

**Montana Correctional Enterprises Ranch  
Noxious Weed Management Plan  
And Agreement with Powell County Weed Board FY  
2016 and FY 2017**

Pursuant to MCA 7-22-2151, following is the biennial Noxious Weed Management Plan (hereinafter referred to as Plan) for the Montana Department of Corrections, Montana Correctional Enterprises (hereinafter referred to as MCE) Ranch. Each biennial plan will be approved by the Powell County Weed Board.

**Vision Statement**

It is the vision of MCE Management, specifically the Division Administrator, Agriculture Director and Ranch Manager to identify and eradicate all noxious weeds on the MCE owned and leased ranch lands.

**Goal Statement**

It is the goal of MCE Management to control the spread of noxious weeds on MCE ranch lands and eradicate the weeds where eradication is a viable goal. To achieve this goal, the following will be necessary:

- Identify infestations and address them at the earliest time frame to stop the spread of newly identified weeds and those that are a persistent problem.
- Work closely with neighboring land owners to control the spread of noxious weeds from their lands to MCE ranch lands.
- Erect signage on roads with public access to request the land users to assist in the stopping the spread of weeds by staying on posted roads.
- Continually update and evaluate the Plan to address additional needs as they arise.

**MCE Responsibilities**

It is the sole responsibility of MCE to provide weed control measures on all owned and leased properties. It is also the responsibility of MCE to comply with all aspects of MCA 7-22-2151.

The MCE Agriculture Director will ensure that the annual report, documenting all noxious weed actions and the cost of those actions, is submitted to the County Weed Coordinator or the State Coordinator by the due date.

In addition; the MCE Agriculture Director will concentrate on the early detection and containment of new weed species and containment of current noxious weeds.

**Powell County Weed Board Responsibilities**

Pursuant to MCA 7-22-2151, the Powell County Weed Coordinator will submit the biennial performance report to the Department of Agriculture's State Weed Coordinator regarding the success of the MCE Noxious Weed Management plan.

## **Other MCE Responsibilities**

It will be critical for MCE Management to ensure that all ranch employees involved with the application of pesticides are licensed through the Department of Agriculture pesticide program and that all pertinent training and education that is received is documented.

Control of weed chemicals is critical in all ranch and farm operations but becomes additionally critical in the environment of a correctional facility. The Ranch Manager will ensure that weed control chemicals are appropriately marked, stored and controlled from unauthorized use by inmates or staff. Monitoring of the use and storage of weed control chemicals is critical to the safety and orderly operation of the MCE ranch and Montana State Prison facility.

The Agriculture Director will complete an annual evaluation of weed management efforts and review and update the biennial plan to take into account the efforts and outcomes of the current year's activities.

## **Budget**

The annual budget for weed control of MCE ranch lands is set at \$40,000. This amount will be reviewed annually to ensure that the budget is adequate to address the persistent weed problems, and if necessary adjustments will be made. Powell County Weed Board grant funding will also be utilized as available to assist in addressing the identified noxious weed issues.

## **Ranch Land Description**

The ranch is approximately 37,895 acres, of which 33,288 are owned by the Montana Department of Corrections and 4,606 are leased school trust lands. The leased property is scattered amongst the deeded property.

The ranch land sections are contiguous and located in Powell County, Montana (Appendix A). The ranch lies between the Clark Fork River to the East and the Flint Creek Range to the west, which at the maximum is six miles wide and between the Gold Creek area to the north and Dempsey creek area to the south, which at the maximum is sixteen miles long, although in some areas of the ranch, the property is only one section (one mile) wide.

The county roads that cross the ranch, along with a major high-voltage power corridor running the length of points and has moved outward, primarily down the canyons, coulees, draws, and waterways.

The ranch includes a wide variety of soil types from gravelly glacial moraines to moderately deep loams. These wide variations sometimes occur within short distances and complicate weed control planning and application.

The Montana State Prison complex lies in the center of the ranch and brings some other complications to noxious weed control. These complications include effective application of weed control chemicals and their residual effect.

