

GREEN RIVER REGION

Elk Mountain Red Canyon Burn (Goal 1) - Ron Lockwood

The Elk Mountain/Red Canyon prescribed burn was a 20,000-acre burn block completed in September of 2007 in the BLM Kemmerer Field Office Area. The burn targeted 10,000 black acres and included aspen, sage/grass, and mixed mountain shrub vegetation types. In the absence of fire, many of these plant communities were in a decadent and dying state with little vigor or age class diversity. This project was originally two separate burn units adjacent to each other, but was implemented as one project to save time and money. The prescribed burn was also planned adjacent to a Wild land Urban Interface area (Twin Creek Subdivision, oil and gas infrastructure, and Lewis Ranches). The objectives of these treatments were: 1) to reduce hazardous fuel accumulations in the WUI; and 2) to create a mosaic of burned and unburned areas by improving the health, vigor, composition, and age class diversity within these plant communities. By improving plant communities in this area, the burn will improve watershed health, crucial big game winter and transitional range for mule deer, elk, moose, and antelope, brood rearing habitat for sage grouse, and habitat for other sagebrush obligate species. These improvements will assist in achieving the objectives of the Kemmerer RMP and the Cumberland and Twin Creek Allotment Management Plans. The project also supports the WGFD's big game herd unit objectives for the area. Additionally the burn will improve brood rearing and nesting habitat for sage grouse.

During this reporting period a number of vegetation monitoring sites were revisited to assess the treated area. The vegetation treatments in this area are being done in conjunction with an elk collaring study with US Geological Survey (USGS), BLM, NPS and WGFD. Elk were collared in an effort to see what treatments (prescribed burns, herbicide treatments, un-grazed NPS lands/grazed BLM lands) and what areas elk use at different times of the year, and the effect of grazing on these treatments. A final report will be issued during the next reporting period.

Little Mountain Ecosystem Energy Development Activities (Goal 1) - Kevin Spence

The Little Mountain Ecosystem (LME) is recognized by Department personnel as the area south of Rock Springs, east of Flaming Gorge Reservoir, west of Highway 430, and north of the Utah state line. The LME is rich in wildlife and habitat diversity, supports wildlife species assemblages unique in this area of Wyoming, maintains high demand for difficult to draw elk and mule deer licenses, is a very popular public recreational area, and has been the focus of aquatic/terrestrial habitat enhancement and ecosystem restoration efforts during the past 20 years. The LME is a relatively intact landscape with little human development, which has promoted sound ecosystem function and integrity. In recent years, there has been a significant interest in gas and wind energy development within the LME, creating a challenge to develop the landscape while protecting habitat function and ecosystem values.

Considerable time was spent during 2009 providing data, exchanging information, and assisting in negotiations over LME energy development. Twenty years of habitat restoration information was compiled and converted to spatial data in a GIS format. The GIS shape files were provided to the Governor's Office for negotiating energy development planning with the Wyoming BLM State Director. The Green River Region also provided the Governor's Office with maps prioritizing aquatic and terrestrial wildlife habitats within

- WLCI grant was approved for \$587,000.
- Approximately 107,000 acres of crucial and winter habitat in the Sublette and Lincoln Moose Herd Units will be evaluated.
- Extensive environmental commenting and coordination fostered wiser Little Mountain Ecosystem energy development.
- Aspen monitoring in the Little Mountain Ecosystem indicates elk browsing continues to suppress aspen regeneration.
- Established monitoring transects to begin evaluating effects of browsing to cottonwood regeneration along the lower Green River at Seedska-dee NWR.
- Electrofishing surveys showed a significant increase in trout use in the lower Green River where habitat structures were previously installed.

the LME for use in negotiating energy development planning with the BLM. Participation occurred at several meetings throughout the year with the Habitat Protection Coordinator, Governor's Staff, and BLM personnel to promote responsible energy development planning within the LME while protecting habitat function and integrity. Meetings and field tours occurred with energy companies to discuss individual development projects, issues and wildlife needs. Regional personnel also participated in local public information meetings sponsored by the Little Mountain Coalition TU, Wyoming Wildlife Federation (WWF), Theodore Roosevelt Conservation Partnership, and Local Steel Workers Union) to discuss LME energy development issues.

