

Flowers: Lavender flowers bloom from buds that form in clusters on the ends of branches. Canada thistle blooms are commonly about the size of the end of your little finger, making them easy to distinguish from many other thistles that have larger blooms.

Seeds: Each Canada thistle plant produces from 1,000 to 1,500 seeds. The light brown seeds have a feathery tuft of tan hair (pappus) on them. Often this is effective at transporting the seed great distances from the mother plant. Sometimes, this small "hang-glider" drops its passenger close to the parent plant. Many seeds never leave the seed head because their "glider" departs without them. Canada thistle seeds remain viable for about three to six years when buried at typical tillage depth. However, some seeds may survive for up to 20 years. Canada thistle prefers warm moist soil and full sunlight to germinate. It does not establish well from seed in competitive situations.

Roots: The extensive root system is Canada thistle's main source of reproduction. The initial plant has a taproot that reaches down to find moisture. Once the the plant find moisture, they produce lateral roots that can extend as much as 20 feet in a single season. Root depth of 6 to10 feet is common. When lateral roots are disturbed by tillage or other means, pieces of root as small as one-fourth inch can produce new plants. These lateral roots also produce buds or rhizomes, which will shoot up new plants at 2 to 6 inch intervals. The majority of plants in a patch of Canada thistle have established from root pieces.


Stand of Canada thistle

Canada thistle flowers


Canada thistle rosette and leaf

Pieces of root as small as one-fourth inch can produce new plants.

Habitat

Canada thistle is found in almost every plant community disturbed by man. It is common in roadsides, railway embankments, lawns, gardens, abandoned fields, agricultural fields, margins of forests, and waterways. Over 300,000 acres in Nebraska are infested with Canada thistle. This plant loves to infest irrigated cropland. The tillage that occurs on cropland spreads the patches, making it difficult to control.

Treatment Options

Diligent land managers and private landowners can control Canada thistle. However, persistence is required. A combination of management efforts can remove the majority of a Canada thistle infestation in 2 to 3 years, but subsequent follow-up spot treatments may be necessary for several years.

Mechanical treatment: As described above, tillage is not a good method of controlling Canada thistle. Instead, it will actually help spread it. Consistent mowing over the growing season will prevent seed from setting, will reduce the health of the plant, and will restrict spread by seed. However, it will not kill the plant.

Cultural control: Establishing competitive desirable vegetation is the most effective method of managing any noxious weed. Since weeds do best when invading disturbed sites, maintaining a vigorous stand of competing vegetation will minimize weed problems. Grasses provide the best competition because they tolerate mowing and most of the herbicides used to control Canada thistle. If grasses are not present in a problem area, then seeding is necessary. If grasses are present at all, the densities should increase as Canada thistle decreases.

Biological control: When noxious weeds such as Canada thistle came to our country, chances are it was by accident. In its native environment, Canada thistle is host to insects that feed on it or attack it to keep it from being invasive. When the weeds arrived in our country, the native insects did not make the trip. Some years ago, scientists traveled to Europe to find and bring these insect species back to the United States. These insects are tested in many ways to make sure they will not harm any plant other than Canada thistle. Once the testing is completed and approved, the insects are available for purchase. Several species of insects are currently available for use where other treatment options are not favorable. Different species attack the thistle in different ways. Some are "stem miners", "gall flies", or "defoliators". Several species can be used in combination. Factors such as soil type, weather, and rainfall all need to be considered when starting a successful insectary. It can take several years to see the results of biological control insects on Canada thistle. In the meantime, surrounding areas may need to be sprayed with herbicide to prevent Canada thistle from spreading. Much information is available on the internet about these insects. Biological control insects should be reported to and approved by the local county weed superintendent so that the areas in which the insects are released are not sprayed by accident.

Herbicide use: Applied in the fall "when the plant is pulling all of the nutrients down into the roots for survival" achieves the most successful control. The best application time is at or even after a light frost. UNL Extension's Bob Wilson (who has done many years of research on Canada thistle control) gives the following recommendations for controlling Canada thistle in the following crops and areas.

Alfalfa: Plant Roundup Ready alfalfa and treat with Roundup PowerMax at 32 ounces per acre before first cutting for alfalfa establishment. Re-treat after each cutting, and again in the fall if thistle is still present.

Roundup Ready Corn: Use Atrazine at 1.5 quarts per acre at planting, followed post-emergence with 32 ounces per acre plus Stinger at 8 ounces per acre.