## **Identified Problem Areas of Primary and Secondary Infestations**

- Roadsides, hunting parking lots and construction areas in the vicinity of the Montana State Prison facility - Spotted knapweed
- Glacial moraine areas in the Conley Lake, Tin Cup Lake Reservoir and Mud Lake areas - Spotted knapweed, leafy spurge, thistle and houndstongue.
- Road to Powell Reservoir - Spotted knapweed and leafy spurge.
- Boundary fence with Cline Ranch, at the southeast corner of hayfield - Russian knapweed.
- Hillside above Ranch 2 - Spotted knapweed and leafy spurge.
- Ranch 2, Elk Ridge and Job Corps roads - Spotted knapweed and leafy spurge.
- Power line corridor from the south boundary to Powell Creek - Spotted knapweed, thistle, black henbane.
- Section pasture - Sporadic Spotted knapweed.
- Mullen and Taylor drainages - Spotted knapweed and yellow toadflax.
- Lower Morrison drainage - Leafy spurge.
- South end of the ranch - Leafy spurge.
- Pastures west of the dairy - reoccurrence of small outbreaks of leafy spurge.
- Ditches along neighboring ranch lands in areas of Ranch 2, Ranch 5, Morrison ditch and west side canal - Spotted knapweed and sporadic leafy spurge.

## **Fiscal Year 2015 Plan of Action**

- Russian thistle control along irrigation ditches with use of backpack sprayers
- Spot spray toadflax in Taylor drainage
- Mow roadside ditches to enhance chemical use
- Hand rogue problem weeds in watersheds
- Weed control inside and on perimeter of MSP Compound
- Aerial spray 1920 acres in Sections 21,28 and 29 of 7N 10W (see attached map)
- Above encompasses Dempsey, Tetany and Section pastures

### **Fiscal Year 2015 Monitoring Completed**

- Good control of Yellow Toadflax, White top, and Knapweed
- Able to see improvement in Powell with bio-control although slight
- Continue on Leafy Spurge and Knapweed in tree lines

## **Fiscal Year 2016 Plan of Action**

- Continue monitoring of problem weeds and areas
- Spot spray inside compound and continue on perimeter
- Monitor 2015 results
- Aerial spray 1920 acres in Sections 25,26(E1/3), 35 and 36 of 7N 10W (see attached map)
- Aerial spray 640 acres in Section 2 of 6N 10W
- Above encompasses Tetany, Section and Desert 1 pastures
- Spray Russian Thistle along roads and ditches
- Mow roadsides in the fall
- Release Knapweed and Leafy Spurge Bio-control

### **Fiscal Year of 2017 Plan of Action**

- Aerial spray areas started in 2008-2011
- Portions N of Cow Camp had poor control especially in Bogert and Little Tin Cup
- Spray roads along perimeter of property including Rock Creek Lake Road, into Lower Rock Creek Campground and spur roads for Canadian Thistle
- Continue with crop rotation
- Continue monitoring of irrigation ditches
- Reseed logging roads to help prevent infestation

This Noxious Weed Management Plan has reviewed and approved by the following parties:

Gayle Lambert  
Gayle Lambert, MCE Administrator

1-26-16  
Date

Karen Laitala  
Karen Laitala, Powell County Weed Coordinator

1.26.2016  
Date

Ross Wagner  
Ross Wagner, MCE Ag Director

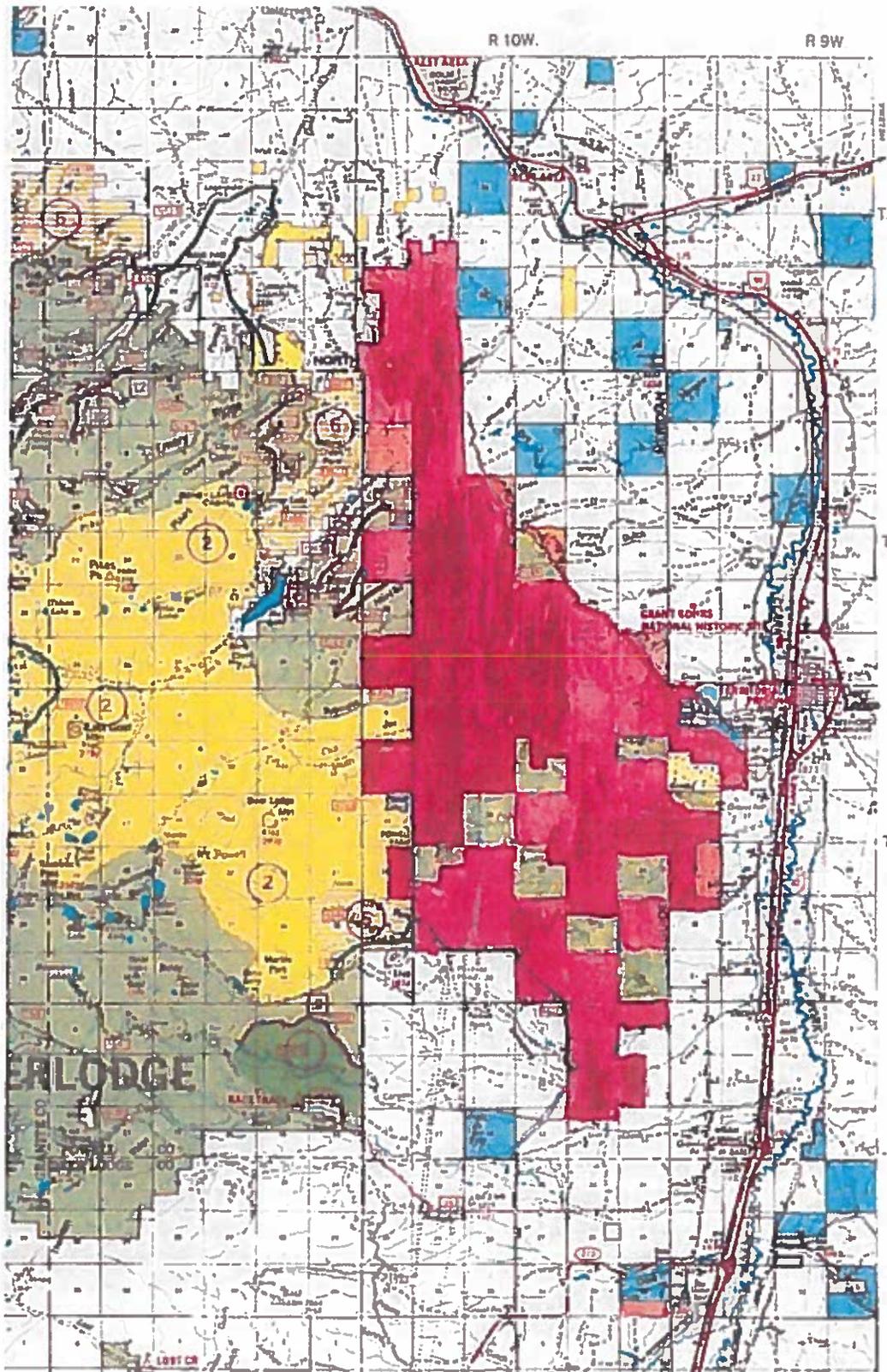
1-26-16  
Date

Troy McQueary  
Troy McQueary, MCE Ranch Manager

1/26/16  
Date

MCE Biennial Noxious Weed Management Plan FY2016 and FY2017

# APPENDIX A MCE RANCH LAND MAP



## APPENDIX B

### MCE WEED TYPE INFORMATION

#### Spotted Knapweed (*Centaurea maculosa*)

- is a biennial or short lived perennial
- currently infests more than 4.5 million acres in Montana
- stem height varies from two feet to four feet. Slender stems are many branched and bear single, pinkish-purple flowers at the tips.
- flowers are purple to pink, rarely white, with 25 to 35 flowers per head
- flowers bloom from June to October
- seeds germinate in the fall and early spring when moisture and temperature are suitable
- site conditions and precipitation during the growing season have the greatest effect on the number of seeds produced each year. More seeds are produced during wet years.
- seeds remain viable in the soil for at least seven years
- populations are largely extended through peripheral enlargement of existing stands
- causes loss of wildlife and livestock forage, increases moisture runoff, soil erosion and stream sedimentation
- is controlled through the use of Tordon, Stinger, 2 4-D and Banvel will control spotted knapweed on rangeland. The Ranch utilizes Tordon in its weed control efforts at a rate of 1 pint per acre.



