

**2008 Progress Report: Noxious Weed Control
Valley County, Montana
Bureau of Land Management-Glasgow Field Station**

The objective of this report is to illustrate the progress of controlling noxious weeds in Valley County, Montana. This report will update the current BLM weed projects including; Rock Creek Leafy Spurge, Cherry Creek Knapweed and Missouri River Watershed Alliance inventory.

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 4 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 affected. 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 (on private land). 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 which encompassed 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 also applied using ATV's, UTV's and pick-up sprayers to treat small and confined patches.

Chemical treatment is not feasible inside the weed 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 annually and to reduce the outward growth and the perimeter size. Mike Ley, operator of Nikko Helicopters has received the contract for aerial spraying for the last eight years. We have been very satisfied with his work and he has become familiar with the spray perimeter and topography. Aerial is also used to inventory old treatments and any new infestations as well.

Aerial application is very expensive and the cost continues to rise due to fuel prices. Aerial application depends largely on yearly BLM weed budget/ funds. Due to an increase in funds from the Grazing Districts and other BLM sources (i.e. range improvement funds) we have been able to continue this useful management tool. This past year we moved the aerial spray boundary inward in 2 locations; the northeast corner of the perimeter along Bitter and Chisholm Creeks and

the northwest corner near Rock Creek (See Weed Perimeter Map). A minimum of 45-50 hours of flight time is required to treat the entire perimeter which is now approximately 65 miles. This will be our new weed perimeter for the following years. Since the perimeter was moved inward and new infestation were treated more acres than the past several years. Aerial application also took place on Bluff Creek, Buggy Creek, Canyon Creek and Hardscrabble and Antelope Creeks in South Valley County. Aerial inventory of Buggy and Canyon Creeks was also completed and a few plants were found and treated by via the ground crew. A total of 50 hours were spent in the air monitoring and treating 400 acres (See 2008 Leafy Spurge Treatment Map) in 2008.

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 (new perimeter boundary)	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	120	420
2008	400 (new perimeter boundary)	50 hours	150	550

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

Last year the BLM (Montana State Office) provided the Valley County Weed District with a Utility Terrain Vehicle (UTV) equipped with a 30 gallon spray tank and accessories. The UTV is being used by the VCWD ground spraying crew on the Rock Creek Leafy Spurge project.

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.

A 2003 release site located southeast of Hose Reservoir has developed into a collection site. For the last 3 years we have been able to efficiently collect beetles and redistributed the bugs to local area and to Valley County residents. See pages 8 – 16 for before and after pictures showing the positive result of using biological control in the Rock Creek Project area.



BLM employees collecting flea beetles for re-distribution in Valley County.

FUNDING

Since 2003 the BLM weed budget has taken a sharp decline forcing VCWD to seek other funding sources. The Cooperative State Grazing Districts in Valley County increased their project funding from \$9,100 in 2006 to \$14,500 in 2007 and 2008. 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 past year (2008) the BLM-Glasgow Field Station decided to use a portion of its rangeland improvement funds (RI funds) to help support the weed program. Approximately \$59,000 of the RI fund was used to support the weed programs. This money was used on the following: aerial application (\$45,000), seasonal employee to inventory county and 2-track roads for weeds - especially knapweed in South Valley (\$4,000) and the purchase of chemical (\$10,000).

Early projections indicate FY2009 BLM funding will be around \$18,500. Due to the NRCS grant and increased funding from the Grazing Districts and the likely use of 2009 RI funds we foresee the program being able to continue with the aerial and ground programs in 2009.

We have gained a lot ground since we started with the aerial and ground application; however, if we cannot continue our yearly aerial treatments we will be back to the original boundary and lose what we have gained in the last decade.

The following table shows the budget since 1999:

YEAR	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
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)	\$77,000 (including the \$59,000 from the GFS RI fund)
Grazing District	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$9,100	\$14,500	\$14,500

YEAR	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MT State Trust 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-year period, 2007-2010)	\$16,600
TOTAL	\$70,000	\$79,000	\$79,000	\$75,000	\$64,000	\$43,000	\$31,000	\$26,100	\$67,100 (does not include \$5K state grant)	\$108,100

The Glasgow Field Station accomplished 75,000 units in program element, MK, evaluate weed treatments, 40,000 acres in inventory for presence of noxious weeds (via aerial treatment) and 53,000 units in program element, JD, biological control releases (50K) and chemical application (300 air and ground) .

