

**2010 Progress Report-Noxious Weed Control  
Valley County, Montana  
Bureau of Land Management-Glasgow Field Office**

Noxious weeds are an important management concern for the Bureau of Land Management (BLM), Glasgow Field Office. Noxious weeds that cause the most concern in Valley County include; Leafy Spurge (*Euphorbia esula L.*) and Spotted Knapweed (*Centaurea stoebe L.*). These weeds create problems for land managers because they can significantly reduce the yield and quality of forages, which decreases rangeland health and wildlife/livestock habitat.

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

Controlling the spread of noxious weeds is a cooperative effort that includes the BLM, Valley County Weed District (VCWD), 4 Cooperative State Grazing Districts in Valley County, State and private landowners. The BLM and VCWD have maintained 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. Noxious weeds in Valley County are controlled in numerous ways: chemical (aerial and on ground application), biological, and sheep grazing on private land. With the use of diverse group of land managers and science-based techniques our goal is to reduce the spread of noxious weeds on infested areas and prevent introduction of noxious weeds on non-infested areas.

**Rock Creek Leafy Spurge Project:**

Leafy Spurge is the primary weed species problem on public lands in Valley County. Rock Creek north of Hinsdale is heavily infested with an estimated 150,000 acres involving BLM, State and private

lands. Within this 150,000 acre area, Spurge infests the creeks, drainages, coulees and is scattered in patches throughout the area (See Appendix A).

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 ATVs, UTVs 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 (aka bio-control) is used. Beginning in 1987 the *Apthona nigriscutis* (aka Brown Beetles) specie was released. At that time it was the only available flea beetle specie. Since the early 1990s additional flea beetle specie, *Apthona lacertosa* (aka 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 ten 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 increasing fuel prices. Aerial application depends largely on yearly BLM weed-budget funding. 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. In 2010 the aerial

spray boundary was the same as in 2009 (See Appendix A). A minimum of 45-50 hours of flight time is required to treat the entire perimeter which is now approximately 65 miles. Aerial application also took place on Bluff Creek, Buggy Creek, Canyon Creek, Hardscrabble and (in South Valley County) Antelope Creek. A total of 43.4 hours was spent in the air monitoring and treating 400 acres.

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 are treated via ground (See Appendix B).

Biological Control:

Biological control is not a cure-all or overnight solution and it will not 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 (See Appendix D).

In 2010 Eagles Nest Coulee was used as a bug collection site and we were able to collect over a half a million *A. lacertosa* beetles. We distributed these beetles to 19 major Leafy Spurge invested areas totaling 92 acres. Some of the major drainages include; Willow Creek, Ash Coulee, Horse Coulee, Eagle Creek, Hinsdale Livestock, Papoose Creek, and the Milk River.

**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 and other non-federal contributed approximately \$27,959 in 2010. BLM Glasgow Field Office decided to use a portion of its FY10 Rangeland Improvement funds (RI) to help support the weed program. Approximately \$25,000 of the RI

fund was used to support the weed programs and \$10,000 came out of the range account (L10200000). This money was used on the following: aerial application \$40,500 and the purchase of supplies chemicals \$12,317 (See Appendix C).

Early projections indicate FY2011 BLM RI funding will be around \$35,000. Due to the funding from the Grazing Districts and the likely use of 2011 RI funds we foresee the program being able to continue with the aerial and ground programs into 2011.

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

**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 \$2,500 to this project for the past eight consecutive years.

**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 focus and purpose of this project is to inventory and control all Montana listed Category 1, 2, 3 and 4 noxious weeds for a width of 200 feet on either side of the Milk River. In all, the treatment area is 521 miles long and encompasses approximately 25,212 acres, with an estimated 2,522 acres being completed yearly for the next ten years. All Integrated Weed Management (IWM) methods are available for treatment of weeds; including livestock grazing, biological control, mechanical, hand pulling or herbicides.

**Education:**

May 13, 2010 the NRCS/DNRC/BLM/FWP/MSU extension held an outdoor classroom for 5<sup>th</sup> graders around Valley County. During the outdoor classroom kids learned the importance of natural resources. One of the classes held was about noxious weeds and the importance of maintaining native ecosystems.

Public lands require the use of certified weed free hay and straw. Only Certified Noxious Weed Seed Free Forage (NWSFF) can be brought onto federal lands when hunting or recreating. Signs are located across the Hilina District to notify hunters and recreationist who use public lands of the importance of using certified weed free hay, too promote healthy sustainable native rangelands. Animals should be fed certified forage at least 3 days prior to entering these areas. Certified hay and straw helps prevent the introduction and spread of weeds. Hay and straw that are not certified may contain seed or reproductive parts from non-native, invasive, and noxious weeds. This may result in degradation of healthy native ecosystems, by the infestation of weeds.

