

# LARAMIE REGION

## HABITAT PROJECTS

### Laramie River Greenbelt Enhancement

Several years ago, \$18,000 (WYDEQ fine money) was donated to WGFD to address aquatic habitat issues in the upper Laramie River. Several habitat concerns have been identified in the Laramie River through Laramie including bank erosion, low summer flows, and lack of deep pools and cover for fish. The Laramie River through town supports a wild brown trout fishery and several native, non-game species including brassy minnow and common shiner. In 2007, the Aquatic Habitat Biologist began working with the Laramie Rivers CD and the Laramie Beautification Committee to develop project ideas for use of these donated funds in the Laramie River.

In 2008, additional funds were raised by the partners for the Laramie River Greenbelt Enhancement project to hire hydrological and engineering consultants for the design phase. The partners for the project include the City of Laramie, Laramie Rivers CD, Laramie Community Foundation – Laramie Beatification Committee, Albany County Commissioners, Groathouse Construction, Laramie Rotary Club, American National Bank, UW, and WGFD. In August 2008, the Laramie Beautification Committee hired Habitech, Inc. and WWC Engineering for the design and permitting process of the project. The current focus area of the project includes approximately 3.5 stream miles and is from the I-80 bridge downstream to the water treatment facility. Additionally, several meetings were attended throughout the fall regarding data collection and design ideas. The final design plan will be finished in winter 2009, and the partners will apply for grant funding for project implementation.

### Lower Laramie River Project

Assessments and planning continued on the Laramie River at a private ranch west of Wheatland. Approximately one mile of the river flows through the property, and the riparian habitat is currently under the CCRP for the next 9 years. The owners are interested in improving instream habitat for fish, in particular trout. Low trout abundance has been recorded in the reach, but several native species inhabit this portion of the Laramie River, including hornyhead chub (SGCN), Johnny darter, and stonecat. In 2008, detailed channel morphology data were collected throughout the reach including cross-sections, pebble counts, and a longitudinal profile. Additionally, two temperature loggers were placed in the reach to record summer water temperatures.



Figure 1. Laramie River within the transition zone near Wheatland.

The reach is within the transition zone as the Laramie River exits the Laramie Mountains and flows onto the plains. The reach had both B and C Rosgen channel types. Overall, the stream was stable and there was no streambank erosion, but it had a high width/depth ratio. There were also three long, wide pool segments (250 to 675 feet in length) with excess fine sediments (Figure 1). The maximum temperature recorded in

- Wick WHMA short duration high intensity livestock grazing treatments conducted on irrigated meadows.
- Grazing management assistance to producers influencing management on more than 93,000 acres.
- 730 acres of Russian Olives managed thru mechanical and herbicide treatments.
- Over 13 miles of stream were inventoried on the Pennock Mountain WHMA and adjacent USFS lands.
- 5 beaver transplanted from the east face of Elk Mt. to South Lake Creek on Pennock WHMA.

the reach was 82°F in late July and early August. Habitat improvement will focus on narrowing and deepening the channel to help move excess fine sediments in the reach and lower summer water temperatures. Enhancements will also create habitat diversity for fish within the reach.

### **Crow Creek – Griffin Park Project**

Two hotels, a new park, and the extension of the Crow Creek Greenway were slated for construction in Cheyenne on a parcel of land between I-25 and Westland Road in 2008. The Aquatic Habitat Biologist collected preliminary channel morphology data for this reach of Crow Creek in 2007 for a habitat enhancement project to coincide with the development project. Due to the weakened economy in 2008, the hotel, park and Greenway extension were temporarily put on hold.

The delay in construction provided additional time for data collection and project planning for habitat improvement in Crow Creek. In 2008, meetings were held with potential project partners, Laramie County Conservation District (LCCD) and TU. LCCD planned to investigate biological control alternatives for leafy spurge. Currently, goats are used during the summer to suppress this invasive species along Crow Creek. TU planned to gain access for private land through the reach. The Aquatic Habitat Biologist worked to collect data to develop a habitat enhancement design for the reach.