In December, Green River Region Biologists began a series of meetings with the BLM Rock Spring Field Manager and staff to explore more specific energy development guidelines for important wildlife habitats on public lands within the LME. These development guidelines hopefully would minimize cumulative effects of individual projects, and should be consistent with the language in the current Green River Resource Management Plan which provides management objectives to protect habitat in Areas of Critical Environmental Concern and Special Management Areas of the LME. Further meetings to discuss development guidelines are planned for 2010.

Muddy Creek Spike Treatment (Goal 2) - Ron Lockwood

The Muddy Creek spike treatment project is based on a consensus recommendation reached by the BLM, WGFD, and private land owners/permittes. The project is designed to improve winter ranges for Wyoming Range mule deer. This project will involve a spike treatment of approximately 500 acres in 2010 by thinning sagebrush cover the first year of treatment (approximately 30 – 50% kill of sagebrush) in a mosaic pattern in the Muddy Creek area to improve upland plant communities. The proposed project includes a special emphasis on improvement of the age class and diversity of plant communities. This area has been classified as crucial winter range, transitional, and year-long range for Wyoming Range mule deer, West Green River elk, Lincoln moose, and Sublette antelope herds. Healthy, mountain shrub, sagebrush, grassland/forb and riparian communities are important parturition and fawn rearing areas for big game. By improving this portion of the transitional range, we anticipate that this will help hold the deer and elk in transitional areas, saving the crucial areas for more critical periods during the winter. These habitat treatments will decrease the potential of comingling of wildlife and livestock thereby decreasing the potential for transmission of disease. Other wildlife expected to benefit from this treatment include small mammals, and a variety of birds including brood rearing areas for sage grouse.

Current plans are to continue this project for multiple years. Over time we expect to improve a significant portion of this winter range.

Walker Ranch Water Development and Spike Project (Goal 2) - Ron Lockwood

This project will utilize an existing well to pipe water into tanks and guzzlers in 2010. The project will involve the installation of a solar pump and pipelines. Additionally approximately 500 acres will be identified for a spike treatment to reduce sagebrush cover and a forb/grass seeding project. The project will help improve livestock management and the water development and seeding will enhance the area for sage grouse by improving brood rearing habitat. The WGFD has provided \$7,500 to the Kemmerer BLM office to help conduct NEPA approval on Federal lands in the project area.

Little Mountain Ecosystem Aspen Community Monitoring (Goal 2) - Kevin Spence

Four additional monitoring sites were established within the Little Mountain Ecosystem during 2009 to further evaluate elk browsing effects on aspen regeneration. Three existing monitoring sites are located on Little Mountain, where data has been collected since 2007. New monitoring sites were established on Aspen Mountain, Miller Mountain, the northwest face of Pine Mountain, and the south side of Pine Mountain (Figure 1). The additional aspen monitoring sites were selected to better represent the entire landscape encompassing the South Rock Springs Elk Herd Unit, so that browsing trend data can be used to assist with elk population management and harvest strategy decisions.

The Live-Dead (LD) Index described by Keigley et al. (2002) was used in the surveys. The LD index measures and compares the height of initial growth point for the current year's terminal leader to the height of the tallest previous terminal leader branch that was killed as a result of browsing. A positive LD value indicates uninterrupted young tree growth and/or recovery from browsing, and suggests regeneration maintains the potential to grow to maturity and replace older aspen trees when they die. An LD value near zero indicates that browsing is suppressing growth of young aspen, and a negative LD value is an indicator of significant aspen decline and possible death of young trees.

