

**2007 Progress Report: Noxious Weed Control  
Valley County, Montana  
Bureau of Land Management-Glasgow Field Station**

The objective of this report is to show the results of biological and chemical control of noxious weeds in Valley County, Montana. This report will update the following BLM weed projects; Rock Creek Leafy Spurge, Cherry Creek Knapweed and Salt Cedar Management Team.

**Rock Creek Leafy Spurge Project**

**History:** The Bureau of Land Management (Glasgow Field Station) and the Valley County Weed District (VCWD) have had a cooperative weed management agreement since 1984. With this agreement the county provides the expertise, equipment and labor to control noxious weeds on public lands located in Valley County and the BLM reimburses the county for the expenses incurred. The four Cooperative State Grazing Districts in Valley County have been cooperating parties throughout the history of the project. Control on private and state lands have been funded by the Grazing Districts and grants.

Leafy spurge is the primary weed specie problem on public lands in Valley County. The Rock Creek area north of Hinsdale is heavily infested, an area of some 150,000 acres involving BLM, State and private lands is infested. Within this 150,000 acre area, spurge infests the creeks, drainages, coulees and is scattered in patches throughout.

The cooperative agreement has allowed us to merge our knowledge, skills, tools and resources together and initiate Integrated Weed Management, which combines or integrates different management and tools to provide more effective control. The management tools include air and ground application, biological control and sheep grazing. Our objective has been to prevent introduction and establishment of leafy spurge into non-infested land via chemical control and to gradually reduce the population of spurge in the interior area via biological control.

In 1984 an aerial and ground spray program was started to contain the rapid spread of leafy spurge by treating the outer perimeter of the 150,000 acre area and approximately 100 miles. Flying has been an excellent method for treating this large area and has allowed us to inventory the nearby areas for any new infestations. Ground application is applied using ATV and pick-up sprayers to treat small and confined patches.

Chemical treatment would not be feasible inside the perimeter due to numerous creeks, drainages and coulees which provide valuable habitat; therefore biological control (a.k.a biocontrol) is used. Beginning in 1987, the *Apthona nigriscutis* (a.k.a brown beetles) specie was released. At that time, it was the only available flea beetle specie. Since the early 1990's, an additional flea beetle specie, *Apthona lacertosa* (a.k.a black beetle) has been released. After years of monitoring and experimenting with these flea beetles it is pretty conclusive that brown beetles prefer a site that is warmer and drier, usually classified as a sandy site, where spurge plants are shorter in height and not as dense. Therefore, the black beetles are better adapted to this area and especially where infestations are thick and solid spurge.

**Chemical Control (Aerial):** Our goal with aerial application has been to spray the perimeter and to reduce the outward growth and the size of the perimeter. In 2002, we were able to move our aerial chemical perimeter inward due to the excellent control thus reducing the perimeter size. Mike Ley, operator of Nikko Helicopters has received the contract for aerial spraying for the last seven years. We have been very satisfied with his work and he has become familiar with the spray perimeters and topography. Aerial application is very expensive and the cost continues to rise due to fuel prices. Aerial application depends largely on yearly BLM funds. A minimum of 35-40 hours of flight time is required to treat the entire perimeter which is approximately 75 miles.

Due to budget constraints we have not been able to fly and treat the entire weed perimeter since 2004. Due to an increase in funds from the Grazing Districts and other BLM sources we were able to fly and treat the entire perimeter this year. Aerial application also took place on Bluff

Creek, South Creek, Buggy and Canyon Creeks and Antelope Creek in South Valley County. For the second year in a row we allowed aerial treatment inside of the perimeter line on Bitter Creek to decrease the heavy, thick stand of spurge in an old oxbow on the creek. Aerial inventory of Buggy and Canyon Creeks was also completed. Due to the abnormal amount of precipitation the County received this spring allowed for ideal spurge conditions. The contractor expend his hours before using all the chemical therefore next year we would like to move the weed perimeter inward and continue to shrink the size. A total of 40 hours were spent in the air monitoring and treating 300 acres (See Map. 1 and 2).

The table below shows the number of acres treated on the spray perimeter and on the areas outside of the containment zone.