Detailed channel morphology data were collected in Crow Creek at the Griffin Park site from I-25 downstream 800 feet to a private land boundary. The reach surveyed was classified as a C4 channel, and approximately half of the reach surveyed was straight, wide, and lacked deep pool habitat. Data not collected from the private land boundary downstream to Westland Road, as access has not yet been obtained for portions of this segment. Habitat plans for the reach will focus on improving riparian vegetation and narrowing and deepening the channel to enhance fish habitat and increase movement of fine sediments through the reach. Additionally, a temperature logger was placed in the reach and recorded stream temperatures every 30 minutes from May 20 through October 12, 2008. The maximum temperature recorded was 82.1°F on July 4. Overall, July had the warmest temperatures recorded throughout the period.

### **Crow Creek Wetland Construction Project**

This project was initiated in 2007 with the construction of three wetland complexes, continued in 2008 with planting of riparian vegetation and construction of fencing (Figure 2) and will conclude in the spring of 2009 with additional riparian planting. Tree plantings consisted of cottonwood, ash, juniper, and crab apple. A 1-acre shrub plot was planted and consisted of chokecherry, American plum, saltbush, buffalo berry, and wild rose (Figure 3). Monitoring will occur annually through at least 2011. In total, approximately 2 acres of new wetlands were constructed and nearly three thousand trees and bare root shrubs were planted by almost 50 volunteers. One and a half miles of stream were fenced on both sides to exclude livestock. This created a third rotational pasture along the creek. Fish population monitoring within the study area showed that non-game fish populations had increased slightly from pre-project conditions however increased fish species diversity has not been observed. The wetland complexes were heavily used by waterfowl during the spring migration period.



Figure 2. Completed wetland and cottonwood trees.



Figure 3. Planted riparian shrub cover and food plot.

## **L**arge scale, landscape watershed level projects completed by the Habitat Extension Biologist:

- The Department's SHP priority areas for southeastern Wyoming was revised with input from conservation partners, landowners, and WGFD personnel.
- Assisted with radio telemetry tracking of Montana transplanted bighorn sheep in the Laramie Range, and radio collar retrieval in Fall 2008.
  - Provided information to potential wind energy developers, private landowners, and conservation partners on impacts of wind energy to wildlife habitat.
  - Assisted in development of the WY WHIP program, resurrecting the Department's successful private landowner habitat grants program from the late 1990's.
  - Continuation of monitoring of shrub habitat conditions, annual production and utilization rates within the Laramie Range foothills and Goshen Rim on 18 transect locations.
  - Created GIS maps of prescribed fire and wild-fire areas within the Laramie Range, utilized to help with interpretation of the bighorn sheep trap, transplant, and radio-collar project results.
  - Continued participation on the Platte County Russian Olive Task Force (Figure 4 and 5). Responsible for much of the on-the-ground monitoring of project effectiveness, building treatment prescriptions, and coordinating with landowners, private contractors, conservation partners, and herbicide companies on projects.
  - Conducted prescribed burns on 2,000 acres Richeau Hills mixed shrubs (Figure 6), 800 acres Jay Em, WY CRP tract, and 200 acres Slater, WY CRP tracts, with planning being conducted on an additional 6,510 acres on Iron Mt. and Sugar Loaf Mt. for 2009.
  - Continued providing assistance to CSU graduate students studying the effectiveness of previous and planned cheatgrass control herbicide projects.
  - Continued to serve as the state coordinator for WFW Foundation and Western United States project advisor.
  - Assisted producers with development of livestock grazing management plans for more than 93,210 acres on 14 ranches.
  - Provided technical assistance to agricultural producers and local Farm Service Agency offices on management of thousands of acres of CRP lands affected by noxious weeds and insect outbreaks in 2008.



Figure 4. Russian olive removal in Sybille Creek riparian area.



Figure 5. Russian olive aerial herbicide application, September 2008.



Figure 6. October 2008, Helit-torch ignition prescribed burn in Richeau Hills.