**2011:**

In 2011 our goal is to reduce the amount of aerial spraying in bitter creek drainages and other areas where a large portion of our woody species are located. In 2009 and 2010 we have noticed an increase in the amount of decadent woody material, due to our efforts to control leafy spurge. Instead of using aerial spraying our proposal is to increase the amount of bio-control and ground spraying in these drainages.

Other concerns for 2011 are loss of our flea beetle collection site in Eagles Nest Coulee. This coulee has been a great collection site for the last two years, however, with dramatic decrease in leafy spurge our bugs will also be absent (See Appendix D). To ensure that our weeds program is successful it

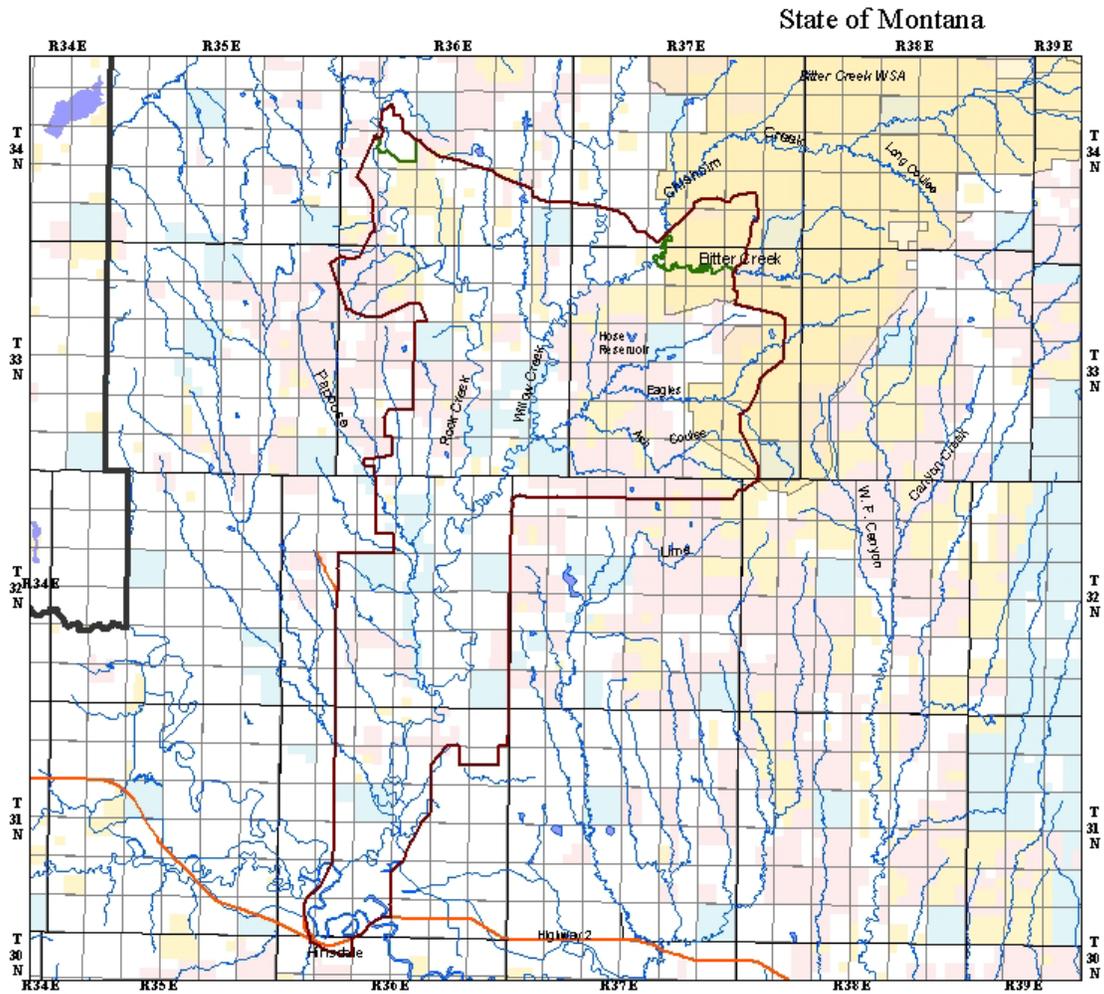
is very important that we do not lose our efforts with bio-control. In 2011 traveling to Lewistown, Montana; Wards County, North Dakota; or other areas may be necessary to obtain flea beetles.

**Conclusion:**

In conclusion, we are achieving our objectives in controlling Leafy Spurge and Spotted 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 know weeds do not honor fence lines or land ownership, therefore; we are in this battle together no matter who owns, manages and/or uses the land.

Appendix A  
(2010 Weed Perimeter)

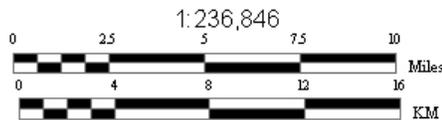
Map 1:



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

**Legend**

- Weed Perimeter 2002 - 2007
- Current Weed Perimeter 2008 -
- highways
- creeks
- Barkhead-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.