YEAR	AERIAL ACRES TREATED (BLM & PRIVATE)	TIME SPENT INVENTORYING, MONITORING AND/OR TREATING	GROUND ACRES	TOTAL ACRES
2002	370	unavailable	105	475
2003	360	35 hours	55.5	415.5
2004	240	35 hours	110	350
2005	310 (1/2 perimeter treated)	30 hours	90	400
2006	280 (1/2 perimeter treated)	30 hours	80	360
2007	300 (entire perimeter)	40 hours	80	380

**Chemical Control (Ground):** The weed district continues to monitor the old spray perimeter and areas untreated via aerial application. Small, confined patches of spurge exist on the following drainages; Lime Creek, Cashe Creek, Bluff Creek, Cow Coulee, South Creek, Papoose Creek, Hardscrabble Creek, Antelope Creek and Norwegian Coulee. These areas are accessible to ATV sprayers and treated via ground.

**Biological Control:** Biological control is not a cure-all or overnight solution, and it won't work every time in every situation. However, it is a long-term, sustainable and inexpensive approach. Biological agents are well established on many sites inside the spray perimeter and we continue to see the greatest success with the *A. lacertosa* beetles. Please visit the following website, [www.mt.blm.gov/mafo/index.html](http://www.mt.blm.gov/mafo/index.html) to view, "Photos of biological control of leafy spurge in Valley County".

A 2003 release site near Hose Reservoir has developed into a super-site and was swept by BLM employees and an estimated 750,000 beetles were collected and redistributed to nearby drainages in 2006. We tried to sweep this area along with several other spots and did not seem to have as great as success as previous years in collecting beetles.

## **FUNDING**

Since 2003 the BLM weed budget has taken a sharp decline which has affected our program and efforts on the Rock Creek Project, specifically the aerial program. The vegetation program lead for BLM has informed us the weed budget will probably continue to decline over the next three to five years. We have gained a lot ground since 1999 with the aerial and ground application; however, if we can not continue our yearly aerial treatments we will be back to the original boundary and lose what we have gained in the last decade.

Due to the decrease in BLM funds we have been forced to look at other possible funding sources. The Cooperative State Grazing Districts in Valley County increased their project funding from \$6,000 to \$9,100 in 2006 and in 2007 increased their funding to \$14,500. The VCWD applied for a Natural Resource and Conservation Service (NRCS) grant and was one of three counties in the state to receive this grant. The grant is for \$50,000 and will be used over a period of 3 years

starting in 2007. This year the Glasgow Office only received \$16,000 from BLM, however an extra \$20,000 was received as part of a sagebrush/wildlife restoration program.

Another source of funding was the result of a successful increase to the County's mill levies. The public voted on this mill levy pertaining to the control of noxious weeds in Valley County. The increase of mill levies was passed increasing the mill by 2.6 for a total 4 mill levies used to control noxious weeds. This increased the County's operating budget to \$100,000, a \$59,000 increase.

Early projections indicate FY2008 BLM funding will be around \$16,000. Due to the NRCS grant and increased funding from the Grazing Districts we foresee the program being able to continue with the aerial and ground programs.

The following table shows the budget since 1999:

YEAR	1999	2000	2001	2002	2003	2004	2005	2006	2007
BLM	\$41,000	\$45,000	\$45,000	\$45,700 (include July add-on of \$10K)	\$48,000 (includes \$28K received from EOY02 funds)	\$27,000	\$12,000	\$22,000	\$36,000 ((\$20K from sagebrush/wildlife restoration program)
Grazing District	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$9,100	\$14,500
State Grant	\$23,000	\$28,000	\$28,000	\$3,000	-----	-----	\$8,000 (for South Valley Inventory)	-----	\$5,000 (Money to be used for salt cedar awareness billboards)
NFWF Grant (National Fish and Wildlife Foundation)	-----	-----	-----	\$21,000	\$10,000	\$10,000 (this will be used 2004-2006)	←	\$3,000 (left from NFWF grant)	-----
NRCS Grant									\$16,600 ((\$50K to be used over a 3-yr. period, 2007-2010)
<b>TOTAL</b>	\$70,000	\$79,000	\$79,000	\$75,000	\$64,000	\$43,000	\$31,000	\$26,100	\$67,100 (does not include \$5K state grant)

The Glasgow Field Station accomplished 75,000 units in program element, MK, evaluate weed treatments, 40000 acres in inventory for presence of noxious weeds (via aerial treatment) plus 97,500 acres for RMP weed inventory and 53000 units in program element, JD, biological control releases (50K) and chemical application (300 air and ground) and 1 unit in AL- public outreach and education (saltcedar awareness billboards).