## **Habitat Based Population Objectives – Medicine Bow Pronghorn Prototype.**

Additional work is scheduled for 2009.

### **Southwest Wyoming Cheatgrass Partnership**

SCSU personnel Cini Brown and Marques Munis have study plots in several locations in SE Wyoming. The study will continue for several more years.

The BLM has completed the EIS needed to be able to spray Plateau and other herbicides aerially. However, the USFS has not completed an EIS for aerial application.

The group has scheduled meetings for 2009.

### **Comprehensive Management Plan for the Platte Valley Mule Deer Herd**

The TSS was able to complete assessment of mule deer habitat in the contracted focus areas totaling 225,000 acres during the summer and fall of 2008. The draft report was received before the end of the year, and suggested edits and comments were provided.

Helicopter flights are planned for 2009 to do an actual population estimation.

### **2008 Production and Utilization Surveys**

Game wardens and population biologists assisted with collecting production and utilization information at approximately 20 of the Laramie Region's 55 pronghorn and mule deer shrub winter range monitoring stations. The regional habitat biologist was physically unable to read the remainder. Of those that were measured, production was similar to the year before in many places. It appears that the winter of 2008-09 will not be severe on winter ranges, and survival of big game should be good.

### **Alsop Lake Water Acquisition**

Negotiations were completed and an agreement was written to purchase enough water to raise the lake to an elevation of 7,145 feet (about 100 acre-feet) in exchange for \$4,500. This is a one-time payment for a one-time fill that is scheduled to occur in the winter or spring of 2009 as conditions permit.

### **Red Mountain Project**

Department involvement in this project began in 2004. A project update has been included in the previous three annual reports.

In 2008 BLM crews were able to complete planned encroaching conifer removal and limber pine machine mastication projects. Livestock were excluded from wet meadows using electric fences. All that remains is brush-beating and interseeding with a seed mix designed to benefit sage-grouse.

### **Mountain Pine Beetle**

Mountain Pine beetles continue to expand to new areas and increase the percentage of trees killed within previously impacted areas. The winter of 2008-09 doesn't appear to have the temperatures needed to kill the insects, so it is looking more like the irruption will only end when the food supply is gone. The coming years will see many changes to the forests in the region.

## HABITAT EXTENSION SERVICES

### Habitat Enhancements

In 2008, over 70 major landowner contacts and field visits were made resulting in some level of project level assistance. Technical and cost share assistance was provided to private landowners who implemented projects including: permanent cover seedings, native and introduced species (Figure 7), water developments for livestock and wildlife (Figure 8), CRP management, prescribed burning in mountain shrub and CRP habitats, noxious vegetation (woody and herbaceous) management in riparian and upland areas, wetland restoration, food plots for game birds, and in-stream fisheries habitat.



Figure 7. Wheat strip conversion to permanent grass legume cover. Comparison of use of cover crops (right) in fallow strips and no-till seeding into stubble (left) following herbicide application, Spring 2008.



Figure 8. 750 gallon guzzler tank installation in Platte County CRP tract.

### Project Totals

Type	#	Acres
CRP Management	7	5,600
Permanent Cover Seedings	13	3,530
Russian Olive Removal / Management	10	530
Grazing Management Planning	14	93,210
Water Developments	10	N/A
Wetland Development / Restoration	6	N/A
Riparian Enhancement (CCRP)	1	63 acres, 2 miles
Instream Fisheries Habitat Inventory	2	1 mile
Cheatgrass Management / Herbicide Application	2	1,400 acres
Prescribed Fire (blackened)	3	3,000 acres
Prescribed Fire (planned)	3	6,510 acres

## WILDLIFE HABITAT MANAGEMENT AREAS

### Pennock Mountain WHMA Watershed Surveys

WHAM Level 1 surveys were conducted on the Pennock Mountain WHMA and adjacent USFS lands during summer 2008 in the South Fork Lake Creek watershed (HUC 101800020605). Over 13 miles were surveyed on the following streams: Deer Creek, Goetz Creek, South Fork Goetz Creek, and South Fork Lake Creek. The headwaters for these streams are perennial, and flow out of steep, narrow drainages located in the Medicine Bow National Forest on the west side of Pennock Mountain. As the streams exit the mountains and flow into the sagebrush lowlands, the water goes sub-surface (Figure 9). In 2001, a large flood impacted South Fork Lake Creek. Subsequently, beaver and brook trout disappeared from the reach. Beaver have been re-introduced into South Fork Lake Creek over the past 2 years and have established several ponds.