Wheat: Use Widematch post-emergence at 1.33 pints per acre and after harvest in the fall with Curtail at 3 pints per acre.

Range/ Pasture/ Riparian Areas: Use Milestone, spring or fall at 7 ounces per acre.

Range and Pasture Only: Use Transline in the fall at 1.3 pints per acre.

The best products for the control of Canada thistle according to the *UNL Guide for Weed Management 2012* are the following:

Milestone (Aminopyralid) – 5 to 7 ounces per acre. Spring pre-bud stage or fall regrowth*. Cost is $14 to $20 per acre.

Chaparral/Opensight – 2 to 3.3 ounces per acre. Spring or fall. Cost is $11 to $18 per acre.

Telar DF (Chlorsulfuron) – 1 to 3 ounces per acre. Spring bud to bloom stage, or fall regrowth*. Cost is $24 to $72 per acre.

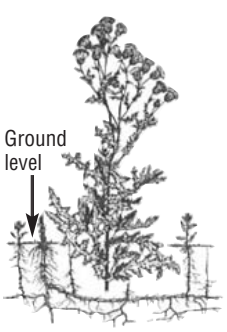
Tordon 22K (Picloram) – 1 quart per acre. Rosette to bud stage when all plants have emerged*. Cost is $17.50 per acre. Tordon 22K is a restricted-use pesticide.

Read and follow the label directions on all herbicides. The label is the law.

*Add one quart of nonionic surfactant per 100 gallons of water for all these herbicides.

What can you do to help prevent the spread of Canada thistle throughout Nebraska?

- If you see a small patch of Canada thistle, control it as soon as possible with the proper herbicide.
- Do not drive through mature Canada thistle patches. You might spread the seeds or transport them to other areas.
- Be proactive rather than reactive to noxious weeds on your property!
- Notify the local county weed superintendent of uncontrolled noxious weeds.



This drawing shows the complexity of Canada thistle roots. Knowing that Canada thistle grows as much underground as it does above ground helps us to realize the importance of getting the herbicide to move down into the roots, as it does with a late fall herbicide application.

Canada thistle is commonly confused with the following two flowering plants:

Flodman thistle, which is biennial, 1 to 3 feet tall, with pink to purple blooms from July to September. This is a native thistle, so the undersides of the leaves are silver-gray in color.

Spotted knapweed, which is a biennial forb from Eurasia, with pink to purple blooms from June to September. Spotted knapweed has a much finer stem and leaf structure. However, the blooms are similar to Canada thistle.

Invasive Plants Watch List: 2012

Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member

The Nebraska Invasive Species Council (NISC) recently completed an "extreme makeover" of the Nebraska Watch List Weeds. The list of invasive plants in Nebraska was produced by the Council. It includes species that have been known to be invasive in at least one of the four ecoregions in Nebraska. A more region-based list was created due to the varied habitat types of Nebraska.

The new list is intended to:

• Provide a uniform methodology for categorizing invasive species.

• Provide a clear explanation of the process used to evaluate and categorize species.

• Provide flexibility so the criteria can be adapted to the needs of different regions or organizations.

• Identify where more information may be needed.

• Educate about the impacts of invasive species and the ability to prevent them.

Due to the length of the lists of weeds in Nebraska's four ecoregions, *The Weed Watch* features photos of the following:

• **Category 1 species.** These are potential future invasive plants.

• Some of **Category 2 Priority species.** These are either species not yet in Nebraska but present a cause for concern if sighted or species that are established and should be top priority for control efforts.

The entire document describing the Nebraska Watch List Weeds, including the criteria and the assessment process can be viewed at: http://snr.unl.edu/invasives

Four of the Category 1 invasive species are aquatic weeds, quick to invade rivers or lakes. To quote Randy Westbrooks, Invasive Species Coordinator from Greenville, NC, "These weeds are only a boat-ride away from YOUR lake."