Due to end-of-years funds from the Montana State Office the Glasgow Field Station was able to purchase \$7500 worth of chemical for the Valley County Weed District to be used in the 2008 season.

**RMP Weed Inventory**

The Malta Field Office is currently in the process of writing a new resource management plan (RMP) for public lands and mineral estates in northcentral of Montana. The plan, known as the Malta Resource Management Plan, will provide future direction for 2.5 million surface acres and 3.5 million subsurface acres.

The purpose of the plan is to establish guidance, objectives, policies, and management actions for public lands administered by the Malta Field Office and the Glasgow and Havre Field Stations for the next 10 to 15 years.

This plan will discuss invasive and non-native plant species. As part of the RMP we received money to contract an aerial inventory for the presence of noxious weeds in Phillips and Valley Counties. The inventory took place in mid-June and focused on mapping leafy spurge in the creeks and drainages located inside the weed perimeter. Approximately 54,500 acres were inventoried in the Rock Creek Area and approximately 43,000 acres located east of the Rock Creek Area.

### **CHERRY CREEK KNAPWEED PROJECT**

Knapweed infestations are located north of Glasgow in the Cherry Creek and St. Marie area and south of Glasgow along the TC Access Road. BLM has contributed \$2500 to this project for the past 7 consecutive years. This year we did find plants on two re-occurring sites, an old well pad north of Langen's Sheep Ranch and on the Fossum road. We have treated these two areas before and thought we had eradicated it until we found a few plants on these sites this year. The county is using chemical and biological agents to control this weed and feel they are getting good control and has become more a maintenance project. However, the county spends many hours looking for new plants and monitoring sites. This year new knapweed was found along the conjunction of the Stonehouse and Ridge Roads. The following table shows the number of acres treated each year:

<b>YEAR</b>	<b>ACRES TREATED (Ground)</b>
2001	60 acres
2002	60 acres
2003	45 acres
2004	45 acres
2005	45 acres
2006	45 acres
2007	50 acres

### **SALT CEDAR**

Salt cedar is a shrubby tree that grows in riparian areas, destroys habitat by producing large amount of salt which is absorbed by the soil making the soils very salty and unproductive. Mature salt cedar trees can consume up to 200 gallons of water per day.

Salt cedar is well established along Fort Peck Lake and with several years of low water levels the spread of salt cedar is rapidly spreading. Large infestations of salt cedar already exist on land managed by the CMR (Charles M. Russell Refuge), and are starting to invade surrounding BLM land.

The Fort Peck Salt Cedar Management Team consists of 12 members, representing the following: Valley County, McCone County, Garfield County, Phillips County, Fergus County, Petroleum County, Jim Thompson (project leader), Bureau of Land Management (Beth Klempel), Corp of Engineers (Patricia Gilbert), DNRC (Hoyt Richards), and USFW.

The team members compiled information of known salt cedar infestations along Fort Peck Reservoir. The information was accumulated and a final map was produced. The map shows where the salt cedar is present on a section basis, the priority and if it was been treated. The last couple of summers the USFW have had "strike teams" working on various areas around the lake.

Last fall the team will submit a state CAPS grant requesting funds to place three billboards near in various locations used by recreationists. The team received a grant in the amount of \$5000 to

design and install three signs which will be located at Hell Creek Recreation, James Kipp Recreation Area and near the Fort Peck Marina. The purpose of the billboards is to educate the public about this noxious weed. The billboard design and graphics are complete and the signs should be place this fall. Below is the design and layout of the billboards.

