

Sublette County Weed & Pest District

Stop Invasive Species In Your Tracks!

PlayCleanGo DAY!

Saturday, June 13th, 2015



HELP PREVENT THE SPREAD OF INVASIVE PLANTS & ANIMALS



STOP INVASIVE SPECIES
IN YOUR TRACKS.

PlayCleanGo.org

- Drain, clean, dry gear and boats.
- Burn local or certified firewood.
- Use weed-free hay.
- Stay on trails.
- Before leaving, remove mud, and seeds.



Uniting with
Wyoming Weed and Pest Control Districts
Wyoming Department of Agriculture
University of Wyoming

“New Invaders Emerging Threats”

**Discussion on baby’s breath and
dames rocket**



Presented by Brian Mealor, UW Weed Scientist

Thursday, June 11th, 2015

6:00PM -Sublette County Weed & Pest Office

12 South Bench Road Pinedale

Dinner will be provided

WYOMING WEED & PEST CONTROL ACT DESIGNATED LIST

- Field Bindweed (*Convolvulus arvensis* L.)
- Perennial sowthistle (*Sonchus arvensis* L.)
- Hoary cress (whitetop) (*Cardaria draba* & *Cardaria pubescens* (L.) Desv.)
- Ox-eye daisy (*Chrysanthemum leucanthemum* L.)
- Russian knapweed (*Centaurea repens* L.)
- Dalmatian toadflax (*Linaria dalmatica* (L.) Mill.)
- Musk thistle (*Carduus nutans* L.)
- Plumeless thistle (*Carduus acanthoides* L.)
- Houndstongue (*Cynoglossum officinale* L.)
- Diffuse knapweed (*Centaurea diffusa* Lam.)
- Saltcedar (*Tamarix* spp.)
- Common Tansy (*Tanacetum vulgare*)
- Black Henbane (*Hyoscyamus niger* L.)
- Leafy Spurge (*Euphorbia esula* L.)
- Quackgrass (*Agropyron repens* (L.) Beauv)
- Perennial pepperweed (giant whitetop) (*Lepidium latifolium* L.)
- Skeletonleaf bursage (*Franseria discolor* Nutt.)
- Yellow toadflax (*Linaria vulgaris* L.)
- Scotch thistle (*Onopordum acanthium* L.)
- Common burdock (*Arctium minus* (Hill) Bernh.)
- Dyers woad (*Isatis tinctoria* L.)
- Spotted knapweed (*Centaurea maculosa* Lam.)
- Purple loosestrife (*Lythrum salicaria* L.)
- Common St. Johnswort (*Hypericum perforatum*)
- Russian olive (*Elaeagnus angustifolia* L.)

DESIGNATED PESTS W.S. 11-5-102 (a)(xii)

- Grasshoppers
- Mormon Crickets
- Prairie dogs
- Ground squirrels
- Mountain pine beetle
- Beet leafhopper

SUBLETTE COUNTY DECLARED PESTS W.S.S. 11-5-102 (a)(xii)

- Scentless Chamomile (*Matricaria perforata* Merat)
- Field Scabious (*Knautia arvensis* L.)
- Cheatgrass (*Bromus tectorum*)
- Western Water Hemlock (*Cicuta douglasii*)
- Austrian Fieldcress (*Rorippa austriaca*)
- Hoary Alyssum (*Berteroa incana*)

NOXIOUS WEED COST SHARE PROGRAM

PESTICIDE COST SHARE

- 75% of pesticide covered when purchasing through SCWP
- Cap \$1,000 per person

LABOR COST SHARE

- 35% of contracted labor to be covered by SCWP
- Must contact SCWP before project
- Turn in application record and proof of payment
- Cap at \$10,000 per person

SERVICES

Need a plant or pest identified? Please bring your samples of insects (in sealed container), plant damage or plants to SCWP for identification. Contact us and we can come to your property and consult at no charge.

