

## **Progress Report: Noxious Weed Control Valley County, Montana**

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 weed projects; Rock Creek Leafy Spurge, Cherry Creek Knapweed and Salt Cedar Management Team.

### **Rock Creek Leafy Spurge Project**

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 problem weed. 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 most drainage bottoms and is scattered in patches throughout.

In 1984 an aerial and ground spray program was started to contain the spread by treating the perimeter of the 150,000 acre area. Flying is an excellent method used to monitor and spot any new infestations. Beginning in 1987, leafy spurge flea beetles have been released each year within the core area. Though the first 15 years of the project, funding was very limited and control was largely ineffective.

Due to increased funding since 1999, availability of the *Apthona lacertosa* specie of flea beetles, and the benefits of GPS technology, we are now seeing positive results with the use of chemical application (Tordon/2-4D tank mix) and biological control. 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.

*Chemical Control:* In 2002, we were able to move our aerial chemical perimeter inward due to the excellent control over the past three consecutive years (see Map.1, Spray Perimeters). The weed district continues to monitor the old spray perimeter and spot spray the necessary areas. Our goal is to resume spraying the perimeter and continue reducing the size of the perimeter. The table below shows the number of acres treated on the spray perimeter and on the outside of the containment zone.

<b>YEAR</b>	<b>AERIAL ACRES TREATED (BLM &amp; PRIVATE)</b>	<b>GROUND ACRES</b>	<b>TOTAL ACRES</b>
2002	370	105	475
2003	360	55.5	415.5
2004	240	110	350

In 2003, a sizeable infestation of leafy spurge was found on South Creek. South Creek is located 7 miles south of the Canadian border, which is the farthest north we have had found spurge (see Map. 2, 2004 Aerial Application). We are aggressive treating the area and believe eradication is a foreseeable goal. Unfortunately the helicopter was unable to treat this area this year and the county is spending many hours on the ground treating South Creek. Lime Creek, Cashe Creek, Bluff Creek, Cow Coulee and Norweign Coulee are areas that the ground crew continues to treat yearly.

*Biological Control:* Our goal with the flea beetles has been to release many "super-sites" and to establish productive insectaries, so we could be self-sufficient. However, this has not yielded much success since we do not have large, continuous sections of solid spurge. On one hand we are happy and proud of past management not to have these large infestations, but this makes it hard to establish a productive insectary. We have tried releasing thousands of insects in a grid format on many sites. We monitor the site for an optimal collection time, however when we go back to the site, the insects are either not numerous or the spurge has already been eradicated.

Cooperation between Natural Resource and Conversation Department (DNRC), Valley County Weed District, private landowners and BLM has made it possible to distribute several million insects. We feel that we are just starting to see the benefits of all the release sites that we have established. In 2004, with the assistance of the DNRC, Valley County Weed District, and BLM seasonal employees we collected over 700,000 beetles. The beetles were brought back to Valley County and released on State, Federal and private lands. We continue to see the greatest success with the *A. lacertosa* beetles. Biological agents are well established on many sites throughout the county (see photographs on pages 8-9).

This year we concentrated our biological releases efforts in the North Willow Watershed, which is located in the north half of our spray perimeter. A majority of this watershed contains valuable riparian or sensitive sites and chemical application would not be logical as these sites would lose their value by eliminating shrubs and trees established, therefore we rely on biological control agents. Many releases took place on the following drainages located in the North Willow Watershed: Eagles Nest, Burnett Creek, Ash Coulee, Willow Creek, Bitter Creek, Horse Coulee and Bitter Creek.

**FUNDING**

We have been fortunate to have adequate funding through State and Federal Grants, Valley County Grazing Districts and the BLM over the past 6 years, this contributes to the success we have had in our cooperative agreement with Valley County Weed District. The following table shows the budget since 1999.

