

# CODY REGION

## HABITAT PROJECTS

### **Absaroka Conservation Initiative**

The RMEF, in cooperation with the WGFD, other non-profit and governmental agencies and landowners continued the Absaroka Conservation Initiative (ACI). The ACI is an effort to preserve the historic ranching, wildlife, scenic and community values along the Absaroka Front, an area identified by the RMEF as the highest priority for elk habitat in Wyoming. The primary strategy of the initiative is to secure funding for the purchase of development rights on priority parcels of land. Funds are still being sought for a model that would identify priority habitats to be conserved and areas at highest risk of development. The terrestrial habitat biologist assisted the RMEF and conservation buyers in purchasing and placing a conservation easement on a 320 acre parcel of land adjacent to the Sunshine WHMA.

### **Stonebridge Allotment Habitat Enhancement**

A grazing management plan was developed cooperatively with the BLM and permittee to optimize wildlife habitat. The plan allows for two pastures to be grazed by livestock each year while the other four pastures are completely rested to provide forage for wintering elk. The terrestrial habitat biologist hiked the allotment with the BLM and permittee to map areas of conifer-encroached sagebrush. Prescribed burns will be conducted on the allotment in 2007 to address the encroachment on approximately 600 acres.

### **Kirby Watershed Wildlife Habitat Enhancement Project**

The Kirby Creek CRM group is continuing to plan and implement projects that focus on restoring ecological functions within the watershed. This project is paired with a comprehensive effort to enroll the majority of the creek upstream of the project site into CCRP. Existing CCRP projects on Kirby Creek (5-years-old) are showing a tremendous vegetative response and are providing quality habitat for beaver, mule deer, sage grouse, and migratory songbirds. Serious grazing trespass incidents within the riparian buffer of one of these projects have been addressed, although riparian recovery was negatively affected.

The Kirby Watershed Wildlife Enhancement Project is being expanded to restore riparian habitat and stream form and function and improve range conditions within the 250, 000-acre Kirby Creek drainage. Work thus far has focused on removal of grazing pressure on riparian areas, extensive water development, removal of invasive Russian olive and salt cedar, and experimental weed control of white-top. A total of 4 new contracts including 1 EQIP and 3 CRP contracts that focus on riparian restoration were initiated with 2 landowners within the drainage in 2006. Projects are currently on hold until BLM environmental assessments can be completed in early 2007. A portion of West Kirby Creek on Lucy Moore's property was restored to its original channel late in the fall of 2006. Various field days, tours, and workshops within this drainage were conducted. Permanent vegetative transects and photo points on various properties were visited, monitored and photographed. Cooperators include WGFD, BLM, NRCS, RC&D, DEQ, Hot Springs County Weed and Pest, Hot Springs County Conservation District, and private landowners. Total project cost for this drainage thus far is \$902,000, excluding a portion of new contracts. The primary funding sources for this watershed include DEQ 319 funds, Continuous CRP, WWNRTF, Hot Springs County Weed and Pest, WGFD, EQIP, Private Grazing Lands Initiative, and private landowners.

- 225 acres of sagebrush and juniper were treated with RX fire in the Devils Canyon/Little Mountain area.
- Heart Mountain Ranch irrigated meadows provided forage for four operators in 2005.
- Two miles of the Shoshone River riparian system were treated for tamarisk and Russian knapweed using backpack sprayers.
- Projected initiated to restore riparian habitat and restore stream form and function in the Paint Rock Watershed.
- RX burn in aspen communities, Upper Grass Creek.
- Gooseberry drainage to restore and enhance 1,750 acres of riparian habitat.

### **Paint Rock Stream Enhancement**

A project was initiated in 2006 to restore riparian habitat and stream form and function in the Paint Rock Watershed. The goals are to reduce severe erosion and sedimentation, reestablish native woody communities, and address fish passage issues within the drainage. Several landowner contacts were made in 2006 resulting in the initiation of 2 new contracts including 1 WHIP and 1 CRP contract. Several other landowners are interested in implementing projects in 2007. The focus is removing riparian grazing pressure, replacing diversion structures to allow better fish passage, and implementing bioengineering projects in areas with severe bank erosion. Total cost thus far is \$15,678 all of which was contributed by Continuous CRP and private landowners.