Sprayers: Sublette County Weed & Pest loans out backpack, ATV sprayers, slide-in and hand sprayers to residents or property owners of Sublette County. We can also help you calibrate your sprayer for optimal weed control.

Landowner permission: Due to recent legislation we are now required by law to obtain landowner permission to conduct Weed & Pest services on private property. These permission forms are on our website at sublettecountyweed.com or at the SCWP office. For more information please call 307-367-4728.

HOARY ALYSSUM

Berteroa incana

Hoary alyssum, a member of the mustard family originated from Europe and Asia. It is a tap-rooted perennial, biennial, or annual, that spreads through seeds and has adapted to dry conditions on sandy or rocky soils. It prefers sunlight but can tolerate shade. Hoary alyssum is found in overgrazed pastures, stressed meadows, roadsides and waste areas.



Stems: Stems are generally grayish-green, hairy, 1 to 3 feet tall with many branches near the top .

Leaves: Oblong, grayish-green covered with rough hairs

Flowers: It produces small, white flower clusters that have four petals, which are deeply lobed.

Seeds: The seeds are fairly large, oval-shaped, and laterally flattened.

Control Method: Telar and Escort are effective on most mustards and adding 2,4-D can help stop seed viability when plants are in bloom. Hand pulling or digging can be very effective for small infestations but should be done before there are seed pods. There is no known biological control available at this time.



OXEYE DAISY

Chrysanthemum leucanthemum L

Oxeye daisy, a member of the aster family, is a perennial that was introduced to the United States as an ornamental plant. It originated in Europe and temperate regions of Asia. It appeared in the North West Region of the United States in the late 1800's; by 1937 it had spread to over half the counties in that region. This plant will grow just about anywhere. It prefers upland pastures and meadows, with coarse or medium textured soils. Oxeye daisy will choke out native vegetation and increase soil erosion.



Oxeye daisy is sometimes mistaken for a wild flower, but it can be harmful to the native ecosystem. It is illegal to plant oxeye daisy in Wyoming, but some recommended substitutes in gardens are the blanket flower.



Stems: Several originate at the base, usually 1-3 ft in height. They are unbranched and terminate with a single flower.

Leaves: Dark green on both sides, the lower leaves are spoon shaped with serrated edges. The upper leaves are long and narrow with serrated edges, they occur in an alternating pattern on the stem.

Flowers: Yellow to pale orange center with approximately 20 petals. Each petal has a small notch at the tip.

Roots: Shallow and in bunches. This plant can reproduce from the roots, but more commonly it reproduces from seed.

Control Methods: Mechanical methods such as digging up single plants, work very well as long as all the root is removed from the soil. There are several herbicides labeled for ox-eye daisy. They include Milestone, Escort, Transline and Telar. There are no known biological controls available at this time.



Cheatgrass

Bromus tectorum

Cheatgrass otherwise known as “downy brome” is native to Europe, Africa, and Asia and was introduced to North America in packing material. It is highly invasive in the dry western states and forms monocultures that are both a nuisance and a fire hazard. Turns purple when mature. It invades pastures, prairies, and rangeland areas.