	1999	2000	2001	2002	2003	2004
BLM	\$41,000	\$45,000	\$45,000	\$45,700 (include July add-on of \$10,000)	\$48,000 (includes \$28,000 received from EOY02 funds)	\$27,000
Grazing District	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000
State Grant	\$23,000	\$28,000	\$28,000	\$3,000	-----	-----
NFWF Grant (National Fish and Wildlife Foun- dation)	-----	-----	-----	\$21,000	\$10,000	\$10,000 (this will be used in 2004-2005)
<b>TOTAL</b>	<b>\$70,000</b>	<b>\$79,000</b>	<b>\$79,000</b>	<b>\$75,000</b>	<b>\$64,000</b>	<b>\$43,000</b>

Looking ahead to 2005, our funding level is uncertain. We have very little carry-over in operation funds from 2004. However, due to 2004 EOY (end-of-year) funds provided by the BLM-Montana

State Office we purchased \$15,000 worth of herbicide which will insure two years of herbicide. For fiscal year 2005 we have requested \$30,000 through the Bureau's Budget Planning System (BPS) for operating funds to continue the aerial application in the Rock Creek Leafy Spurge Project. Another \$20,000 has been requested to fly the remote breaks along Fort Peck Lake to look for new patches of salt cedar, knapweed and leafy spurge.

**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 4 consecutive years. The county is using chemical and biological agents to control this weed and feel they are getting good control. 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

**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 Refugee), and is starting to invade surrounding BLM land.

This past year we used 5 hours of flight time and flew south of the Willow Creek Road to the CMR boundary in search of any salt cedar trees. We started at the Pines Road and worked in a westerly direction. Only two salt cedar trees were found near Lori Detention Reservoir (see Map.3, Aerial Salt Cedar). Unfortunately, we did not have enough hours to cover as much as ground as we had hoped.

In May, a multi-agency management team met to form a salt cedar WMA (Weed Management Area). 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), USFW (Patricia Gilbert), DNRC (Hoyt Richards), Corp of Engineers (Steve Henry), and 2 private landowners, one from the north side and south side of the lake.

The team agreed to initiate the following work efforts:

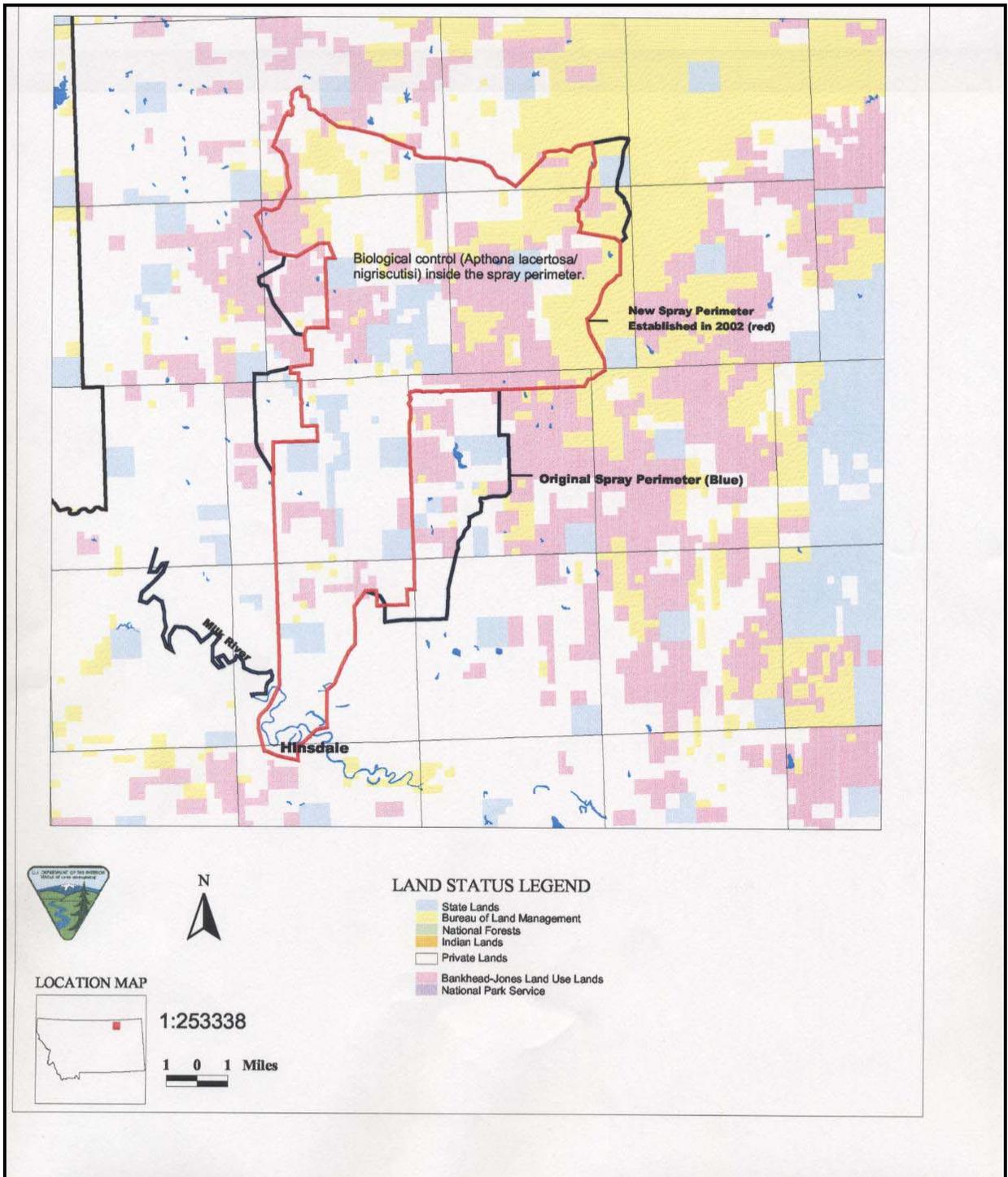
1. Mapping and Inventory: This information would be used to develop a base map. The base maps, once completed could be used to delineate WMA boundaries and save as a base for follow-up management planning. This task will be accomplished by;
  - a) The USFW, BLM, DNRC, and COE will compile information of known salt cedar infestations areas on section maps.
  - b) The 6 county weed boards will also compile information. In addition, interaction with private landowners would benefit the team and WMA.
  - c) This information will be accumulated and a final map salt cedar will be produced using GIS technology. Furthermore, the map will be used to delineate WMA boundaries.

2. Establish WMA by-laws. The laws will be finalized once input is received from all members.
3. Team will work on funding strategies required by WMA.