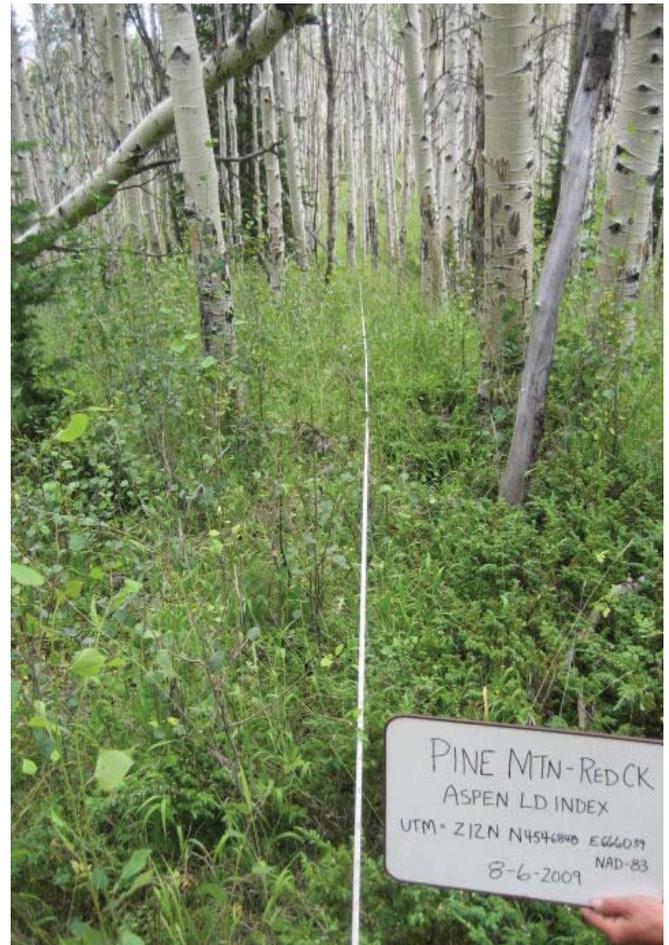


Figure 1. An aspen LD Index monitoring site surveyed in the Pine Mountain area during 2009.

Table 1. Results of 2009 aspen LD index monitoring for sites in the Little Mountain Ecosystem.

Monitoring Site	LD Value (inches)	% Incidence of terminal Leader Browsed	Mean Height (ft)	Mean CAG* (inches)	NAGR* (inches)
Pine Mt../Red Creek	-3.8	13	3.5	18.6	5.9
South Pine Mt..	+1.9	40	2.5	8.6	4.4
Miller Mountain	-1.6	13	3.7	8.6	8
Aspen Mt..	-1.8	27	4.1	6.9	6.9
Little Mt../Dipping Springs	-15.2	5	2.8	5.7	3.3

*CAG = current annual growth

*NAGR = Net annual growth rate, average of previous 3 years

Results from the 2009 survey revealed negative LD index values at 4 of the 5 sites sampled (Table 1), suggesting significant aspen decline at those 4 sites as a result of browsing. Table 1 shows supporting aspen regeneration trend data collected from each site including: percent incidence of browsing to each terminal leader of sampled suckers, mean sucker height, mean length of current annual growth, and net annual growth rate (average growth suckers experienced during the previous three year period based on measurements between growth ring scars). Each monitoring site exhibited a relatively low level of terminal leader browsing and favorable current annual growth in 2009, which may produce improved LD index values when measured again in 2010.

Diamond H Conservation Easement (Goal 1) - Ron Lockwood

On December 31, 2000 the Conservation Easement on the Diamond H was signed (Figure 2). In all a total of 3,100 acres will be involved in the easement. These lands are classified as crucial winter range and yearlong range for elk, deer, moose, sage grouse and pronghorn (Figure 3). This as an important migration corridor providing movement of pronghorn through this area to summer ranges to the north. Also numerous species of non-game birds and mammals including Species Of Greatest Conservation Need identified in the WGFD “Comprehensive Wildlife Conservation Strategy For Wyoming 2005” will benefit from protecting these habitats. Labarge Creek and Fontenelle Creek also have populations of Colorado River Cutthroat trout and are excellent fisheries. Currently lands directly adjacent to these properties are being sub-divided so the potential for sub-division of these lands is high. This easement will secure long-term protection of these habitats from sub-division and will ensure a viable livestock operation and wildlife habitat in the future.

Organizations involved with this easement include: The JIO, Doris Duke Charitable Foundation, The Conservation Fund, WWNRT, WLCI, WGFD Trust Fund, WGBGLC and the RMEF.

Due in part to the success of this project numerous landowners in the region have expressed an interest in conservation easements on additional ranches. A number of these have been reviewed by the Green River Regional Team and will be evaluated by the Lands Branch .