Category 1: Future Invasive Species

Species not in Nebraska yet, but pose a significant risk if introduced

Giant Reed

Oriential Bittersweet

Water Hyacinth

Hydrilla

Brittle Naiad

Giant Salvinia

Category 2:
Priority Species

Species vary by ecoregion. Complete list of Category 2 species can be found at http://snr.unl.edu/invasives

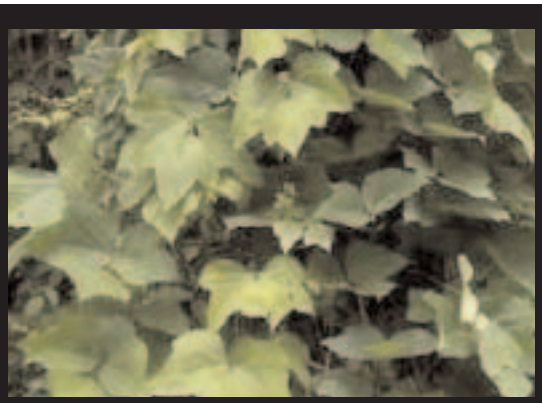
Crown Vetch

Cutleaf Teasel

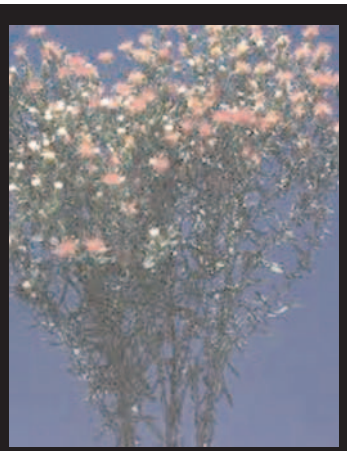
Garlic Mustard

Hoary Cress

Japanese Honeysuckle

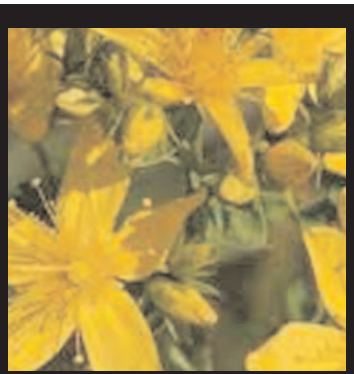


Kudzu



Russian Knapweed

Sickleweed



St. John's Wort

Sulphur Cinquefoil

Yellow Starthistle

Reclaiming Riparian Area Woodland

Merle Illian, Coordinator, Twin Valley WMA

Ron and Ryan Hawley farm one mile below Harlan County Dam near Republican City, Nebraska. Over the past 50 years, they have seen an increase in woody vegetation in the riparian woodland area adjacent to the Republican River. The increase was so dramatic that the riparian area became unusable for livestock grazing purposes. Older cottonwood trees began to rot and fall over. Density of cedar, mulberry, and catalpa trees began to increase underneath the higher growing tree canopy, causing herbaceous grassy vegetation to disappear.

With limited grazing land on the Hawley's 320-acre farm, they decided to reclaim 85 acres of the riparian woodland for grazing purposes. They entered into a contract with the Natural Resources Conservation Service (NRCS) for cost-share funds provided through the Cooperative Conservation Partnership Initiative (CCPI) program. Additional matching funds were provided through Twin Valley Weed Management Area (TVWMA) with monies provided from Nebraska Environmental Trust.

Viewing the cleared riparian woodland on their farm are Ron and Ryan Hawley.

The Hawleys selected Lemburg Tree Removal, who used a skid loader to selectively thin undesirable woody vegetation between January and April 2011. "It's not like we came in and totally clearcut the area," says Ron. "The NRCS guidelines say that we must maintain at least 25% canopy. We have also done some interseeding. With natural herbaceous regrowth, we are now able to use the 85 acres as another pasture to rotate our cattle on. With the regrowth of the grass vegetation, the wildlife continues to flourish in the area. Last year, my son shot the biggest buck deer ever taken off our property."

"We could not have financially done this project without funding assistance from NRCS and TVWMA," says Ron. "In addition, the TVWMA provided funding for 1845 feet of cross fencing that we constructed. It is now our responsibility to dispose of (burn) all the piles of timber that were stacked. That job will be done this winter once we get some snowfall."

"TVWMA has provided matching funds for 2894 acres of thinning and pruning of riparian woodland over the past three years," says Bud Collison, TVWMA Chairman. "Additional funding has also been provided by the National Turkey Federation. Removing this undesirable woody vegetation has provided tremendous water conservation as well," says Collison.

You can obtain additional information on this practice by calling the Twin Valley Weed Management office in Red Cloud at 402-746-3560. You can also contact your local NRCS office to ask about potential cost-share programs for similar projects.

Is There a New Weed in Town?