#### Leafy Spurge (*Euphorbia esula*)

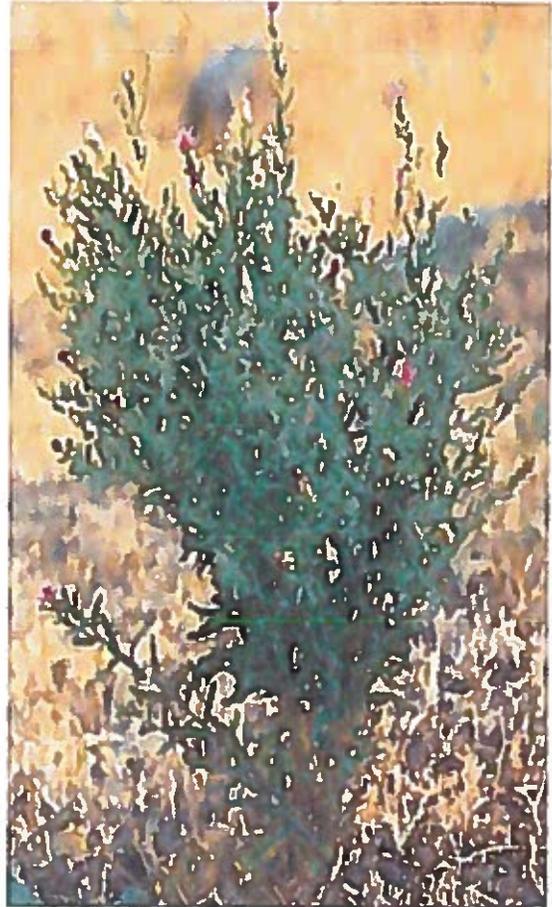
- is a deep rooted perennial forb that spreads by seeds and roots
- stems are hairless and pale green or blue-green. They grow 16 to 32 inches in dense patches. The narrow, hairless leaves are alternate on the stem. Stems and leaves contain a milky latex. The small flowers are green and inconspicuous, but are surrounded by a pair of yellow-green, heart-shaped leaves that are often mistaken for flowers.
- currently infests more than 600,000 acres in Montana
- overruns and destroys grazing lands for cattle and horses, decreases rangeland plant diversity, threatens native plants and reduces land values.
- is very difficult to control once it becomes established. Intensive, long-term, integrated management is necessary to reduce leafy spurge infestations.



- new infestations originate from seeds or vegetative buds on root pieces which can be brought into uninfested areas by activities such as outdoor recreation, agriculture and construction.
- five methods are used to manage leafy spurge: prevention, plant competition, physical control, biological control and chemical control
- chemical control consists of Tordon, and 2 4-D
- The Ranch utilizes Tordon in its weed control efforts at a rate of 4 pints per acre.

#### Russian Knapweed (*Centaurea repens*)

- is a perennial, forming dense colonies by adventitious shoots from widely spreading black roots
- stems are erect, openly branched, 18 to 36 inches taller. Lower leaves are deeply lobed, 2 to 4 inches long; upper leaves entire or serrate, narrow to a sessile base. Cone-shaped flowering heads are 1/4 to 1/2 inch in diameter, solitary at the tip of leafy branchlets. Flowers are pink to lavender.
- is a deep rooted, rhizomatous, perennial forb which may penetrate to a depth of over 8 feet.
- flowering occurs in June to September
- grows about two feet tall. Stems are thin, stiff and covered with soft, short hairs. The rosette leaves are narrow at the base and widen toward the top. Stem leaves are grayish-white and have irregular shaped lobes that are divided about one-half of the way to the mid-rib. The flowers are pink to purple
- currently infests more than 47,000 acres in Montana
- can cause nervous disorders if consumed by horses
- populations are largely extended through peripheral enlargement of existing stands
- causes loss of wildlife and livestock forage, increases moisture runoff, soil erosion and stream sedimentation
- is controlled through the use of Tordon, Stinger, 2 4-D and Banvel will control spotted knapweed on rangeland. MCE Ranch utilizes Tordon in its weed control efforts at a rate of 2 to 3 pints per acre.



### Canadian Thistle (*Cirsium arvense*)

- is a perennial forb reproducing seed and creeping root stocks
- has purple flower heads with male and female flowers on separate plants
- has several varieties that are distinguished mainly by leaf shape, size and abundance of leaf spines
- stems are 1 to 4 feet tall, ridged, branching above. Leaves are alternate, lacking petioles, oblong or lance-shaped, divided into spiny-tipped irregular lobes. Flowers are unisexual, on separate plants; flowers purple (occasionally white) in heads 1/2 to 3/4 inch in diameter. Fruits are about 1/8 inch long, somewhat flattened, brownish, with a tuft of hairs at the top
- flowering occurs during July and August
- is an aggressive weed that is difficult to control
- can produce up to 20,000 seeds per year per plant
- currently infests more than 1.8 million acres in Montana
- is controlled through the use of Curtail at the application rate of 4 pints per acre