Figure 2. Aerial view of Diamond H Ranch.



Figure 3. A variety of wildlife use the Conservation Easement.

SeedsKadee National Wildlife Refuge Cottonwood Regeneration Monitoring (Goal 2) - Kevin Spence

Three LD Index survey transects were established at SeedsKadee National Wildlife Refuge (NWR) to begin evaluating the effects of big game browsing on young cottonwood regeneration. The LD Index surveys were conducted cooperatively between USFWS personnel from SeedsKadee NWR and Green River Region workers (Figure 3) and data will assist with deer and moose population management and identification of harvest strategies that encourage unimpeded vertical growth of cottonwood regeneration along the lower Green River riparian corridor. Monitoring sites were located in cottonwood stands at lower Dodge Bottoms, Deer Island, and the Johnson Unit on refuge lands. Table 2 shows the results of the 2009 baseline surveys. Two of the three sites exhibited positive LD Index values, however both of these values were close to zero suggesting young cottonwoods experienced very little or no gain in vertical growth. The Deer Island site exhibited a significant negative LD Index value, indicating a retrogressed decline in cottonwood regeneration as a result of browsing.



Figure 3. USFWS and Department personnel monitor the effects of big game browsing on cottonwood regeneration at SeedsKadee NWR.

Additional cottonwood regeneration trend data were also collected at each site (Table 2). Percent incidence of browsing to each terminal leader of sampled saplings, mean sapling height, mean length of current annual growth, net annual growth rate, and sapling density data were all collected. Sapling density data is valuable for comparing to adult tree densities in mature cottonwood stands and determining the percent of saplings that must survive and grow to produce mature cottonwood gallery habitats. This information compliments recent management efforts by SeedsKadee NWR to restore healthy cottonwood habitat where possible throughout the refuge.

Table 2. Results of 2009 cottonwood LD Index monitoring for sites at SeedsKadee NWR.

Monitoring Site	LD Value (inches)	% Incidence of terminal Leader Browsed	Mean Height (ft)	*Mean CAG (inches)	*NAGR (inches)	Estimated Stems/Acre
Dodge Bottoms	+ 0.8	30	2.3	6.9	3.6	5,542
Deer Island	- 2.0	27	2.3	11.8	3.6	1,307
Johnson Unit	+ 0.6	10	2.6	9.3	5.3	799

*CAG = current annual growth

*NAGR = Net annual growth rate, average of previous 3 years

Little Red Creek Watershed Prescribed Burn (Goal 2) - Kevin Spence

During late October, BLM fire management crews implemented a prescribed fire treatment in the headwaters area of Little Red Creek located near the common borders of Wyoming, Colorado, and Utah (Figure 4). The Department contributed \$10,000 from the habitat trust fund toward this burn treatment - a component of a cooperative multi-phased effort begun in 1990 to restore healthy vegetative communities and sound watershed function in the Little Mountain area. The project targeted 400- 1,200 acres of successional advanced aspen, conifer encroached aspen, mountain shrub and sagebrush. However, the narrow treatment window during late October provided cooler daytime temperatures with marginal burning conditions; hence the project effort only produced about 97 acres of burned vegetation. As a result, the BLM fire crew is now planning another attempt to complete the project during the early fall of 2010.



Figure 4. BLM crews implemented the Little Red Creek watershed prescribed burn treatment during late October 2009.

Moose Habitat Assessment (Goal 2) - Ron Lockwood

This project will be a continued assessment of moose habitat to determine condition and health of vegetation on winter ranges. The assessment will also help to development recommendations for improving moose habitat and natural resources in the area. In all approximately 107,000 acres of crucial and winter habitat in the Sublette and Lincoln Moose Herd Units will be evaluated in 2010. The overriding goal is to enhance habitats for moose and the myriad of other wildlife species that utilize these areas. The goal of this project is to employ an outside contractor to assess important moose habitat conditions on transitional and winter ranges, migration routes, and other areas, and to recommend management actions needed to improve moose habitat. Data will be presented in a report coupled with an extensive excel and GIS based dataset which is linked to field data collected, transects, photo points and recommendations. The final report will include discussion of the current habitat conditions and recommended management alternatives and enhancement ideas to improve moose habitat for portions of the Sublette and Lincoln moose herds.