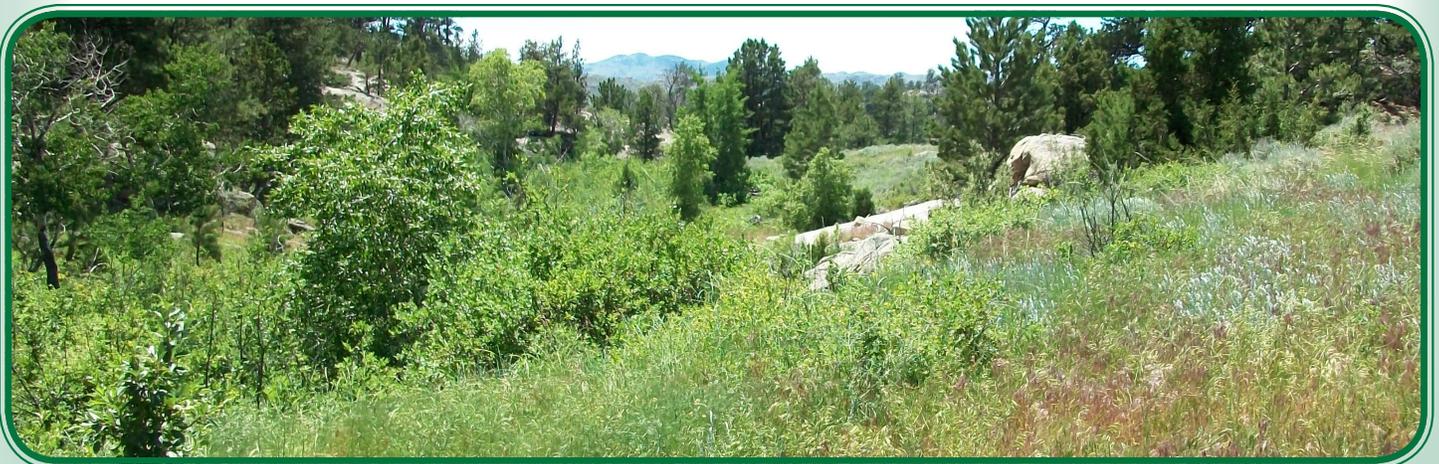
Stems: Curved and erect and spreading from base, up to 24 inches tall.

Leaves: Smooth, softly hairy: leaf blades are flat, leaf sheaths are round, keeled toward collar.

Seeds: Seed heads are 2 to 6 inches long and “drooping”. Seeds have wedged awns that may be dispersed by wind and water, but most often they are spread by adhering to clothes or to the coat of a wild or domestic animal.

Control Methods: Cheatgrass can be controlled mechanically, chemically with herbicides that are labeled for cheatgrass (Plateau, Panoramic, Journey and Glyphosate) and some biological controls that are under research.

The key to eradicating cheatgrass is diligence—once you begin the process you must be persistent and continue follow up treatments for up to four or five years (or however long it might take) because cheatgrass seed may survive in soils this long.



To Calibrate or Not to Calibrate?

Spring will be here before we know it and with it, that first flush of weeds. When it's time to pull out the spray equipment, most of us are in a hurry and the last thing we want to do is change focus and calibrate. Now that you have a minute to sit and read a newsletter, let's think about what calibration does. Calibration lets us know how many gallons of spray we are applying per acre, which allows us to figure how much herbicide is needed per gallon of water.

"The sprayer worked fine last year when you put it away and you wrote all the herbicide information down." Good, it is important to keep records, but as we all know, time takes a toll on everything; seals on pumps dry out and fittings crack. Whether you use equipment or not there is going to be maintenance on it. So let's look at a couple of examples of not calibrating and the incurred costs.

1. The pump isn't quite working right, it's not putting out the gallon per acre it should... you spray the weeds but they don't die. With this scenario you have the cost of the applied chemical, plus your time, the cost of re-treating those weeds, and the irritation that goes with doing something over.

2. Let's say that possibly a pressure gage isn't working and you apply too much herbicide, so now you have the cost of the herbicide that you should have applied plus the cost of the extra herbicide and probably non-target damage such as stunted grass, which equals loss of forage or hay.

One major advantage to calibration is that it gives you a minute to check over your equipment. It's a lot easier and healthier to change cracked hoses, broken fittings and pumps when there is water in the tank rather than pesticides. (Not to mention if you use blue dye in your tank mix, the added effect of looking like a smurf.) It takes about 10 minutes to calibrate a backpack sprayer, an ATV sprayer and even a large tank. So just before you mix that first tank of herbicide this spring and for that split second you wonder, "Should I calibrate?"

The truth is, you really can't afford not to.