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. 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. As mentioned above the county hired a seasonal (weed scout) to drive the main county and 2-track roads looking especially for knapweed infestations. The weed scout drove approximately 2900 miles covering the majority of the roads in south Valley over a 2-month period. No new knapweed plants were found, however the scout did GPS many infestations of field bindweed and Canadian thistle. The following table shows the number of acres treated each year:

YEAR	ACRES TREATED (Ground)
2001	60 acres
2002	60 acres
2003	45 acres
2004	45 acres
2005	45 acres
2006	45 acres
2007	50 acres
2008	50 acres

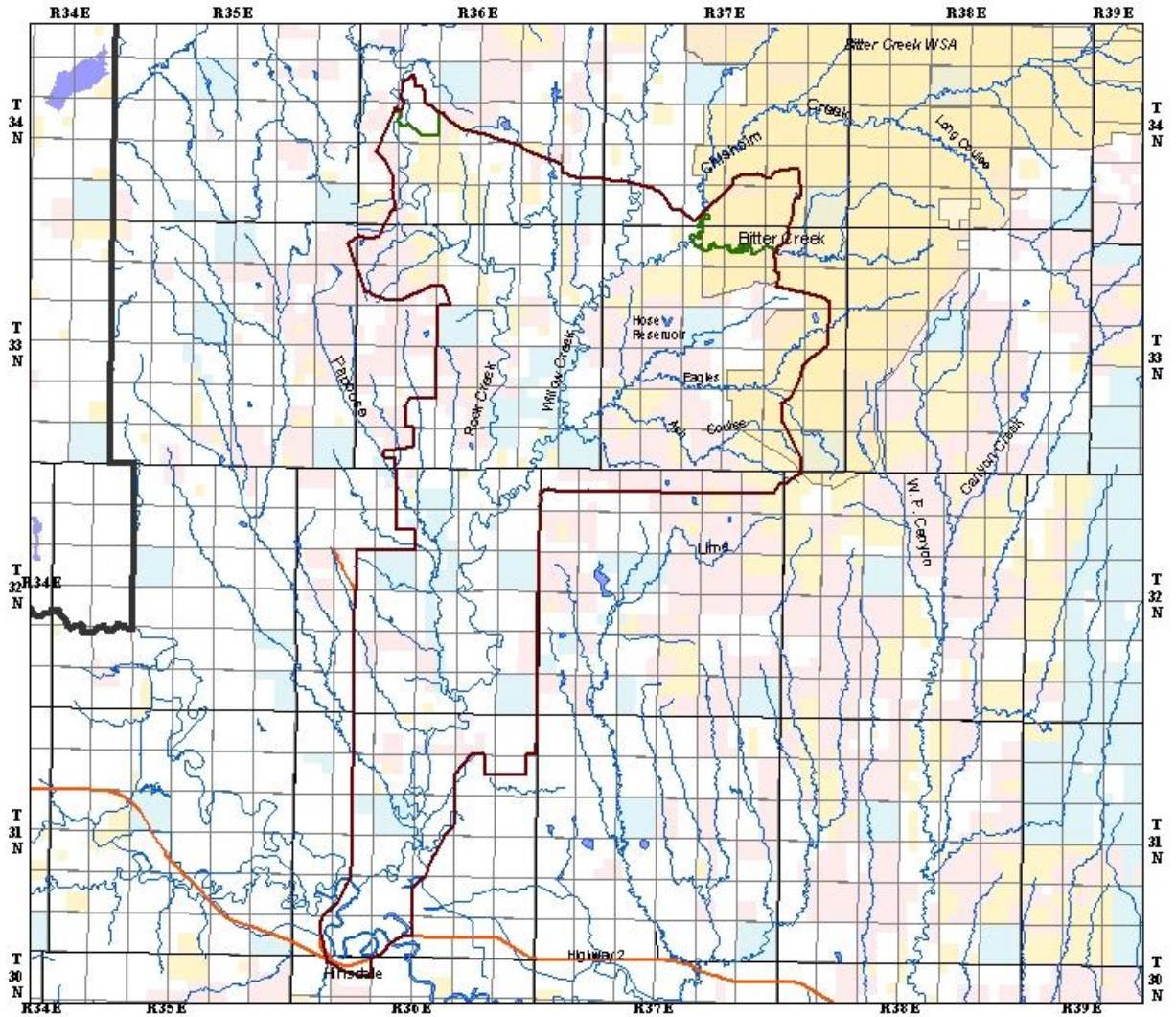
MILK RIVER WATERSHED ALLIANCE

The Milk River Watershed Alliance consists of team members from federal and State agencies and includes following counties; Hill, Blaine, Valley and Phillips. The BLM offices in Glasgow, Malta and Havre contributed funds from their 2008 budget to help support the MRWA project of inventorying the Milk River for salt cedar. Salt cedar trees have been reported