### **Cooperative Prescribed Fire/Mechanical Treatment Projects with the Bureau of Land Management and Forest Service**

The WGFD cooperated in planning, funding and conducting several prescribed fire and mechanical treatment projects with the federal land management agencies in the Cody Region including:

- Fork in the Road: Approximately 100 acres of sagebrush were treated with prescribed fire on BLM land south of Cody. Objective of the burn was to increase diversity of age classes in sagebrush and provide a mosaic of sagebrush and grass/forb areas to benefit sage grouse.
- Battle Park Allotment: Department and Big Horn Forest personnel planned a large prescribed burn project on the Battle Park Allotment. Over a week was spent sampling and mapping sagebrush communities to gather baseline data and design treatments.
- Upper Grass Creek Prescribed Burn: Over 250 acres were treated with prescribed fire V (Figure 1). The objectives of the burns were to set back conifer encroachment, maintain sagebrush communities, and promote aspen communities.



Figure 1. Prescribed fire in aspen communities, Upper Grass Creek.

### **Fish Entrainment Studies**

Habitat connectivity is important to healthy fisheries because fish often move many miles to utilize different habitats at differing flows, during differing seasons, and at differing life stages. If, however, fish moving from one habitat to another are entrained by diversions into canals and removed from the stream system, the fishery suffers. To evaluate the potential loss of various fish species, three entrainment studies were initiated this year, one in a cold water system and two in a warm / cool water system (Figure 2). The objectives of these studies are to describe and quantify fish entrainment throughout the irrigation season. As fish were entrained into



Figure 2. Installing the third net at one of the entrainment sampling sites.

the canal systems they were netted, identified, counted, weighed, measured, and returned to the stream. The numbers of fish caught between August 1 and October 15 were 1,230, 1,339, and 3,065 during 142, 130, and 144 hours of netting respectively. Eight species were entrained from the cold water river with more fish captured at night than during daylight. Thirteen species were entrained from the warm water river with more fish caught during the day than at night. During this first year of the study, data were only collected during 2.5 months of the irrigation season, but plans are for a full season of study next year. Funding for this study was provided by the U.S. Bureau of Reclamation, Wyoming's State Wildlife Grant Program, and the Wyoming Game and Fish Department.

### **Heart Mountain Grassbank**

The Heart Mountain Grassbank, operated by the Nature Conservancy, provides a mechanism whereby livestock forage values can be exchanged for desired conservation outcomes. The Heart Mountain Ranch irrigated meadows provided forage for four operators in 2005. Conservation benefits included prescribed burns, drought relief and riparian restoration. The terrestrial habitat biologist serves on both the grassbank advisory council and the selection committee for grassbank participants.

### **Heart Mountain Habitat Enhancement**

The terrestrial habitat biologist worked with managers of the Heart Mountain Ranch in completing six spring developments and exclosures. Each spring or seep area was fenced with either three wire electric or standard barbed wire fence. Fenced areas ranged from 2 to 80 acres, and two springs were developed to increase flows. The objective of the project was to avoid heavy livestock use in these areas and provide habitat for wildlife, primarily sage grouse. The project was partially funded by the Big Horn Basin Sage-grouse Local Working Group. Approximately 130 acres of sagebrush were treated with prescribed fire in the spring on The Nature Conservancy's Heart Mountain Ranch. The BLM conducted the burn with assistance from the WGFD. Objectives of the burn included enhancing brood rearing habitat for sage grouse and improving winter and transitional range for mule deer and elk.



Figure 3. Spring enclosure on the Heart Mountain Ranch.



Figure 4. Prescribed burn on the face of Little Mountain.

### **Devil's Canyon Bighorn Sheep Habitat Enhancement**

Approximately 225 acres of sagebrush and juniper were treated with prescribed fire in the Devils Canyon/Little Mountain area. Two supplemental transplants of bighorn sheep from Oregon and Montana in 2005 and 2006 were completed here in an effort to boost the seemingly stagnant population of sheep originally transplanted in the 1970's. More burns are planned in the area in 2007. Four springs were fenced with a combination of electric, barbed wire and buck-and-pole fence to exclude livestock and increase spring flows for the benefit of livestock and wildlife. In addition, two watering tanks were installed along the rim of the canyon to provide water for bighorn sheep. The tanks are supplied with water from a spring-fed pipeline constructed in the 1990's.

### **Boxelder Creek Riparian Project**

Photographs were re-taken of photo points established within the Boxelder Creek riparian system prior to a restoration project implemented in 2000 (Figure 5). Approximately two miles of stream were fenced to better control livestock use and conifers were cabled into banks where lateral bank erosion was severe. The stream and riparian area showed remarkable improvement with substantial increase in bank vegetation and sediment deposit in tree revetment areas. Willows had increased significantly and improved habitat conditions resulted in several new beaver dams (Figure 6).