Chris McCoy, Box Butte County Weed Control Department

Sericea lespedeza *(Lespedeza cuneata)* is under consideration in Nebraska for listing as the next noxious weed. It has already been found in the southeastern part of Nebraska. The Nebraska Invasive Species Project has conducted a risk assessment and determined that it has the potential for being highly invasive. As part of the Early Detection, Rapid Response approach, landowners and others are encouraged to report sightings of this plant to their local County Weed Superintendents for identification and recommendations for treatment.

Sericea lespedeza is a warm-season, perennial legume native to eastern Asia and is also known as Chinese bush clover or Chinese lespedeza. It was first planted in the U.S. in 1896 by the North Carolina Agricultural Experiment Station. In 1924, seed from Japan was planted at the USDA Experiment Farm near Arlington, Virginia. Its perceived value for erosion control, livestock forage, and wildlife cover was generally accepted when it was introduced into Missouri during the 1930s. However, by 2001, the state of Kansas declared it a noxious weed and other states have programs to eradicate it.

Sericea lespedeza grows well in places where other plants cannot. It is a nitrogen-fixer, which allows it to persist in poor soils. It is tolerant to both droughts and floods. While it prefers full sun, it can also survive in partial shade. This flexibility leads to its presence in a wide range of habitats and climates. It grows especially well in new and old forest openings, dry upland savannas, roadsides, and urban areas.

Sericea lespedeza plants

Three-part leaves of sericea lespedeza

The small seed is yellow to red-orange in color. Once it germinates, the plant grows to a height of 3 to 6 feet. The hairy stems branch at mid-plant, producing three-part leaves attached by short stalks. Leaves are wider at the tip than at the base and have a conspicuous point at the tip. The leaflets are green on top and white to light gray-green with silky hairs on the lower surface. One to three white and purple pea-like, 1/4-inch flowers appear in the upper leaf axils from mid-July to October. Fruit and seeds are produced from October to March. The single-seeded green to tan seed pods are flat to round. Sericea lespedeza becomes dormant once the seeds drop, and often remains upright. The next year's growth begins at the base, creating dense stands that inhibit growth of other plants.

The plant has a deep taproot that allows it to out-compete native plants for water and nutrients, especially in times of drought. Increasing its competiveness are the thousand seeds dropped from each stem. These seeds can remain viable in the soil for 20 years or longer.

Spotlight on Purple Loosestrife *(Lythrum salicaria)*

Kristi Paul, Sheridan County Weed Superintendent and PRIDE board member with some information from Dr. Stevan Knezevic, UNL Weed Management Specialist

Description and Impact

Because of its attractive flowers, purple loosestrife was introduced in the U.S. as a garden perennial from Europe during the 1800s. Since then, it has slowly invaded into wetlands and waterways, starting from the Northeast, to the Great Lakes region, and further into the Prairie states including Nebraska. The ornamental version of this plant (which was supposedly "male sterile") was sold in nurseries for many years. It made a showy addition to many yards and landscapes across Nebraska. However, when it was allowed to escape to nearby waterways, the ornamental variety cross-pollinated with the wild purple loosestrife variety and multiplied quickly. Nebraska's county weed superintendents started noticing purple loosestrife on the river systems in the mid-1990s. Due to its aggressively invasive characteristics, purple loosestrife was added to the Nebraska noxious weed list in 2001. It currently infests nearly 9,000 acres in Nebraska.

Appearance: 2 to 10 feet tall, dense bushy growth, square woody stems, and whorled leaves.

Flowers: Many showy flowers vary from purple to magenta. Each possesses 5 to 7 petals. Flowers grow on 1- to 3-foot spikes that bloom from July to September.

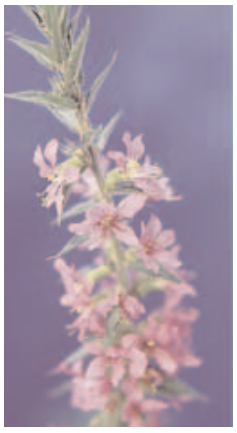
Reproduction: A single stalk of purple loosestrife can produce from 100,000 to 300,000 seeds per year, with 60 to 70% viability. A mature plant can have from 30 to 50 stems arising from a single rootstock and can produce up to a million seeds per year. Water, animals, boats and humans can transport the seeds long distances. Although it spreads mainly by seed, purple loosestrife can also spread vegetatively from root or stem segments. Even small segments can produce new growth.