Calibration

For Hand Sprayers & High Pressure Handguns

1/128 Method

One gallon = 128 ounces

Area to be sprayed is 1/128 acre

Ounces collected = gallons per acre (GPA)



Step 1:

Measure out an area 340 square feet (1/128 acre), which is 18.5 ft x 18.5 ft

Step 2:

With water in the tank, record in seconds the time it takes to spray the measured area

Repeat this step a few times and calculate an average time

Step 3:

Spray into a container or bucket for the same amount of time recorded to spray the area in step 2

The amount of water in ounces collected from the container equals the gallons per acre (GPA) the sprayer is putting out.

If the recommended rate of an herbicide is 32 ounces per acre, and the sprayer is putting out 40 GPA, then you would need to add 32 ounces of herbicide to 40 gallons of water.

Since there are no 40 gallon backpack units, you will need to divide 32 by 40 to find out that you need to add 0.8 ounces of herbicide to 1 gallon of water.

For Boomless Sprayers

For nozzle types including Boombuster, Boominator, Boomjet



Step 1:

With water in the tank, begin spraying with the nozzle or nozzles that will be used.

Measure the length of the spray pattern in inches.

Step 2:

Spray into a container or bucket for 1 minute with the nozzle(s) that will be used.

Measure the amount of water in the container in fluid ounces. This is the ounces per minute that the sprayer is putting out. To get gallons per minute (GPM), divide the ounces per minute by 128.

Step 3:

Select the speed in miles per hour (MPH) that will be used for spraying.

Step 4:

Use one of the formulas to determine the gallons per acre that will be applied by the sprayer

Gallons per acre (GPA) = $\frac{5940 \times \text{gallons per minute (GPM)}}{\text{MPH} \times \text{spray pattern length (inches)}}$ or GPA = $\frac{46.4 \times \text{ounces per minute}}{\text{MPH} \times \text{spray patter length (inches)}}$

If the nozzle spray pattern was 18.5 feet (222 inches), the amount collected from the container after 1 minute was 480 ounces (3.75 gallons), and the speed that will be used for spraying is 5 miles per hour,

$$\frac{5940 \times 3.75 \text{ gpm}}{5 \text{ mph} \times 222 \text{ inches}} = 20 \text{ GPA}$$

$$\frac{46.4 \times 480 \text{ ounces/min}}{5 \text{ mph} \times 222 \text{ inches}} = 20 \text{ GPA}$$

$$5 \text{ mph} \times 222 \text{ inches}$$

or

$$5 \text{ mph} \times 222 \text{ inches}$$

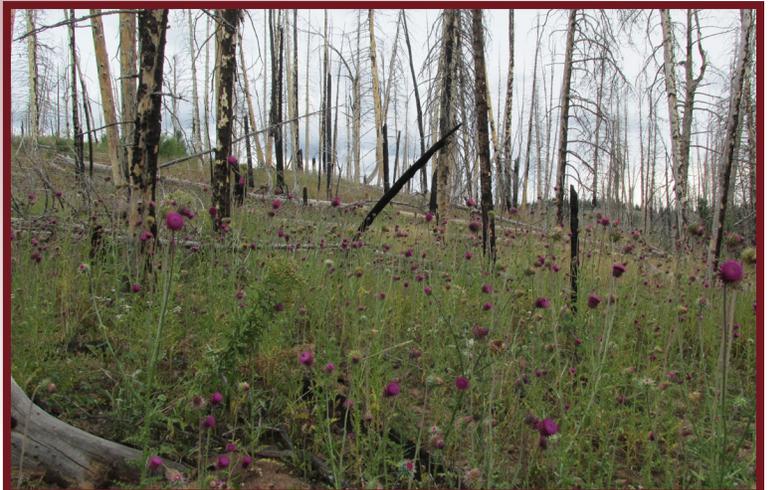
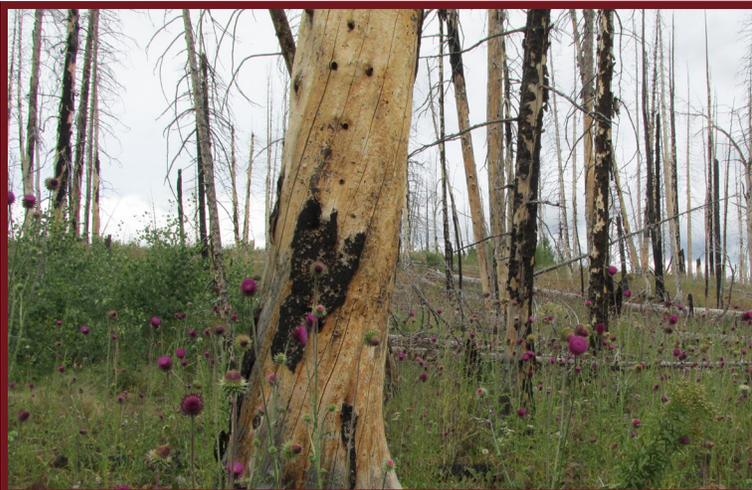
then the sprayer is putting out 20 gallons per acre. If the recommended rate of an herbicide is 32 ounces per acre, and the sprayer is putting out 20 GPA, then you would need to add 32 ounces of herbicide to 20 gallons of water.