and found along the Milk River on the Indian Reservation and private lands in Hill, Blaine and Phillips counties. The MRWA used the funds provided by BLM and the other contributing groups to conduct the inventory. The group contracted a helicopter to fly the Milk River in Blaine, Phillips and Valley in early July and found no salt cedar.

CONCLUSION

In conclusion, we are achieving our objectives in controlling leafy spurge and knapweed. 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.

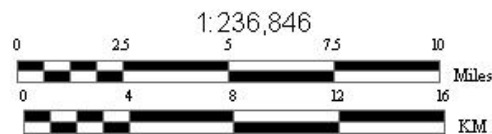
State of Montana



Weed Perimeter Map
Biological control agents are used inside of the weed perimeter.

Legend

- Weed Perimeter 2002 - 2007
- Current Weed Perimeter 2008 -
- highways
- creeks
- Bankhead-Jones Land Use Lands (BLM)
- Bureau of Land Management (BLM)
- Private Lands
- State Lands
- Water



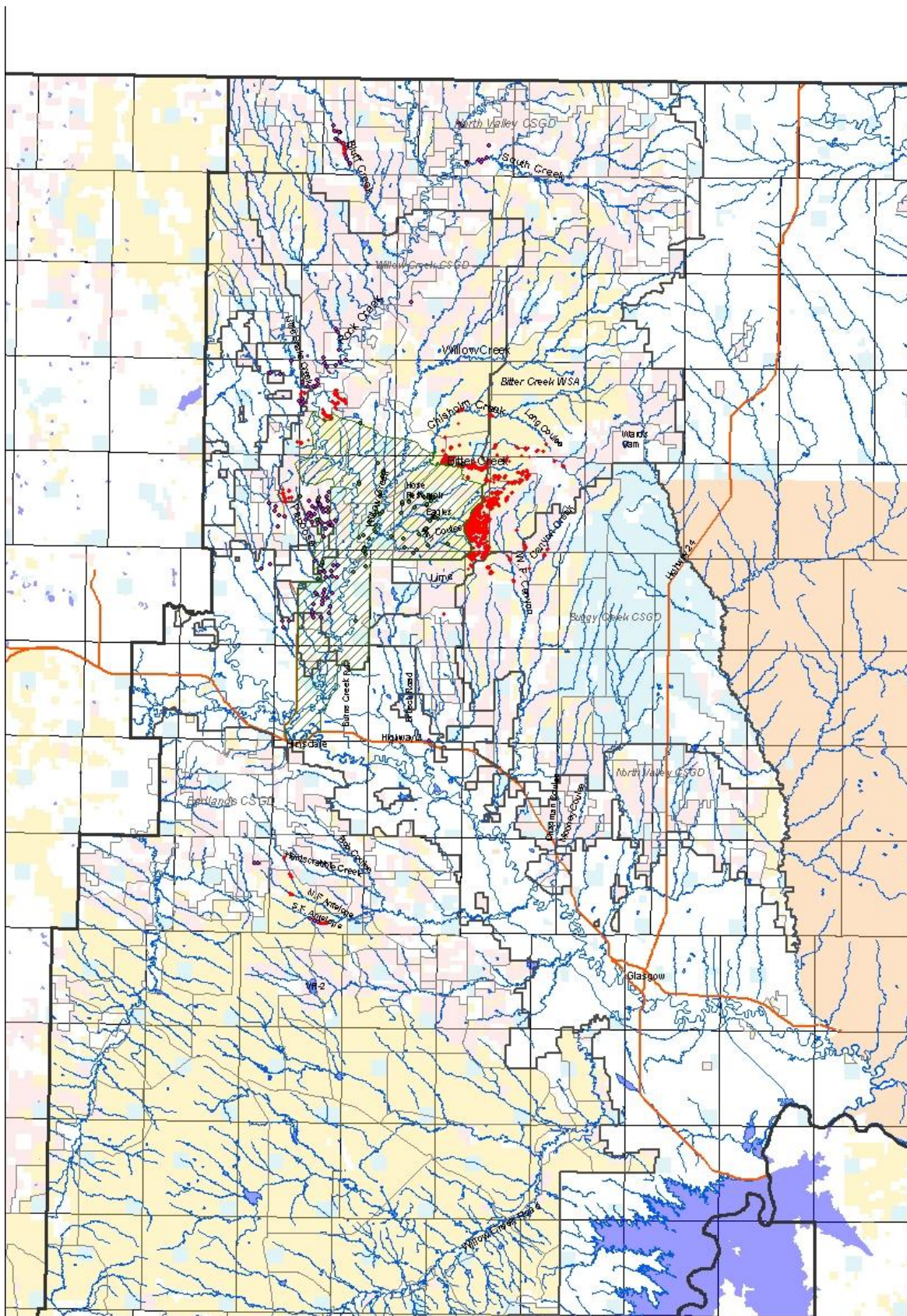
CAUTION:
Land ownership data is derived from less accurate data than the 1:24,000 scale base map. Therefore, land ownership may not be shown for parcels smaller than 40 acres, and land ownership lines may have plotting errors due to source data.