Habitat

Purple loosestrife takes advantage of any disturbance to infest riverbanks, marshes, lakes, wet meadows, prairies, and ditches. It quickly forms a dense stand to outcompete and replace native grasses, sedges, and other flowering plants that provide higher quality nutrition for wildlife. The plant's ability to adjust to a wide range of environmental conditions gives it a competitive edge. Areas well suited for cattails are a prime habitat for purple loosestrife.

Once purple loosestrife takes over wetlands, the natural habitat is lost and the productivity of native plant and animal communities is severely reduced. Songbirds will not feed on the seeds. Muskrats cannot use the roots for food or shelter. Waterfowl are affected when dense impenetrable stands of purple loosestrife eliminate nesting sites and open water.

First sighting of Purple Loosestrife on the Republican River, which was spotted by Tim Burgeson, Harlan County Weed Superintendent, just upstream from Harlan County Reservoir.



Purple loosestrife flowers

Treatment Options

Purple loosestrife was the first "aquatic" weed placed on the noxious weed list in Nebraska. County weed superintendents knew how to control roadside, pasture, or cropland weeds by spraying off ATVs and pickups. When purple loosestrife was added, it was necessary to find new and innovative ways to treat weeds that grew along rivers and streams. Helicopters, airboats, and amphibious equipment have been used on the Nebraska river systems in the last 10 years. This has changed the way weed warriors address the control of riverside and aquatic weeds such as purple loosestrife, saltcedar, and phragmites.

Mechanical control: Cutting, pulling, digging, or drowning? Cutting works best just before plants begin to flower. Cutting too early encourages more flowering stalks to grow. If cut too late, seed may have already fallen. Pulling or digging can be effective. However, it can also be disruptive by creating disturbed bare spots, which are good sites for the seeds to germinate. In addition, remaining root fragments can grow into new plants. Drowning young purple loosestrife plants is effective if plants are submerged for a year. Mowing and burning are not effective and can contribute to further dispersal of the seeds and stems.

Biological control: Several insects from Europe have been approved for control of purple loosestrife. Leaf-eating beetles and weevils are being used to stress the plant in multiple ways. These insects will not eradicate loosestrife, but they may significantly reduce the population. It may take several years to see the effects of biocontrol on purple loosestrife. Several attempts may be needed to get the insects established. Nebraska county weed superintendents have successfully released purple loosestrife biocontrol insects in many locations.

As an example, the Galerucella insects are collected and "reared" in a tent with purple loosestrife plants. Then they are taken to the river for release. Once the insect population builds up, the damage is apparent on the purple loosestrife infestation. It requires 50 to100 insects per plant to observe significant reduction in leaf area. The current cost to purchase 105 insects is $150. The two sources Nebraska Weed Control Superintendents order from are www.bio-control.com and www.integratedweedcontrol.com. Biological control insects should be reported to and approved by the local county weed superintendent so that the areas in which the insects are released are not sprayed by accident.

Herbicide control: Choices for control in aquatic conditions include the following:

2 quarts of Arsenal (imazapyr) per 100 gallons. Cost is $60 per acre.

4 to 6 pints of aquatic glyphosate per acre. Cost is $30 per acre.

5 pints of 2,4-D Amine per 20 gallons of water. Cost is $10 per acre.

Control in dry conditions is best achieved with one ounce of Escort and one quart of 2,4-D Amine per acre. Cost is $18.50 per acre.

Read and follow the label directions on all herbicides. The label is the law.

As an example of competition among invasive weeds, acres of purple loosestrife infestation have been reduced dramatically after several years of treatment. However, when weed control groups across the state started to control invasive saltcedar and phragmites, purple loosestrife was the first plant to take advantage of the void.

Purple loosestrife is commonly confused with the following two flowering plants:

Blazing star or gayfeather, which is 1 to 6 feet tall, has pink, lavender, or white flowers, and blooms from July to August. It is found in dry soils, prairies, roadsides, and old fields.

Hoary vervain, which is 2 to 4 feet tall, has lavender blue flowers, and blooms from July to September. It is common in disturbed prairies, roadsides, and overgrazed pastures.