HORSE CREEK FIRE PROJECT

The Horse Creek area has had several fires in recent years, including a significant wildfire in 2007. The burned area exceeds 9,000 acres. Sublette County Weed and Pest has been working with the United States Forest Service to manage weeds in the area. In 2014, with an increase in moisture the infestation exploded and musk and Canada thistle have become a significant portion of the understory vegetation. Initially after the burn, managers thought that with revegetation and reforestation the canopy would out compete the weeds. What we are seeing is that the musk thistle has added another canopy layer and actually is out competing native trees, forbs and grasses for space and resources.

This is a high use area for recreation and hunting as well as an active grazing allotment. The weeds are reducing the carrying capacity and health of the land. We have changed our plan of attack and would like to extensively manage this area for noxious weeds. We will assign a specific crew for this project and they will work on the Horse Creek fire area for the majority of the summer. This crew will be lead by the current recipient of the Wyoming Weed and Pest Council Internship Scholarship, Ethan Proud. We will be using Integrated Pest Management techniques in this area including biological control insects, herbicide, survey, education and prevention. This infestation has turned into an ecological threat because the weeds are spreading from the disturbed fire area into non disturbed rangelands.

This area serves as important habitat for mule deer who use this as fawning and summer habitat as well as elk who typically winter on Jewett feedground, approximately 1-3 miles away from the treatment area. Additional wildlife who will benefit from this include moose who use this area from spring through fall, and the many non-game species that rely on healthy aspen communities for a portion of their seasonal habitat.



WHITE PINE WEEVIL

The white pine weevil, *Pissodes strobe*, is a native North American insect that earned its name when found causing injury to the eastern white pine. In the Western States it is also known as the spruce weevil because of its almost exclusive attacks on spruce trees rather than pine trees.



Figure 1. White pine weevil adult. (Photo courtesy of Sandra Jensen, Cornell University, Bugwood.org)

Identification: The adult insect is a ¼-inch long weevil that is mottled brown in color (Fig. 1). This coloration acts as a camouflage and makes the insect hard to detect on trees. Characteristic of all weevils, the mouthparts are prolonged into a snout that bears a pair of chewing mandibles or teeth at the tip. Larvae are small and cream colored legless grubs with a reddish brown head. Larvae are only visible by scraping away the outer bark of infested terminal shoots (Fig. 2).



Figure 2. White pine weevil larvae. (Photo courtesy of Lorraine Graney,ww)

Lifecycle/damage: White pine weevils overwinter as an adult under dropped needles and other ground debris, usually close to previously infested trees. In the spring when temperatures start consistently reaching 50-70°F. Adults will crawl and sometimes fly to trees to mate and to feed for a period of time. Soon, females will lay eggs by chewing small pits in the bark, beginning just below the unemerged bud of the new terminal leader on top of the tree. A single female may lay 100 or more eggs.