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Montana/Dakotas State Office  
Map created on Aug 25, 2008

**Appendix B**  
**(Chemical-Aerial and Ground Weed Spray 2010)**

Table 1: shows the number of acres treated on the spray perimeter and on the areas outside of the containment zone.

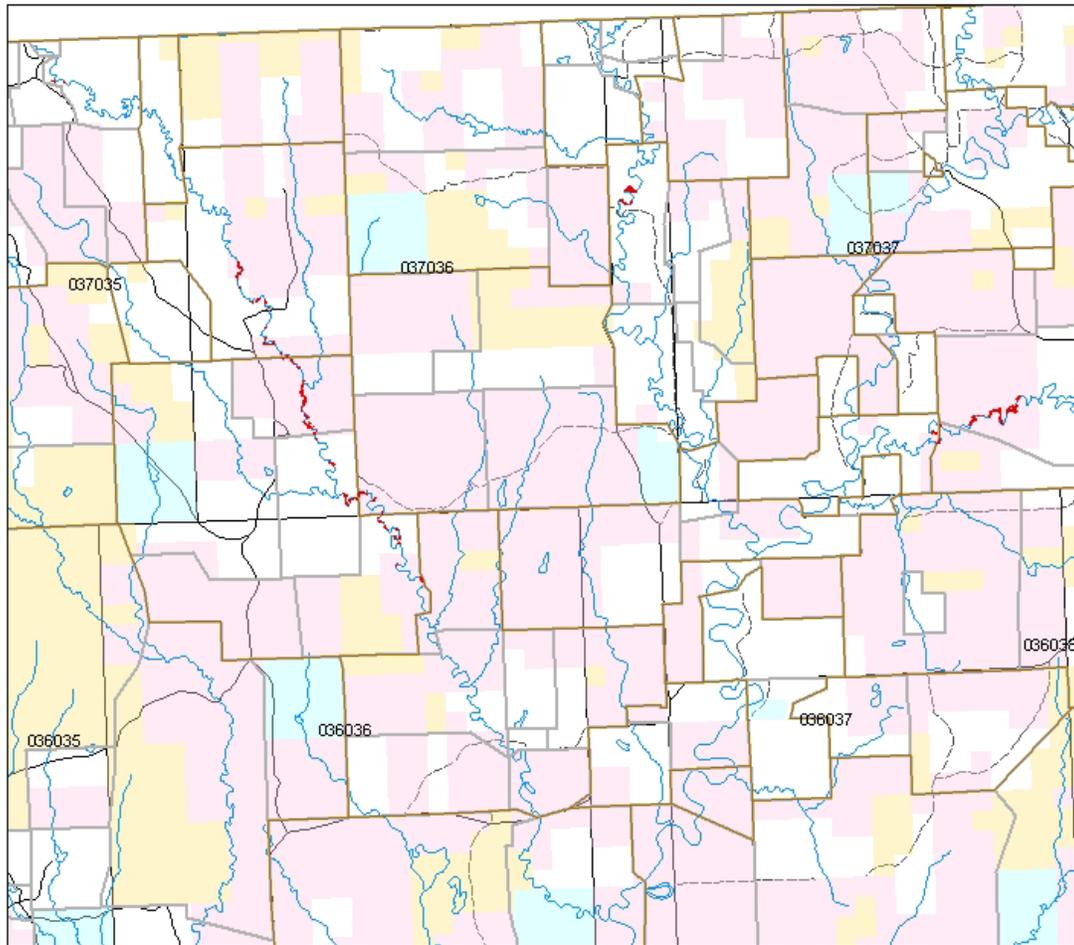
<b>YEAR</b>	<b>AERIAL ACRES TREATED (BLM &amp; PRIVATE)</b>	<b>TIME SPENT INVENTORYING, MONITORING AND/OR TREATING</b>	<b>GROUND ACRES</b>	<b>TOTAL ACRES</b>
2003	360	35 hours	55.5	415.5
2004	240	35 hours	110	350
2005	310 (1/2 perimeter treated)	30 hours	90	400
2006	280 (1/2 perimeter treated)	30 hours	80	360
2007	300 (entire perimeter)	40 hours	120	420
2008	400 (new perimeter boundary)	50 hours	150	550
2009	400	50 hours	90	490
2010	400	43.4 hours	130	530

Table 2: shows spotted knapweed, treated acres.