KIDS OF ALL AGES PAGE

P	I	S	E	L	T	S	I	H	T	H	C	T	O	C	S	T	O	E	M	S
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B	T	D	L	W	G	N	I	M	I	T	H	O	A	R	Y	C	R	E	S	S

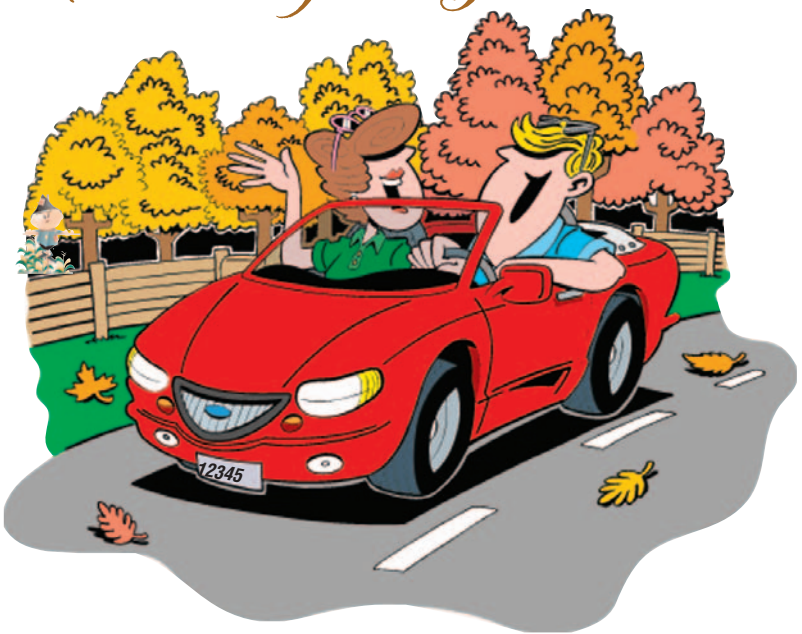
HIDDEN WORD FIND – Responsible landowners take pride in their management efforts to control weeds on private lands in order to protect our environment. Sometimes the greatest challenge is to understand how invaders spread, the groups involved in treating them, and tools they use. Find the words listed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

sericea lespedeza
houndstongue
invasive
WMA
cooperate
environment
species
Canada thistle
phragmites
musk thistle
leafy spurge
Nebraska's noxious weeds
giant knotweed
saltcedar
contact
diffuse knapweed
Japanese knotweed
river
plumeless thistle
tree
Bohemian knotweed
state
report
purple loosestrife
hoary cress
introduced
control
Platte Valley
noxious
EDRR
weeds
High Plains
seeds
equine
watch list
West Central
bindweed
youth
infest
Twin Valley
horse
dogs
hunting
PRIDE
herbicide
chemical
native
riparian
mapping
mechanical
timing
grazing
establish
biological
compete
annual
wildlife
cultural
biennial
Scotch thistle
perennial
county
Weed Watch
landowner

Can you find the differences?



ANSWERS to differences:

1. Scarecrow is missing
2. Leaf is missing
3. Sunglasses are missing
4. Tree is different
5. Licenses are different
6. Lights are missing
7. Exhaust is different
8. Eyes in the woods

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

Houndstongue

Dawes
Sheridan

Scotch Thistle

Banner
Dawes
Morrill
Sheridan
Sioux

Tall Thistle

Fillmore

Flodman Thistle

Bull Thistle

Rock

Woolyleaf Bursage

Banner

Perennial Yellow Bedstraw

Cherry

Nebraska's Noxious Weeds

Canada Thistle

Diffuse and Spotted Knapweeds

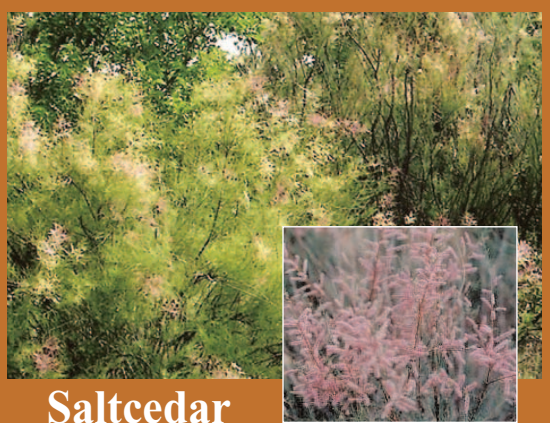
Musk Thistle

Leafy Spurge

Phragmites

Plumeless Thistle

Purple Loosestrife



Saltcedar

Japanese and Giant Knotweed

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

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