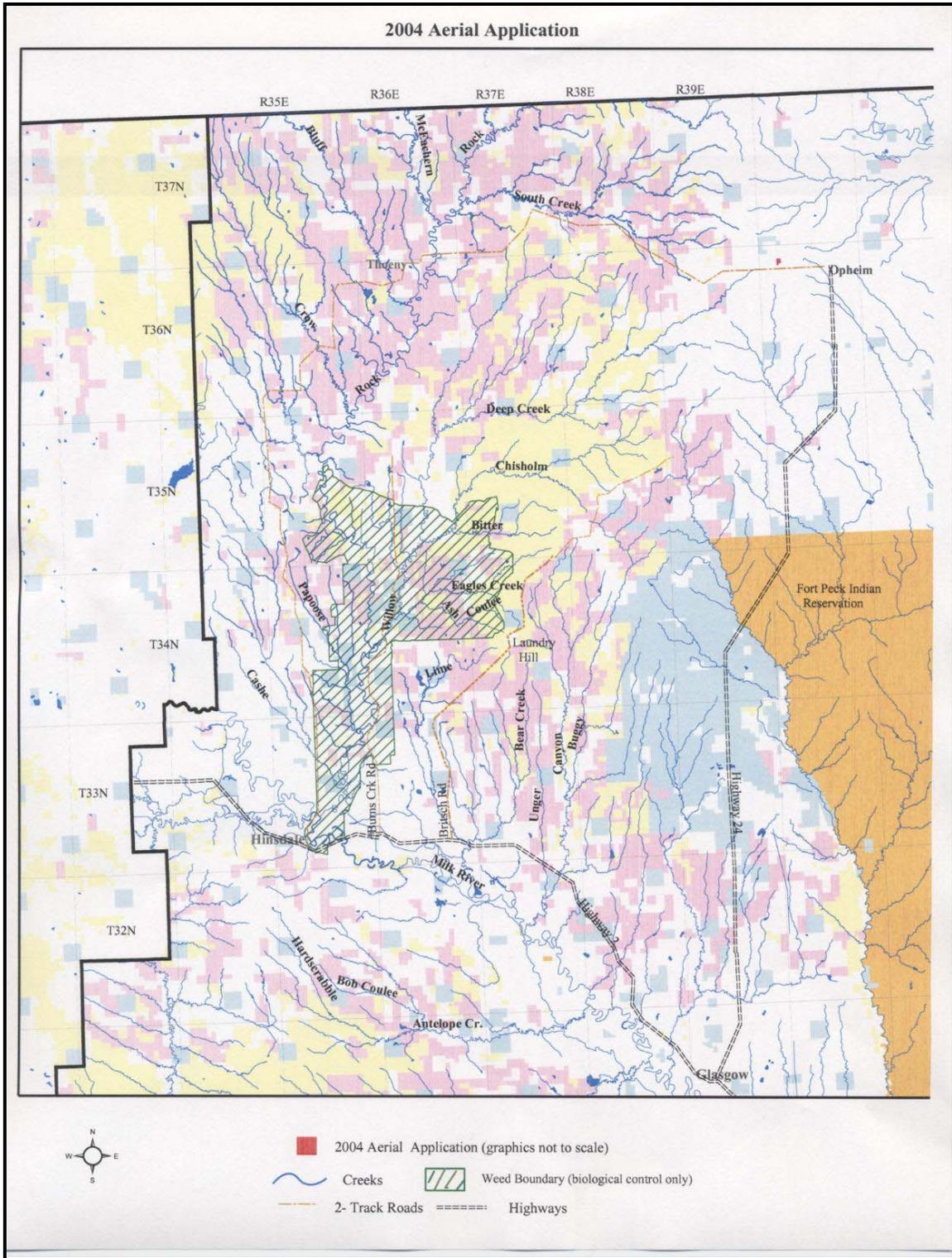
On September 14 the Fort Peck Salt Cedar Management Team met with the Inland Northwest Space Alliance (INSA) to preview and discuss their potential uses of an unmanned aerial aircraft (UAV). The INSA was created in 2003 by the University of Montana and is based in Missoula. INSA is working with researchers from the Naval Research Laboratory and the Space Dynamics Laboratory of Utah State University to bring a UAV test center to Glasgow airport. They are attracted by the uncrowded air space and unrestricted FCC radio frequencies, different from the military's usual authorized testing areas. The potential uses could include weed surveillance and mapping. The Department of Defense has obligated money to conduct a trial run for fiscal year 2005, this trial may involve mapping salt cedar along the Ft. Peck Reservoir. The salt cedar management team is currently writing a proposal to the INSA to map salt cedar from pool level and 10 miles beyond. This would be a huge asset in delineating the WMA boundaries, and prepare a management plan and attack for salt cedar in and around Ft. Peck Lake.

In conclusion, we are achieving our objectives in controlling leafy spurge and knapweed in Valley County. 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 or manages the land.