<b>YEAR</b>	<b>ACRES TREATED (Ground)</b>
2003	45 acres
2004	45 acres
2005	45 acres
2006	45 acres
2007	50 acres
2008	50 acres
2009	6 acres
2010	6 acres

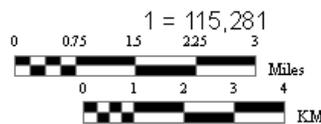
Map 2: aerial spraying of Bluff Creek, McEachern Creek, and South Creek

State of Montana



Legend

- |                                     |                              |                                |  |
|-------------------------------------|------------------------------|--------------------------------|--|
| BLM Wilderness Area                 | IR Wilderness Area           | National Forest Lands (USFS)   | USFW Service Wilderness Area                       |
| Bankhead-Jones Land Use Lands (BLM) | Indian Lands or Reservations | National Grasslands (USFS)     | USFW Service, National Wildlife Refuges            |
| Bureau of Reclamation (BOR)         | Intermittent Water           | National Park Service (NPS)    | Military Reservations/Corps of Engineers           |
| Bureau of Land Management (BLM)     | Lands in Litigation          | State Lands                    | Wildlife Protective Area (WPA County Administered) |
| County and City Lands               | Other Federal Lands          | Private Lands                  | Water  |
| Forest Service Wilderness Area      | NPS Wilderness Area          | State Fish, Wildlife and Parks |  |



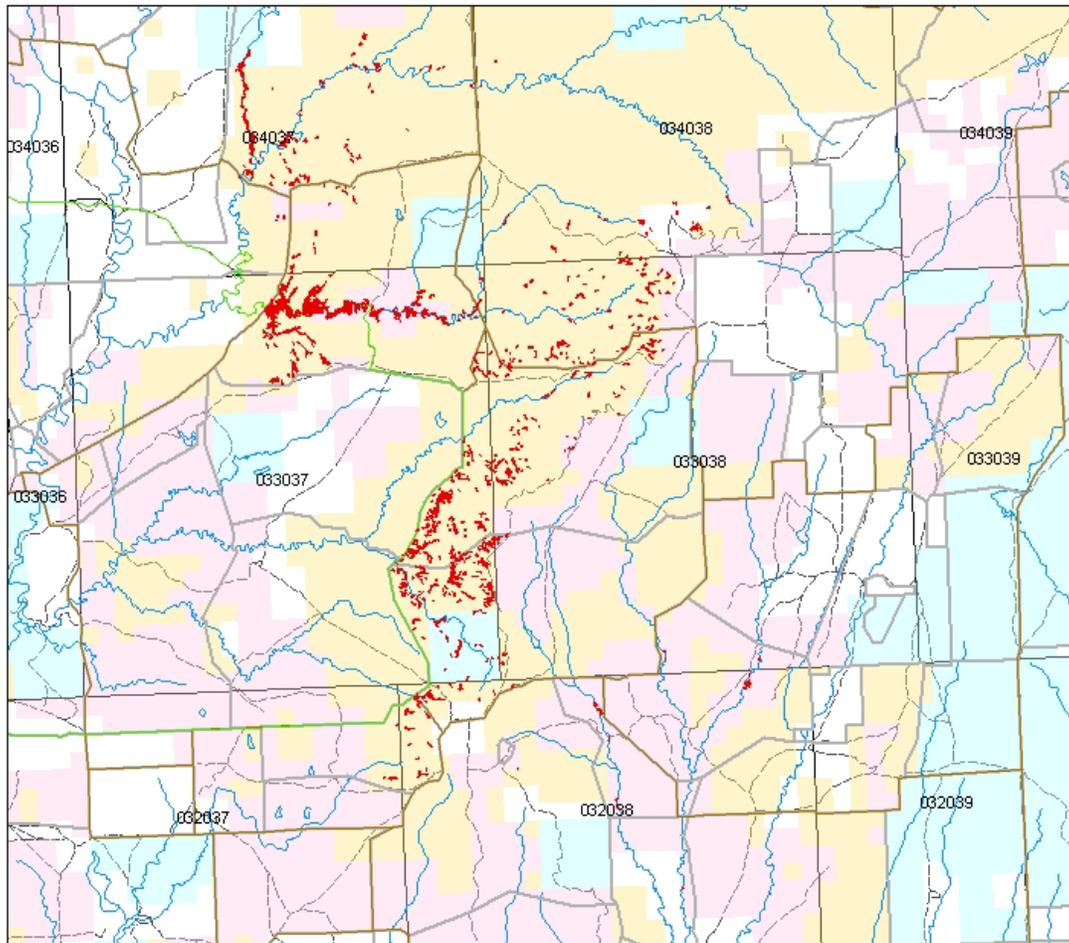
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Map created on Aug 12, 2010



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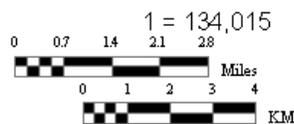
Map 3: aerial spray of Bitter Creek