Larvae grubs then begin to feed and tunnel into the wood underneath the bark ultimately girdling the tree causing the new terminal growth to wilt and die. This wilted new growth resembles a “shepherd’s crook” (Fig. 3) that is easy to identify. Needles will also become light in color and eventually die and drop. Larvae can also tunnel downward far enough to damage prior-season growth. Shoot regrowth from buds below the dead leader results in forked trees with competing leaders. Repeated attack of these secondary leaders will then result in stunted, bushy-topped trees.



Figure 3. Wilted top of spruce tree. (Photo courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org)

Management:

Pruning-Pruning out infested leaders can be used to reduce white pine weevil populations. Timing is critical and needs to be done between when leaders show evidence of infestation (wilting) and when the insect emerges from the leader as evidenced from exit holes (Fig. 4). The pruned material should be removed and disposed of since weevils may still develop in prunings.

Soil Treatments- Soil drench/injection treatments with systemic insecticides can prevent white pine weevil injury. These applications are best in the fall to allow sufficient uptake to the tree by spring time.

Spray applications- Spray insecticides in spring so that they cover the tops of the tree where adults would be active. Treatments should be made when adults are just beginning to feed and lay eggs. Inspections for adults should begin in early spring when temperatures are consistently over 50°F. Adults are hard to find so thorough inspections are necessary.

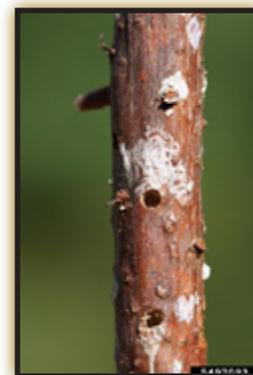


Figure 4. White pine weevil exit holes. (Photo courtesy of Steven Katovich, USDA Forest Service, Bugwood.org)

For more information about white pine beetle and recommendations, you may stop by our office or schedule a free consultation. Remember, if you plan on using any kind of pesticide, please read and follow the label!

GIVE INVASIVE SPECIES THE BRUSH OFF.

Shoes can carry the seeds of invasive plants like yellow toadflax (*Linaria vulgaris*). Please brush them off before entering and leaving this area.



What's The Problem?

Yellow toadflax outcompetes many native species for sunlight and nutrients. It is associated with dense, creeping, woody roots and root-like leaves.

- Non-native seed analysis parts are carried from one place to another on the tires, vehicles, by the wind and flowing water.
- Yellow toadflax is a non-native invasive plant — one of many that were accidentally or intentionally introduced to North America.



Other Invasive Plants On The Move...

Spotted knapweed
(*Centaurea maculosa*)



Spotted knapweed releases a toxin into the soil that prevents the growth of neighboring plants.

Oxeye Daisy
(*Chrysanthemum leucanthemum*)



Oxeye Daisy thrives in disturbed areas, meadows and streambanks.

Houndstongue
(*Cynoglossum officinale*)



Houndstongue is a biennial non-native plant that spreads by seeds sticking to clothes and fur.



**STOP INVASIVE SPECIES
IN YOUR TRACKS.**

PlayCleanGo.org

Clean Your Gear Before
Entering And Before Leaving
The Recreation Site



WYOWEED.ORG

Sublette County Weed & Pest along with the North American Invasive Species Management Association and our partners are launching a new education campaign for prevention of invasive species. This program focuses on a positive call to action for the public to help protect our lands from invasive species. You will be seeing the informative material in a variety of areas this summer including trailheads, business and our outreach material. Please do your part to “Stop Invasive Species in Your Tracks.”

- Drain, clean, dry gear and boats.
- Burn local or certified firewood.
- Use weed-free forage hay.
- Stay on the trails.
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Sublette County Weed and Pest Control District

PO Box 729

Pinedale, WY 82941

*****ECRWSEDDM*****

Postal Customer

Local

SUBLETTE COUNTY WEED AND PEST

PO Box 729

12 South Bench Road

Pinedale, WY 82941

www.sublettecountyweed.com

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