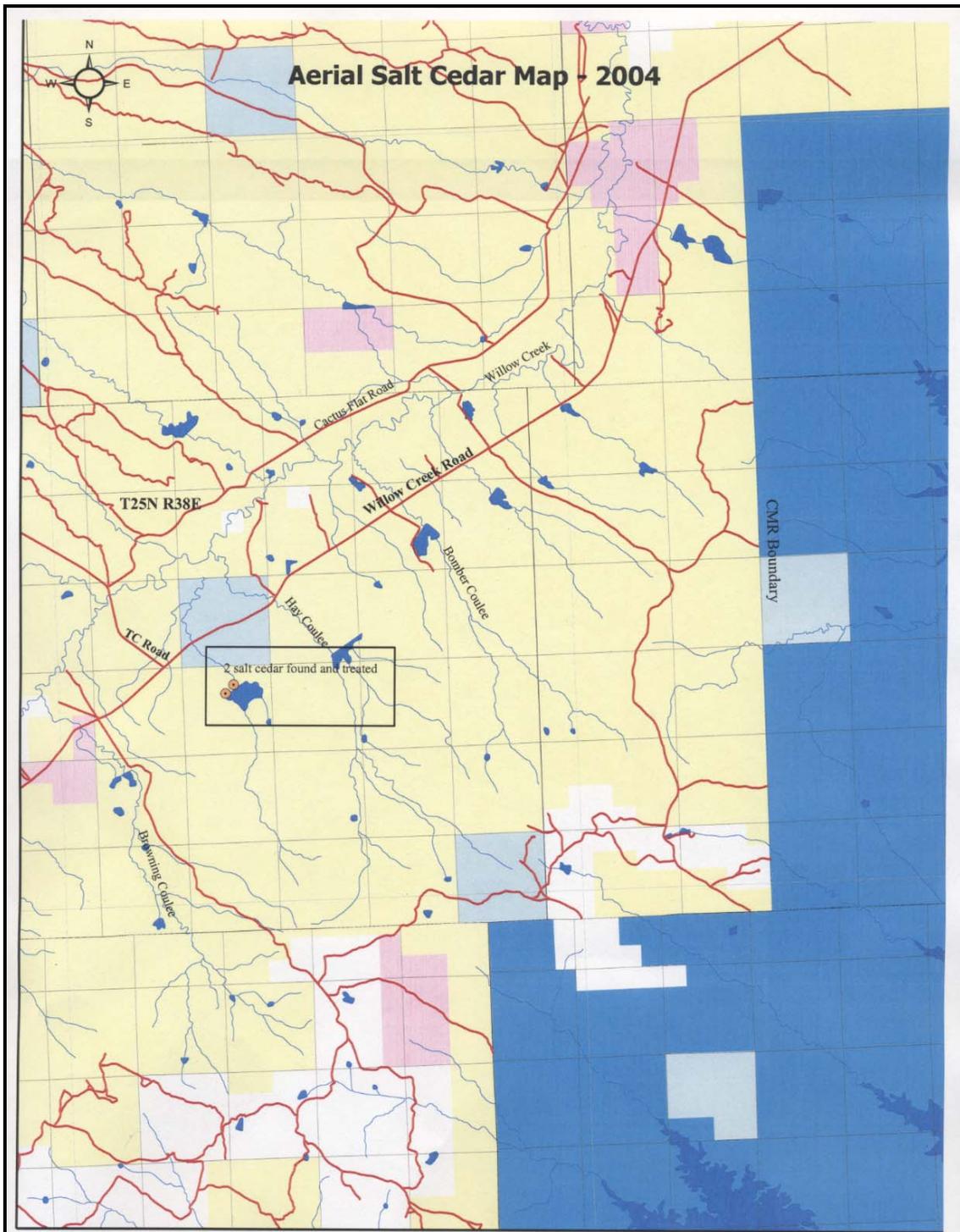
# Spray Perimeters



Map.1: The map shows the original spray perimeter (blue line) and the current perimeter (red line) in the Rock Creek area.



Map. 2 The map shows 2004 aerial application in the Rock Creek Leafy Spurge Project area, north of Hinsdale, MT.



Map. 3 The map shows the 2 salt cedar trees found by Lori Detention Reservoir south of the Willow Creek road.

**LAND STATUS:**

Pink – BLM  
 Yellow – BLM  
 Light Blue – State

White – Private  
 Dark Blue - CMR

The following before and after photographs are taken inside of the spray boundary. These pictures show the success we are seeing with biological control management.



This site is located along the Burns Creek Road, just north of Willow Creek bridge. Beetles were released in 2002 (top photo) and picture below shows the site in 2004



This site is located along the Burns Creek Road, near Short Coulee. Beetles were released in 2002 (top photo) and picture below shows the site in 2004