State of Montana



Legend

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|-------------------------------------|------------------------------|--------------------------------|--|
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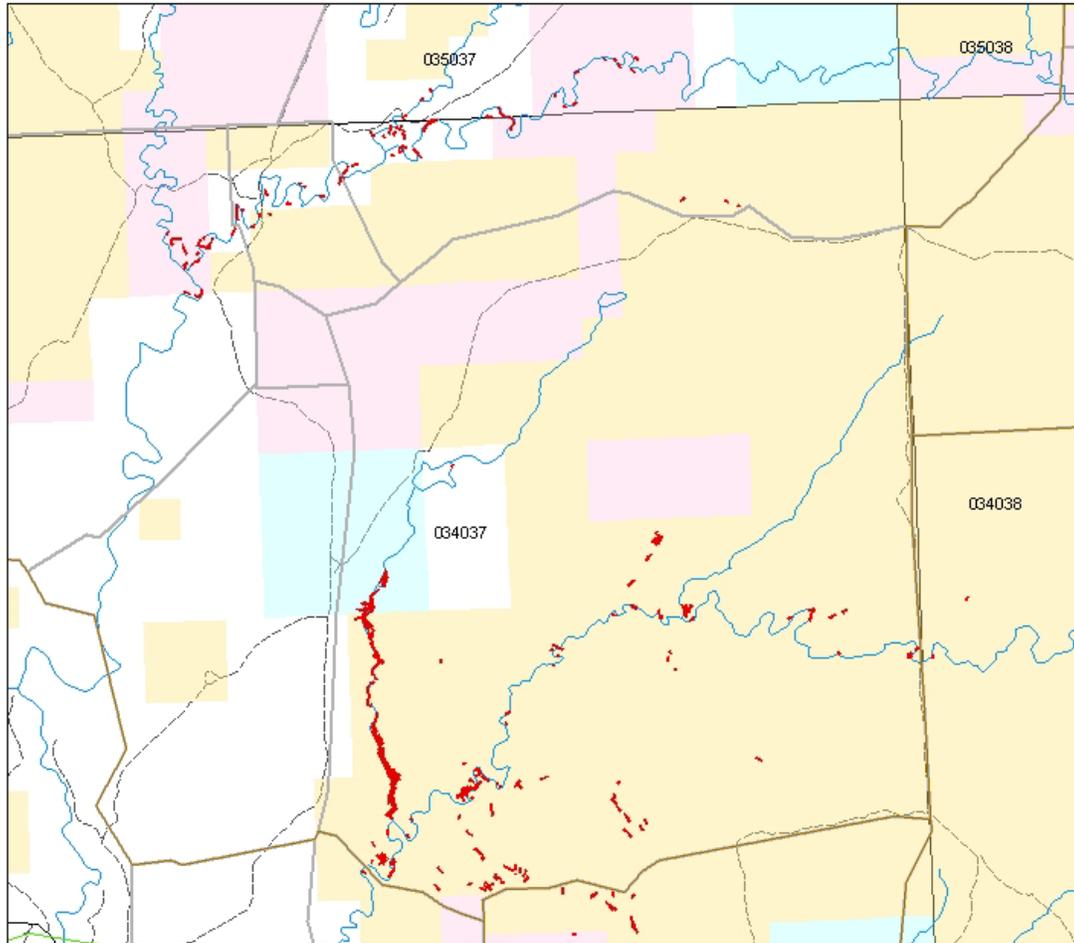
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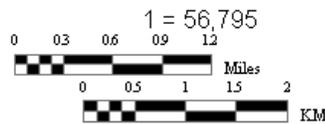
Map 4: aerial spray of Bitter Creek