## NOXIOUS WEED AWARENESS

### KNOW YOUR ENEMY: **SALT CEDAR**, TAMARISK

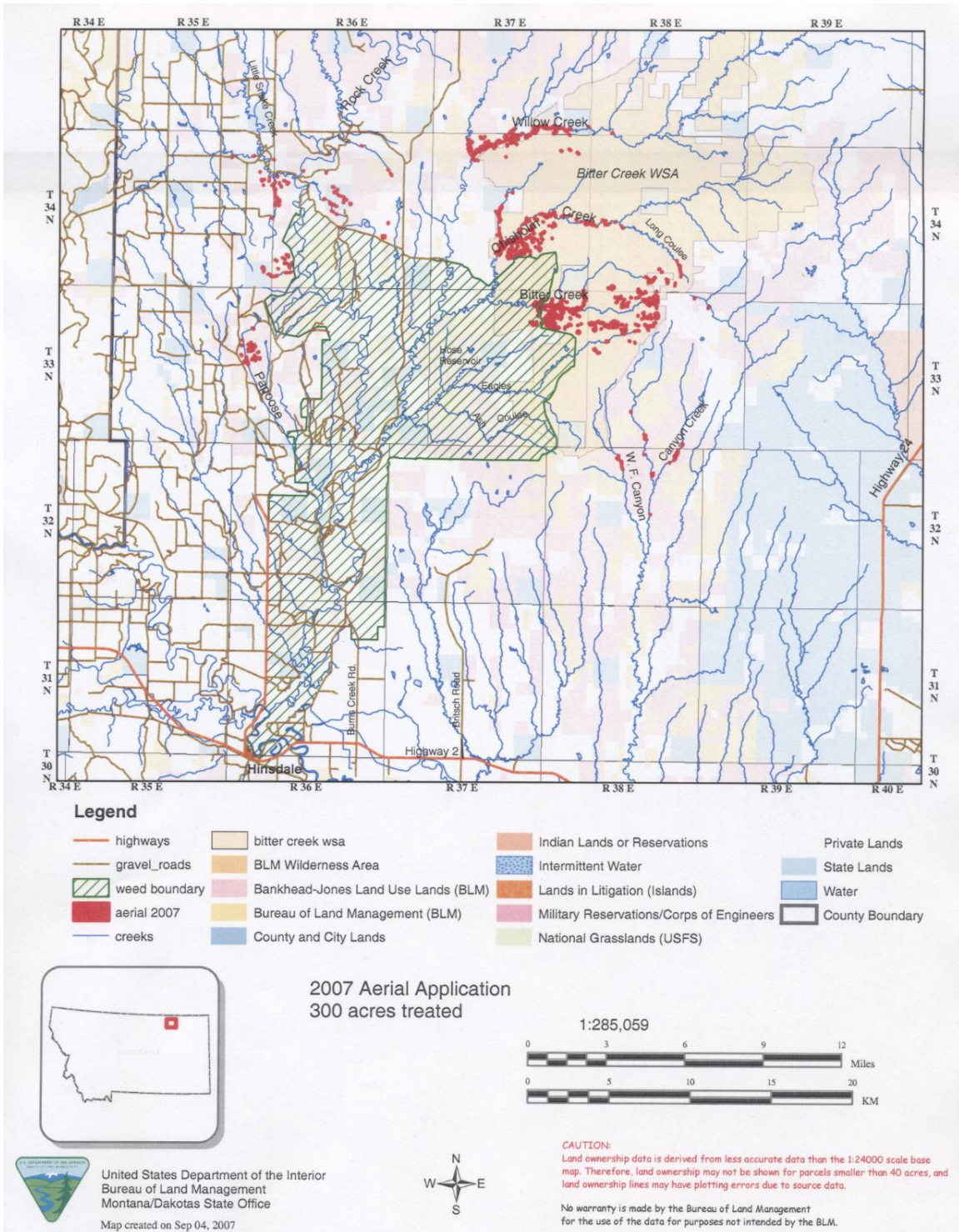


**Please contact your local county weed district  
for information and/or to report infestations.**

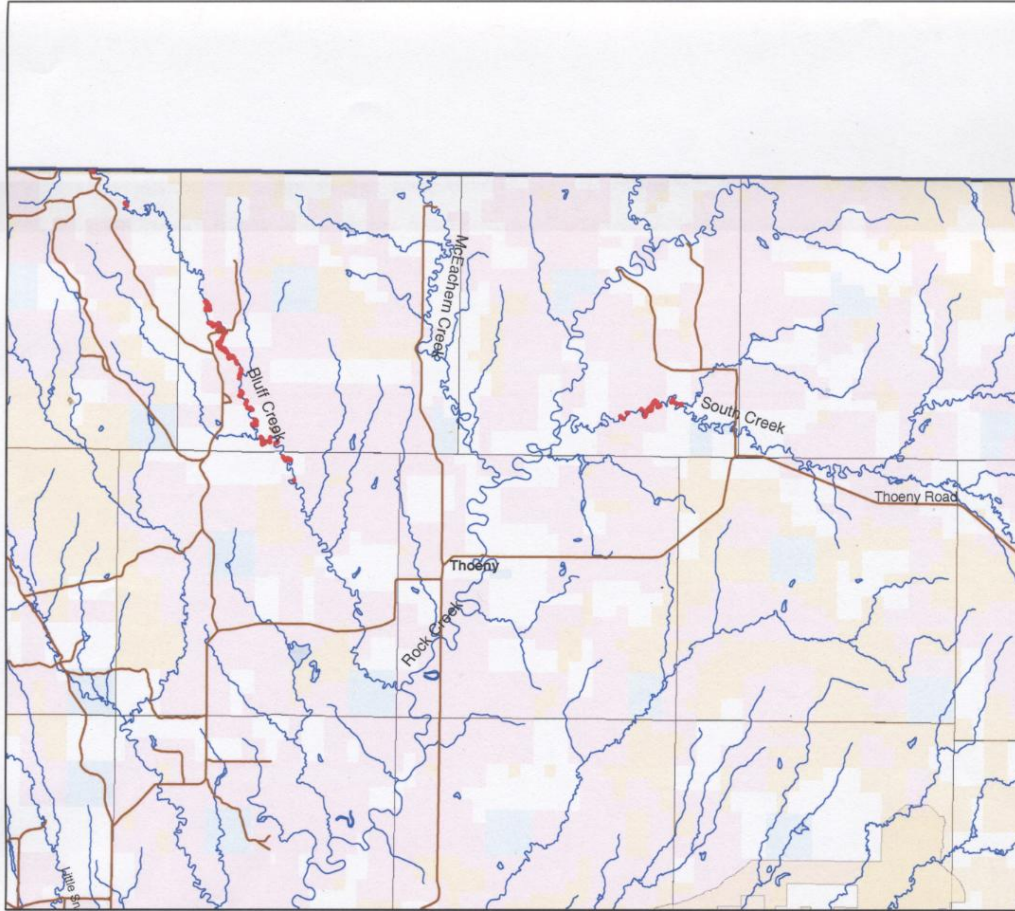
---

In conclusion, we are achieving our objectives in controlling leafy spurge and knapweed. We are cooperating in an effort to begin to deal with a serious and growing salt cedar infestation around Fort Peck Lake by increasing the public's awareness of the weed. This success could not have been achieved without the cooperation of the Valley County Weed District, State and Federal Agencies, Valley County Grazing Districts, and private landowners. We all know weeds do not know fence lines or land ownership therefore; we are all in this battle together, no matter who owns and/or manages and use the land.

Map 1: The map shows 2007 aerial application in the Rock Creek Leafy Spurge Project area, north of Hinsdale, MT.



Map 2. The map shows 2007 aerial application on Bluff and South Creeks along the US/Canada border in north Valley County.



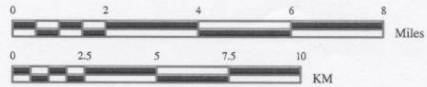
**Legend**

- |               |                                     |  |                 |
|---------------|-------------------------------------|--|-----------------|
| highways      | bitter creek wsa                    | Indian Lands or Reservations             | Private Lands   |
| gravel_roads  | BLM Wilderness Area                 | Intermittent Water                       | State Lands     |
| weed boundary | Bankhead-Jones Land Use Lands (BLM) | Lands in Litigation (Islands)            | Water           |
| aerial 2007   | Bureau of Land Management (BLM)     | Military Reservations/Corps of Engineers | County Boundary |
| creeks        | County and City Lands               | National Grasslands (USFS)               |                 |



2007 Aerial Application  
300 acres treated

1:195,139



United States Department of the Interior  
Bureau of Land Management  
Montana/Dakotas State Office  
Map created on Sep 04, 2007



**CAUTION:**  
Land ownership data is derived from less accurate data than the 1:24000 scale base map. Therefore, land ownership may not be shown for parcels smaller than 40 acres, and land ownership lines may have plotting errors due to source data.

No warranty is made by the Bureau of Land Management for the use of the data for purposes not intended by the BLM.