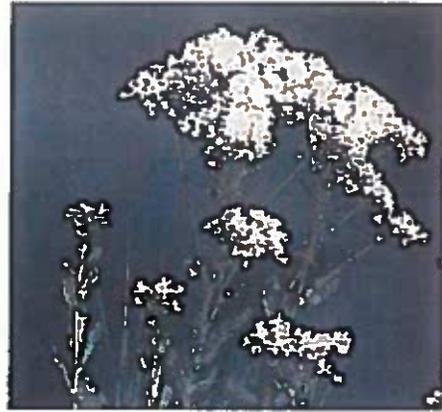
### Sulfur Cinquefoil (*Potentilla recta*)

- is a long lived perennial with a woody rootstock
- can produce several erect stems which can reach one to three feet in height.
- stands 1 to 1 1/2 feet tall, with well-developed rootstock
- has numerous stem leaves and few basal leaves
- has long hairs growing at right angles to the leafstalk and stem
- The flat-topped inflorescences are three to six inches across, and each flower has five light yellow petals surrounding a dark yellow center. The fruits are achenes, which are dark brown, with lighter, prominent, branched ridges, and narrow, winged margins
- reproduces by seed, but it can be spread by roots if they are moved by tillage or on soil-moving equipment
- is often found in disturbed areas such as roadsides and pastures
- flowering occurs in May to July
- regenerates annually via new shoots emerging from the edges of the root mass
- Is well adapted to dry open range and pasture areas
- currently infests over 50,000 acres in Montana
- is controlled through Tordon and 2,4-D provide effective control without harming grasses.



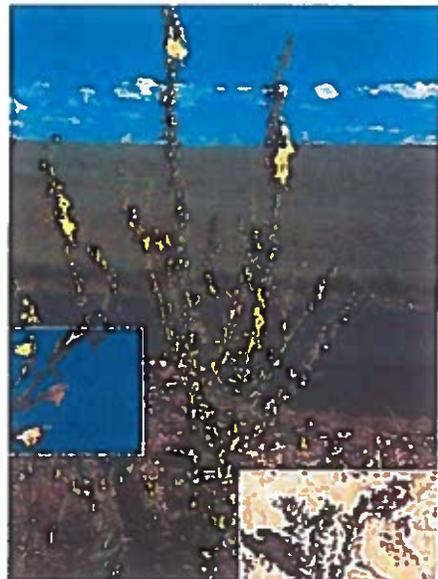
### Whitetop (*Cardaria chalapensis*)

- is a deep rooted perennial forb that spreads by seeds and root fragments
- the flowers have four petals and six stamens. Individual white flowers are borne on slender stalks about a half inch long. Dense blooming stands look very much like a late-melting patch of snow. The plants normally grow from 10 to 24 inches tall. All leaves have a covering of soft white hairs.
- currently infests more than 56,000 acres in Montana
- emerges very early in April to May and sets seed by midsummer
- effects on rangeland and pasture is similar to leaf spurge. Reduces bio-diversity forage production and displaces native plant communities in some areas. They will also invade cropland, especially alfalfa.
- weeds are well adapted to moist habitats, especially sub-irrigated pastures, hayfields, rangeland, roadsides and ditch banks.
- Root system is similar to leafy spurge
- five methods are used to manage this weed: prevention, mechanical control, cultural control, biological control and chemical control
- chemical control includes Tordon, 2 4-D, and Escort. The Ranch uses Escort at the rate of 1 ounce to a acre. Treatment of this weed is long-term.



### Dalmatian Toadflax (*Linaria dalmatica*)

- is a perennial plant, reproducing by seed and roots
- stems grow 2 to 3 feet or taller. Both leaves and stems are waxy with a whitish or bluish cast. Leaves are usually heart-shaped.
- has bright yellow snap-dragon-like flowers with a long spur
- often found in well-drained, relatively coarse-textured soils varying from coarse gravels to sandy loams, but are sometimes found in heavier soils
- displaces existing plant communities and associated animal life. Results in a loss of forage for domestic livestock and big game animals
- currently infests more than 96,000 acres in Montana
- is very difficult to control once it becomes established
- single plant can produce up to 500,000 seeds beginning in late June to early July and continuing until October
- six methods are used to manage this weed: prevention, mechanical control, cultural control, grazing, biological control and chemical control