State of Montana



Legend

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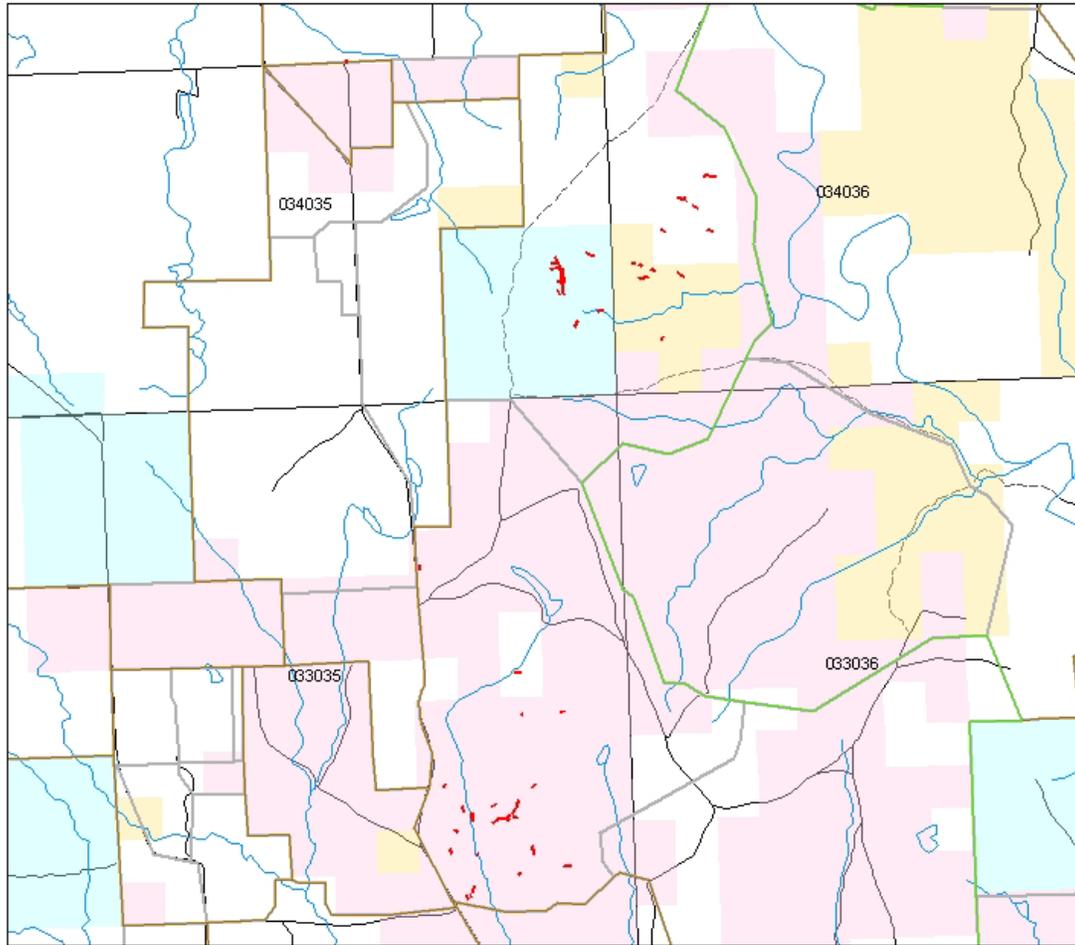
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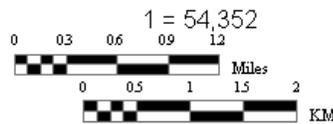
Map 5: aerial spray of Rock Creek

State of Montana



Legend

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|-------------------------------------|------------------------------|--------------------------------|--|
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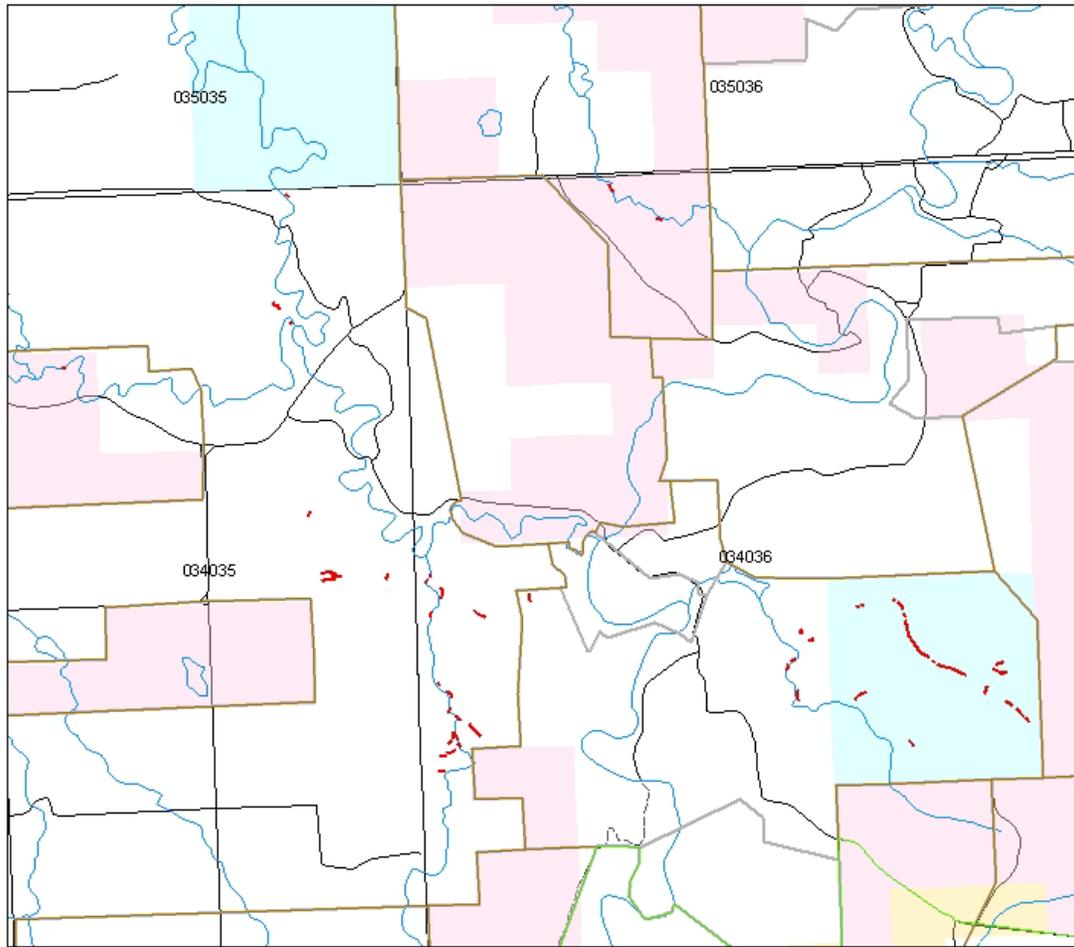
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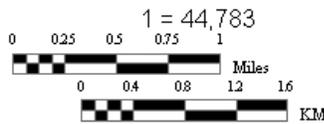
Map 6: aerial spray of Rock Creek