It is recommended that brook trout be stocked into the newly established beaver ponds of South Fork Lake Creek. A brief administrative report detailing observations and management recommendations of the surveyed drainages will be completed in the next few years.

### **Pennock Mountain Beaver Transplant**

A contractor was hired to trap as many beaver as possible, to a maximum of 11, for transplant into upper South Lake Creek, near the Edward's homestead on the Pennock Mountain WHMA. The contractor, who was instructed to take the beaver from the Aspen Highlands area of Elk Mountain, was able to provide 5 beaver that were transplanted.

### **Wick WHMA**

This was the first year of a trial fall cattle-grazing treatment on the hay meadows. The treatment was conducted in September. The treatment is designed to provide an area of early spring forage growth for elk. This forage maintenance-grazing plan used 360 head of cattle to treat 100 acres of grass hay meadows. The Sims Cattle Company provided the personnel, livestock, electric fences, monitoring and herding of the cattle 24 hours per day during the fourteen-day grazing treatment. The cattle were contained with electric fencing on treatment paddocks of twenty to fifty acres in size. The grazing effectiveness is monitored against predetermined utilization goals. When the vegetative treatment goal is reached, the cattle and fences are moved from paddock to paddock. The grazing treatment focus is to remove old growth, specific noxious weeds and to stimulate higher quality regrowth of standing forage for big game, particularly elk (Figure 10).



Figure 9. Dry segment of South Fork Lake Creek on Pennock Mountain WHMA during 2008 WHAM Level 1 surveys.



Figure 10. Bull elk tangled in high tensile wire during livestock grazing treatment at Wick WHMA, September 2008.

## OTHER SIGNIFICANT ACCOMPLISHMENTS

- Participated in the Mule Deer Working Group and assisted with Platte Valley Mule Deer Plan.
- Helped with Platte Valley landowner meeting, toured Upper Cedar Creek ranch with owner, submitted project proposals for WWNRT fall deadline, and toured proposed projects with WWNRT representatives.
- Helped revise the Laramie Region SHP polygons and narratives for the latest Strategic Habitat Plan.
- Toured region with Video Coordinator Greg Hallen for the 2009 season-setting meeting DVD on habitat.
- Participated in a media tour developed by the I&E supervisor focused on informing the public of current mule deer and pronghorn winter range habitat conditions and the need to manage these animals within the carrying capacity of the range.
- Met with Belvoir Ranch managers and toured the area with personnel from the Laramie County CD and discussed land management options that could improve the site for wildlife.
- Discussed graduate research project proposal with University of Wyoming researchers concerning the relationships between beaver ponds and woody vegetation dynamics on Pole Mountain.
- Toured the Lower Laramie watershed with Colorado State University researcher and student working on a graduate research project on hornyhead chub in the watershed.
- Provided stream trailer demonstrations at the Albany County Conservation Expo.
- Annual maintenance was completed on four riparian exclosures on South Fork Middle Crow Creek with assistance from the USFS and Izaak Walton League.
- Continued to monitor habitat improvement projects in the North Platte River and Crow Creek.
- 17 formal educational programs were conducted. Over 605 individuals heard presentations on topics ranging from hunter safety and outdoor survival, grazing management principles, plant identification, grass seeding, predators, and management of small acreage lands, wetlands, and riparian habitats.
- Continued to coordinate efforts for roadside fire education signs statewide.
- WFW Foundation – State Coordinator & Western States projects advisor.
- Continue to be actively involved with numerous conservation organizations including: Pheasants Forever, WY FNAWS, WFW Foundation, and WACD and local conservation districts.