- use of herbicides to manage toadflax is highly variable partly because of the plants' high genetic variability.
- chemical control includes Tordon, 2 4-D

Houndstongue (*Cynoglossum officinale*)

- is a biennial growing 1 to 4 feet tall and reproducing by seed
- leaves are alternative, 1 to 12 inches long, 1 to 3 inches wide, rough, hairy and lacking teeth or lobes
- flowers are reddish-purple and terminal
- the fruit is composed of 4 prickly nutlets each about 1/3 inch long
- leaves are rough and resemble a hound's tongue
- is found in pastures, along roadsides and in disturbed habitats.
- is toxic containing pyrrolizidine alkaloids, causing liver cells to stop reproducing. Sheep are more resistant to houndstongue poisoning than are cattle or horses.
- chemical control includes Tordon, 2 4-D and Escort. The Ranch uses Escort at the rate of 1 ounce per acre







# Noxious Weed Biennial Reporting

V.51

Agency has approved this entry. No data alteration is permitted.

Agency CORR Weed District POWELL  
 Contact Ross Wagner Contact Karen Laitala  
 Email RWagner2@mt.gov Email klaitala@powellcountymt.gov

Reporting Biennium  Report for County

<input checked="" type="checkbox"/> Mgmt Plan on File	Total Agency Acres	Estimated Infested Acres	Acres Treated by Agency	Agency Acres Treated by County	Agency Expenditure (exclude \$ to county)	County Expenditure on Agency Acres
<input type="checkbox"/> Biennial Mgmt Goal Met	<input type="text" value="33288"/>	<input type="text" value="20000"/>	<input type="text" value="4340"/>	<input type="text" value="0"/>	<input type="text" value="79500"/>	<input type="text" value="0"/>
Total Treated Acres			<input type="text" value="4340"/>	Total Expenditures		<input type="text" value="79500"/>

Control Method - Check all that apply (At least one MUST be selected)

Bio-Control  Herbicide  Mechanical  Revegetation  -No Action Taken

Targeted Weed - Check all that apply (At least one MUST be selected)

<input type="checkbox"/> Blueweed	<input checked="" type="checkbox"/> Canada Thistle	<input type="checkbox"/> Common Reed	<input type="checkbox"/> Common Tansy	<input type="checkbox"/> Curlyleaf Pondweed	<input checked="" type="checkbox"/> Dalmatian Toadflax
<input type="checkbox"/> Diffuse Knapweed	<input type="checkbox"/> Dyers Woad	<input type="checkbox"/> Eurasian Watermilfoil	<input type="checkbox"/> Field Bindweed	<input type="checkbox"/> Flowering Rush	<input type="checkbox"/> Hoary Alyssum
<input type="checkbox"/> Houndstongue	<input type="checkbox"/> Knotweed Complex	<input checked="" type="checkbox"/> Leafy Spurge	<input type="checkbox"/> Meadow Hawkweed	<input type="checkbox"/> Orange Hawkweed	<input type="checkbox"/> Oxeye Daisy
<input type="checkbox"/> Perennial Pepperweed	<input type="checkbox"/> Purple Loosestrife	<input type="checkbox"/> Rush Skeletonweed	<input checked="" type="checkbox"/> Russian Knapweed	<input type="checkbox"/> Saltcedar	<input type="checkbox"/> Scotch Broom
<input checked="" type="checkbox"/> Spotted Knapweed	<input type="checkbox"/> St Johnswort	<input type="checkbox"/> Sulfur Cinquefoil	<input type="checkbox"/> Tall Buttercup	<input type="checkbox"/> Tansy Ragwort	<input type="checkbox"/> Whitetop
<input type="checkbox"/> Yellow Starthistle	<input type="checkbox"/> Yellow Toadflax	<input type="checkbox"/> Yellowflag Iris	<input type="checkbox"/> other	<input type="checkbox"/> -None Identified	

Previous Comments (Read Only)

Add New Comments Here (Once Approved, all comments will be included on Legislative report)



By checking the appropriate Approval we do hereby agree that the following report is true and correct to the best of my knowledge.

Agency Approval By   
 Agency Representative

County Approval By   
 County Weed District Representative

MDA Approved   
 MDA Representative