State of Montana



Legend

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|-------------------------------------|------------------------------|--------------------------------|--|
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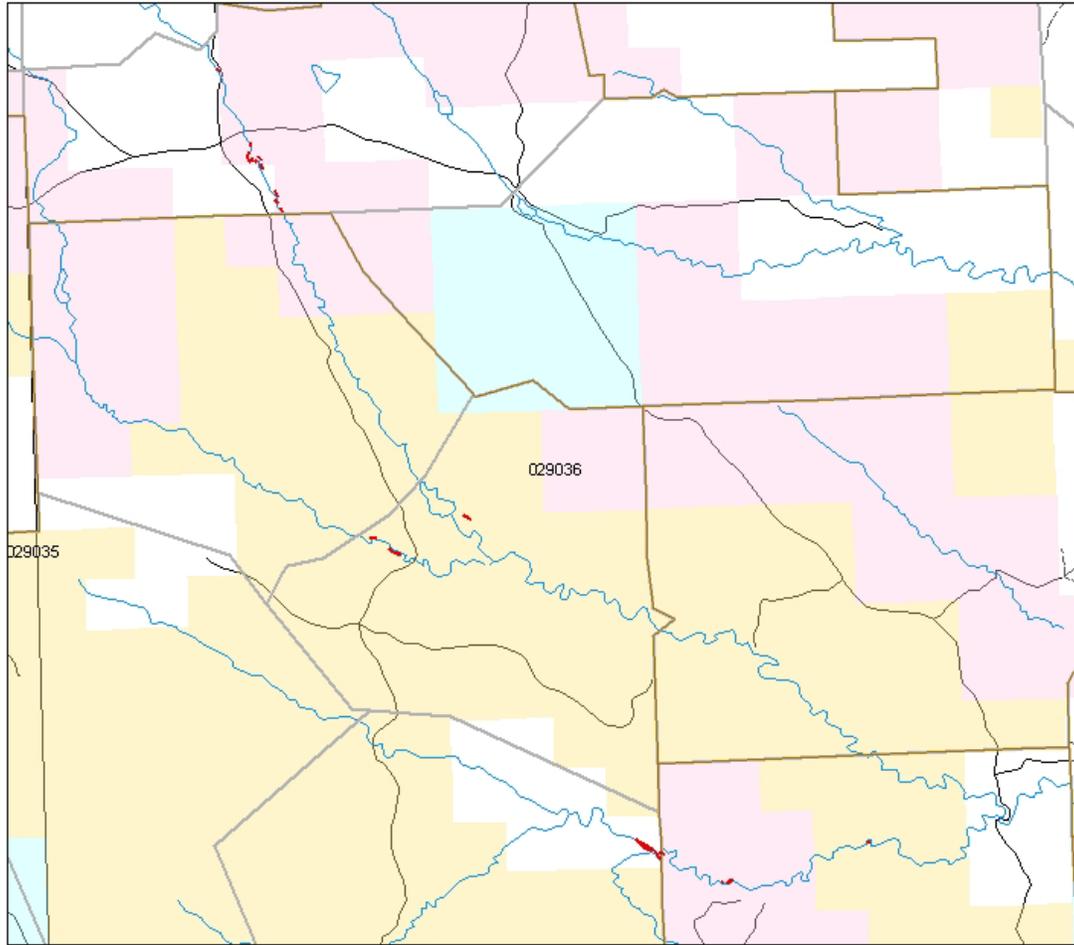


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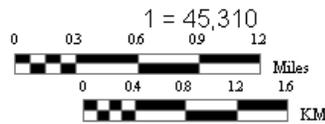
Map 7: aerial spray of Antelope Creek in South of Hinsdale.