Figure 5. Boxelder Creek before fencing, 2000.



Figure 6. Boxelder Creek six years after fencing, 2006.

### **Gooseberry Watershed Enhancement Project**

This is an ongoing project in the 500,000-acre Gooseberry drainage to restore and enhance 1,750 acres of riparian habitat, stream form and function. The primary focus is the removal of invasive Russian olive and tamarisk and the restoration of native woody communities through a cooperative watershed. Approximately 56 stream miles (810 riparian acres) were treated with cut-stump and foliar treatments in the fall of 2006 as a follow up treatment to areas first treated in 2004. This was accomplished through a cooperative effort including personnel from the WGFD, NRCS, RC&D, Washakie and Hot Springs County Weed and Pest Districts, and several private landowners. (Figure 7).



Figure 7. Follow up treatments were applied to 810 acres in the Gooseberry drainage in 2006.

In the late fall of 2006 a timber ax implement was put to use on two previously untreated private properties and an untreated BLM allotment totaling 100 acres (Figure 8).

All cut-stump/timber ax treatments were followed by a 3:1 chemical cut-stump application of Imazapyr; all foliar treatments were accomplished with a 1.5-2% solution of Imazapyr. Contracts were initiated with 8 new landowners in this drainage in 2006 including 3 CRP contracts and 5 EQIP contracts that total 815 untreated riparian acres. Also in 2006, permanent vegetative transects and photo points on various properties were visited, monitored and photographed.

The total cost for projects implemented in the calendar year 2006 was \$57,980, excluding a portion of new contracts. The total project cost for the entire watershed thus far is \$807,327. CCRP Riparian Buffer program has been the primary funding source used to plan, implement and complete this project. Other funding sources include EQIP, Washakie County Weed and Pest, WGFD, BLM, Washakie County Conservation District, WGBGLC, WWNRT, and private landowners.



Figure 8. Timber Ax used for mechanical treatment of Russian olive and tamarisk.

### **Big Horn Basin Landcover Mapping Project**

A project was initiated to map landcover types in the Big Horn Basin using satellite imagery and aerial photography. Satellite images taken in 2004 and 2005 covering the Basin were purchased and a contract with the University of Wyoming for interpretation will begin in 2007. The terrestrial habitat biologist and a student intern sampled over 300 points in sagebrush communities across the Basin to obtain canopy cover data. These data will be used as “training data” for interpreting the remote sensing data and categorizing sagebrush cover types by canopy classes.

## **HABITAT EXTENSION SERVICES**

Forty-three landowner contacts were made in 2006. These contacts resulted in new or continued planning or follow up compliance on 46 different private land habitat enhancement projects. These include 9 new Continuous CRP (Riparian Buffer or Shelterbelt) projects proposed, planned, and/or implemented, development of 8 new WHIP projects, development of 3 WRP projects, assistance with the development of 11 new EQIP projects, follow up on 14 existing CRP projects, and follow up on 1 existing WRP project.

### **Trout Creek Habitat Extension**

Multiple discussions were held with the Trout Creek ranch manager, who is attempting to modify ranch operations. Information and recommendations were provided concerning streambank stabilization, flow calculations (partial flumes, culverts, and other pipe), minimum tillage, plant species, electric fence, and beaver (management, trapping, transplanting, and removal). In addition, potential stream habitat improvement was reviewed with the ranch manger, Army Corps of Engineers, and a consultant from Montana. The main recommendations were to continue bank recovery through good grazing management, and to move livestock corrals away from the stream, which is planned for the spring of 2007. A video highlighting the Trout Creek rotating drum fish passage project was developed and aired on television, presented at TU meetings with guests from area conservation districts and national TU, and provided to the landowner and local TU group who distributed it to other state and national TU groups.

### **Bobcat Creek Fish Passage**

Did onsite review of a Bobcat Creek irrigation diversion with the TE Ranch, ranch manager. The structure is deteriorated and needs to be replaced. The objectives of the review were to design a more fish friendly structure and reduce the heavy gravel load deposited into the irrigation ditch by the current structure. Suggestions included 1) lowering the height of the structure since the ditch was much lower than the existing structure and backed up the stream unnecessarily, using a horizontal wedgewire screen over a collection box with a side outlet leading toward the irrigation ditch, protecting the wedgewire from large rock with a secondary layer of heavy ribs on top of the screen, and reducing the size of the structure, thereby further reducing the flow of substrate.