Powder Mountain Spike Treatment (Goal 2) - Ron Lockwood

This project is proposed by the Rawlins BLM, WGFD, and private land owners/permittes. It involves a spike treatment of approximately 8,550 acres in 2010. Goals are to achieve approximately 30 – 50% kill of sagebrush in a mosaic pattern on Powder Mountain to improve upland mixed mountain shrub communities. The Proposed Action is the most environmentally acceptable method of stimulating regeneration of desired plant communities (i.e., mountain shrubs, like bitterbrush, true mountain mahogany and grasses) in the area.

The project includes a special emphasis on improvement of the age class and diversity of plant communities. This area has been classified as crucial winter range, transitional, and year-long range for the mule deer, elk, and antelope. Healthy, mountain shrub, grassland/forb and riparian communities are important parturition and fawn rearing areas for big game. Other wildlife expected to benefit from this treatment include small mammals, and a variety of birds including brood rearing areas for sage grouse.

Green River Fish Habitat Improvement - Seedskadee NWR (Goal 3) - Kevin Spence

During September 2008, the Department partnered with Seedskadee NWR to construct 9 rock barb jetty structures strategically located along a 1000-foot outside meander swing of the Green River near the refuge headquarters. The barb jetties serve to slow thalweg velocities and create pool stilling areas immediately downstream of each structure to improve habitat for fish and other wildlife. The combination of reduced thalweg velocities, rock structure, and deeper pool habitat was expected to add needed river habitat complexity to attract and benefit both juvenile and adult trout, as well as other fish species along this river reach. Pre- and post-construction electrofishing surveys were a component of the project to evaluate whether or not fish abundance increased as a result of the new habitat structures.

The project river reach was sampled April 27, 2008 and again in April 24, 2009 to replicate similar seasonal river conditions. River discharge during the two sampling events was 683 cfs in 2008, and 922 cfs in 2009 (USGS gauging station 09211200 – Green River below Fontenelle Reservoir). Results indicate that juvenile trout have colonized and occupy the habitat structures. In 2008, 7 brown trout, 1 cutthroat trout, and 8 rainbow trout were collected. In 2009, 63 brown trout, 7 cutthroat trout, and 20 rainbow trout were sampled, representing a significant increase in fish density for all species (Table 3). In 2008, the reach was sampled before rainbow trout were stocked from the hatchery into the Green River; therefore all rainbow trout sampled in 2008 likely represent wild recruitment. In 2009, the reach was sampled after rainbow trout were stocked, and the majority of rainbow trout sampled were of hatchery origin. It appears that the hatchery rainbow trout located these structures rather quickly, as they were stocked on April 14th. Additionally, it does not appear there is a difference in the average size of fish that were collected between years (Table 3). This reach will be sampled again in 2010. The project appears to be successfully increasing juvenile trout rearing habitat, which is essential for trout population recruitment and maintaining angling opportunity along the lower Green River.

Table 3. Trout numbers collected in 2008 (pre-construction) and 2009 (post-construction) via electrofishing at a reach where rock barbs were installed on the lower Green River. Numbers in parentheses indicate average size in inches.

Trout Species	2008	2009
brown trout	7 (5.9)	63 (5.7)
cutthroat trout	1 (5.1)	7 (4.6)
rainbow trout (wild)	8 (4.5)	4 (5.7)
rainbow trout (hatchery) 0	0	16 (5.6)
rainbow trout (combined)	8 (4.5)	20 (5.6)

Wyoming Range Mule Deer Habitat Assessment (Goal 2) - Ron Lockwood

The Wyoming Range Mule Deer Habitat Assessment is a multi-year project initiated in 2008 to assess mule deer habitat conditions and make recommendations for management actions as a part of implementation of the Wyoming Mule Deer Initiative. During Phase I and II approximately 500,000 acres were assessed on the eastern slope of the Wyoming Range in the Big Piney/LaBarge area. A number of habitat treatments have been initiated as a result of this assessment and a number are being planned for future implementation

During this reporting period a contract was awarded to Teton Science School (TSS) to conduct habitats assessment and make recommendations for enhancing important mule deer habitat in a portion of the Wyoming Range. The study area is classified as crucial winter range for Wyoming Range mule deer and also West Green River elk, Piney elk, Lincoln moose and Sublette antelope herds.