State of Montana



**Legend**

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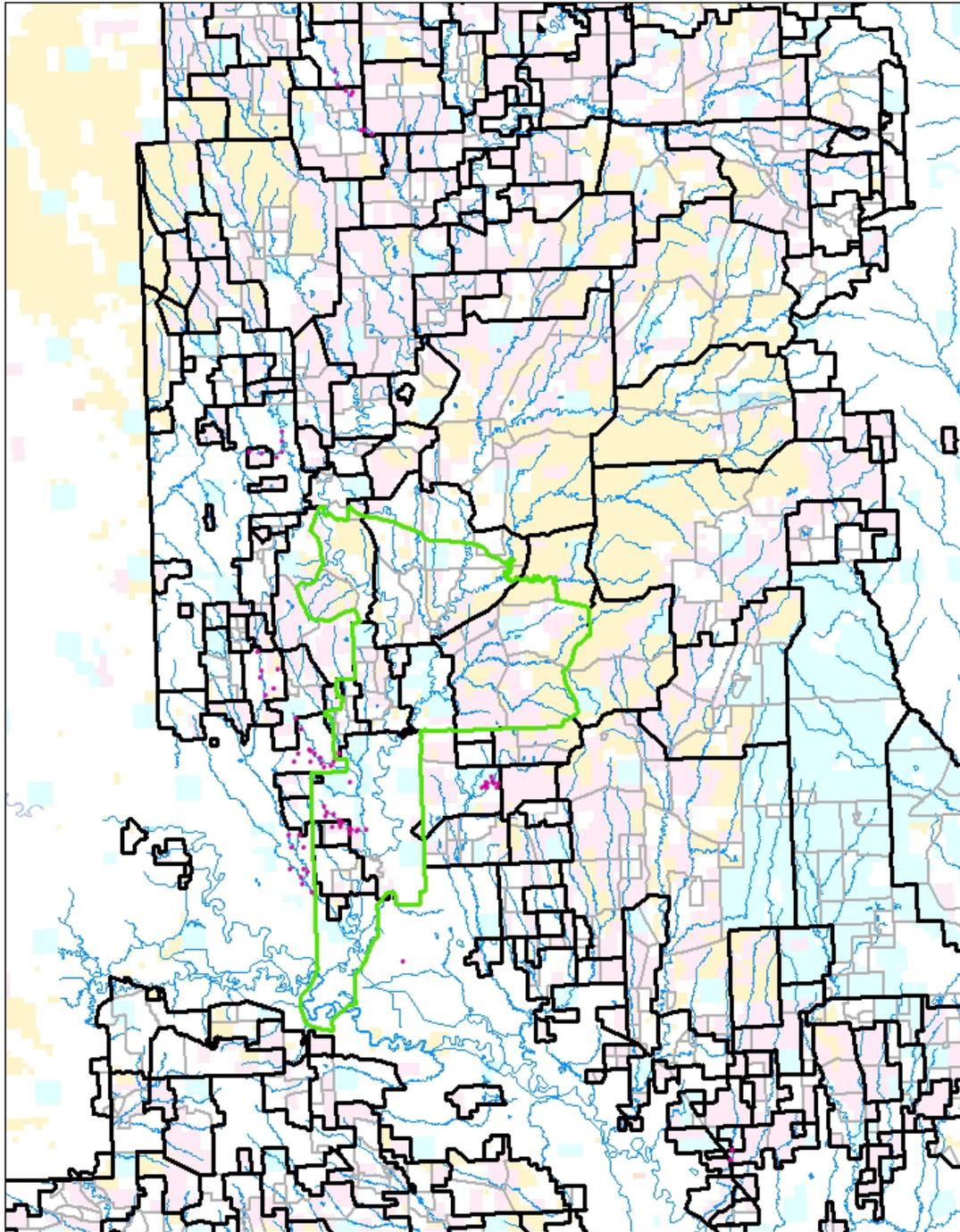


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Map 8: ground spray of Valley County.

State of Montana



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## Appendix C (Funding)

Table 3:

YEAR	2002	2003	2004	2005	2006	2007	2008	2009	2010
BLM	\$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)	\$35,000	\$35,000
Grazing District/Non Federal	\$6,000	\$6,000	\$6,000	\$6,000	\$9,100	\$14,500	\$14,500	\$14,500	\$27,959
MT State Trust Grant	\$3,000	-----	-----	\$8,000 (for South Valley Inventory)	-----	\$5,000 <i>(Money to be used for salt cedar awareness billboards)</i>	-----	-----	-----
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	\$16,600	-----
<b>TOTAL</b>	\$75,000	\$64,000	\$43,000	\$31,000	\$26,100	\$67,100 <i>(does not include \$5K state grant)</i>	\$108,100	\$66,100	\$62,959

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) .

Appendix D  
(Results 2010)  
Eagles Nest-Bug Collection Site 2009-2010



2010



2008

Eagles Nest-Bug Collection Site 2009-2010



2010



2008

Eagles Nest-Bug Collection Site 2009-2010



2010



2008

Eagles Nest-Bug Collection Site 2009-2010



2010



2008