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



United States Department of the Interior
Bureau of Land Management
Montana/Dakotas State Office

Map created on Aug 25, 2008



2008 Leafy Spurge Treatments

400 acres treated by air/50 hours
 120 acres treated by ground



Legend

- Ground Treatment_2008
- Biological control releases
- ▨ Weed Box boundary
- Aerial Application_2008
- ▭ grazing districts
- highways
- creeks
- Bankhead-Jones Land Use Lands (BLU)
- Break of Land Management (BLM)
- County and City Lands
- Indian Lands or Reservations
- In the middle of water
- Private Lands
- State Lands
- Water
- ▭ allotment boundaries

Leafy Spurge Biological Control Photographs



Allotment #4770 - Jones Coulee T32N R36E Sec 9
A. *Lacterosa* beetles released July, 2002 in the top photo and the after photo was taken July, 2008.



Allotment #4770 – Jones Coulee – T32N R36E Sec. 9
A.Lacertosa beetles released July, 2002 in top photo and the after photo was taken July, 2008.



Allotment #4726 –T33N R36E Sec. 29
A.Lacertosa beetles released July, 2001 in top photo and the after photo was taken July, 2008.



Allotment #4770 – Jones Coulee – T32N R36E Sec. 9
A. *Lacertosa* beetles released July, 2002 in top photo and the after photo was taken July, 2008.



Allotment # 4722 - Burnett Coulee – T33N R36E Sec. 36
A. *Lacertosa* beetles released July, 2002 in top photo and the after photo was taken July, 2008.



Allotment # 4722 - Burnett Coulee – T34N R36E Sec. 36
A.Lacertosa beetles released July, 2002 in top photo and the after photo was taken July, 2008.



Allotment # 4726 - Spring Coulee - T33N R37E Sec. 31
A. Lacertosa released June, 2000.



July, 2008



Allotment # 4726 - Spring Coulee -T33N R37E Sec. 31
A.Lacertosa released June, 2000.



July, 2008



Allotment # 4724 – Willow Creek
A. Lacetosa released in 1999 in top photo and the after photo was taken July, 2008.