The study area for 2009 season included the area between Labarge Creek and Fontenelle Creek in hunt area 135 and the area north of Labarge Creek in the Calpet area in hunt area 143. This area encompasses two WGFD Regions so extensive communications was required. A final report has been submitted to the Department. This report will be used to guide habitat treatments to improve winter range conditions in the Wyoming Range mule deer herd unit.

The 3rd phase for the 2010 field season will be to complete a habitat assessment on a total of 420,000 acres in the southern Wyoming Range and Star Valley areas. The goal of this project is to employ an outside contractor to assess important mule deer habitat conditions on transitional and winter ranges, migration routes, and other areas, and to recommend management actions needed to improve mule deer habitat. Data will be presented in a report coupled with an extensive excel and GIS based dataset which is linked to field data collected, transects, photo points and recommendations. The final report will include discussion of the current habitat conditions and recommended management alternatives and enhancement ideas to improve mule deer habitat for this portion of the Wyoming Range Mule Deer Herd.

Cokeville Meadows Grass Bank (Goal 2) - Ron Lockwood

Work has continued on forming a grass bank on Cokeville Meadows National Wildlife Refuge (CMNWR). A WLCI grant was approved for \$587,000. Creation of this forage reserve will provide local livestock management flexibility, allow for desperately needed habitat treatments in the local area, and yield adequate rest periods for vegetation recovery following treatments in the southern Wyoming Range. During this reporting period a number of water control structures were installed and the BQ ditch was repaired. Additionally meetings have been held with the BLM and permittees on the Rock Creek grazing allotment. This allotment is classified as crucial winter range for Wyoming Range mule deer, West Green River elk, Lincoln moose, and Carter Lease antelope. Additionally the area provides winter range for sage grouse as well as breeding and nesting habitat. A number of active leks occur on the allotment on Boulder Ridge and Rock Creek Ridge.

Conceptually, 1,200 acres of the CMNWR would be available for this forage reserve. This site is currently in a fallow state, and is vegetated with undesirable forb species. Livestock AUMs on the Rock Creek allotment could be transferred once a forage base has been established. Seven wells are onsite for irrigation, but need to be refurbished. Currently plans are to refurbish these wells. CMNWR has contracted with an engineer to provide estimates to rehabilitate wells and develop an irrigation system. The area will need to be reseeded to allow for grazing. The following goals have been identified for this project:

- Maintain refuge values, while providing a forage reserve, to provide habitat for native game and non-game species;
- Improve long-term vegetation community health in crucial winter-yearlong range for Wyoming Range mule deer, West Green River elk, Lincoln moose, Carter Lease antelope and yearlong sage grouse habitat;
- Reduce co-mingling of livestock and elk in the Cokeville area;
- Provide livestock rest so offsite habitat treatments can be conducted on adjacent federal, state and private lands; and
- Allow for better weed control and management.

Fontenelle Creek Willow Burn (Goal 2) - Ron Lockwood

This project is on Forest Service and private lands owned by Hunts Land Livestock in the North Fork of Fontenelle Creek (Figure 4). The area is classified as crucial winter range for the Lincoln moose, and transitional winter/spring range for the West Green River elk and Wyoming Range mule deer herds. The NEPA work has been completed in an environmental assessment (EA).



Figure 4. Fontenelle Creek.

The proposed project will result in the treatment of 165 acre's of decadent willows in 2010 with an additional 600-acre's over the next five-year period. Geyer's and Booths willow dominate the treatment

site. Similar sites in this area have responded extremely favorable to past treatments so expectations are high. Additionally the treatment area will receive two growing seasons rest from livestock. The WGFD Trust Fund has committed \$8,000 to this project and the USFS will provide in kind equipment and labor. Additionally \$20,000 has been granted from WWNRT. The first stage of the project will begin in the spring of 2010.