### **Beck Lake Fish Screen**

Beck Lake is part of a recreation area located adjacent to the city of Cody. The lake is managed as a basic-yield family fishery and is stocked annually with Yellowstone cutthroat trout, rainbow trout, channel catfish, and large mouth bass. Besides being a popular family fishery, Beck Lake is also a water storage facility with water being released during August and September to supplement flows in the Cody Irrigation Canal. In order to prevent loss of large numbers of fish from the lake to the canal, a fish screen was installed over the outlet (Figures 9 and 10). This simple screen is designed to prevent fish loss, while also accommodating the necessary outflows to the canal without causing unnecessary cleaning and maintenance. Several features were added to the design to allow easy access and maintenance whenever it is needed. This was a cooperative project with the City of Cody, Cody Canal Irrigation District, U.S. Fish and Wildlife Service, and the Wyoming Game and Fish Department.



Figure 9. The Beck Lake fish screen is basically a three-sided screen placed in front of the lake's outlet and bolted to the concrete outlet structure.



Figure 10. The panels on the front of the screen provide a flow through system in case the screen is ever plugged as well as providing easy access for headgate maintenance.

# WILDLIFE HABITAT MANAGEMENT AREAS

## Yellowtail WHMA

### Yellowtail Area Coordinated Resource Management

The Yellowtail Area CRM group continues to seek solutions to managing Yellowtail's growing invasive plant problem. The CRM consists of the four landowners on the Yellowtail WHMA, NPS, WGF, BLM, and Bureau of Reclamation, as well as neighboring private landowners, the Bighorn County Weed and Pest, and others.

Approximately two miles of the Shoshone River riparian were treated for tamarisk and Russian knapweed using backpack sprayers. Prescribed winter grazing treatments using cattle were conducted for the sixth year on the WHMA. The objectives of the grazing treatment were to reduce fuels, invigorate decadent vegetation, create successional diversity and open up thick shrub stands. A total of about 400 acres were grazed in three pastures.

Additionally, the WHMA was grazed with Boer goats for the third year. Approximately 800 goats grazed in four pastures totaling about 600 acres. The objective of the treatment is to concentrate browsing pressure on invasive plants including tamarisk, Russian olive, Russian knapweed and licorice. Plans were made to extend goat treatments to other areas of the WHMA and expand the goat herd to 1200.

The Lovell High School took an active role in the CRM as part of the Wyoming Department of Agriculture's CRM in the Classroom Program. Students participated in several projects including re-reading and analyzing vegetative trend studies associated with the winter cattle and goat grazing programs, tagging individual tamarisk plants for monitoring and testing germination of weed seeds in goat feces.



Figure 11. Gyrotrac GT-25 mulching machine.

An interagency Russian Olive removal was completed on a test site at Yellowtail WHMA. The machine is owned and operated by NPS/Bighorn Canyon National Recreation Area (Figure 12). Habitat and Access branch personnel removed those Russian Olive trees which were too large for machine capacity, and assisted in herbicide treatment of cut stumps.

The NPS mechanically treated 25 acres of Russian olive with a Fecon Bullhog attached to a skidsteer. WGF D personnel assisted with cutting larger diameter trees with a chainsaw and treating cut stumps with chemical. A demonstration of a Gyrotrac GT-25 (Figure 11), a larger mulching machine, was held on the WHMA in December to generate interest from local contractors. Within a week a local contractor had purchased the machine and plans are being made to mechanically treat Russian olive on the CRM area in 2007.



Figures 12. Fecon machine at work.

### Renner WHMA

The BLM fire crew treated 28 acres of aspen in the Dorn Draw area (Figure 13). Conifers, primarily limber pine and Douglas fir, were felled, lopped and scattered or piled to promote aspen regeneration and extend the life of aspen communities. The project is part of a larger BLM program to treat aspen along the west slope of the Bighorn Mountains



Figure 13. BLM fire crew removing conifers in aspen stands



Figure 14. Sunlight Basin meadows were mowed in lieu of fire.

### Sunlight Basin WHMA

Sunlight Basin meadows were mowed in lieu of fire, to remove old decadent plant growth and stimulate grass production (Figure 14).

Cody regional employees and the Cody RMEF chapter volunteers partnered to remove eight miles of interior fencing at Sunshine WHMA.



Figure 15. Cody regional employees and the Cody RMEF chapter volunteers.