West Green River Elk Habitat Use Study (Goal 2) - Ron Lockwood

This five-year project was continued because of significant monetary support from the USGS, BLM, NPS, USFS, and the WGFD has provided in kind support. Over the past 5 years a total of 63 elk have been fitted with radio collars to determine habitat use and selection. During this time over 250,000 elk locations have been documented. This project has been used to support the need for improved management of the Rock Creek grazing allotment, and is one of the major reasons that the USFWS is considering a grass bank on Cokeville Meadows. The AUMs provided by a grass bank could help with management of the Rock Creek allotment. This study has also helped to support oil and gas lease restrictions in Dempsey Basin. Elk locations have also supported past habitat treatments on the Lost Creek Unit and the Thoman private land lease in Nugget Canyon and will help to determine the effectiveness of highway underpasses on Highway 30.

Owen Peterson Fence And Spring Development Project (Goal 2) - Ron Lockwood

During this reporting period the landowner replaced four miles of existing woven wire fence with wild-life friendly fence (4-wire, 42 inches total height, smooth bottom wire 16" above ground). In total 320 acres of private land will be enhanced. This project received \$8,000 from the WGFD trust fund and \$3,000 from the Southwest Wyoming Sage Grouse Working Group. This property also has valuable water resources that provide livestock and wildlife water. The landowner fenced off these springs and provided off site water with a \$10,000 grant from The Southwest Wyoming Sage Grouse Working Group.

Pole Creek Watershed Aspen Restoration and Fence Rebuild (Goal 2) - Ron Lockwood

Meetings and field visits were held with the USFS, Kemmerer Ranger District, the Kemmerer Field Office of the BLM and the Horse Shoe Spear Ranch to examine opportunities for aspen restoration in the Hams Fork watershed. The project area boundary is Beaver Creek to the south the Hams Fork on the west the East Fork on the north and the east boundary will be Commissary Ridge (Figures 5 and 6). The project area is approximately 35,000 acres in size. Within the project area 8,500 acres are proposed for treatment primarily using prescribed fire however, mechanical treatment will also be considered. It is anticipated that project inventory, planning, and funding requests will be completed and activities may begin as early as spring 2010. The project received \$70,000 for BLM lands and \$60,000 for USFS lands from the WWNRT.

Additionally this project proposes to replace five miles of woven wire fence with four-wire fence which will allow for better wildlife movement through the area. Currently \$150,000 have been requested from WLCI.



Figure 5. Looking north from Forest Service to BLM line, Hams Fork Watershed.



Figure 6. Looking north from the BLM towards the Forest Service line, Hams Fork Watershed.

Regional Public Information and Agency Collaboration Efforts (Goals 1, 4 and 5) - Kevin Spence

- Participated and presented Department habitat monitoring information at the WLCI Science Workshop in Laramie during May. Represented the Department on the WLCI field steering committee, and attended Carbon, Sweetwater, and Lincoln County Local Project Development Team meetings and tours throughout the year.
- Assisted Lands Branch personnel in completing a conservation easement that would prevent subdivision and development of the private lands associated with Currant Creek Ranch.
- Participated in the Department's statewide Russian Olive Team assigned to develop guideline recommendations to staff for the Department's participation in Russian olive control efforts.
- Provided assistance to the City of Green River in applying for cost share funding to complete the Killdeer Wetlands Project.
- Participated in collaborative tours and planning discussions for the Zakotnik Ranch Stewardship Project funded by the Healthy Lands Initiative and Shell Oil Company.

LeRoy Winter Range Fence Modification (Goal 2) - Ron Lockwood

During this reporting period over a mile of Union Pacific Rail Road (UPRR) Right of Way fence was modified (Figure 7). In places this fence exceeded 60” in height and has been a major cause of mule deer mortalities to both migrating and wintering deer for decades. In an agreement between UPRR and the Department, Green River personnel removed the top wire and the second wire was lowered. The current fence height is 42” and a significant reduction in deer mortalities is expected. During the next reporting period permission to modify additional fences in the area will be pursued. This agreement would not have been possible without help from the Department administration and UPRR employee Dick Hartman.



Figure 7. LeRoy fence modification.

Green River Visitor Center Interpretive Signs (Goal 4) - Lucy Diggins and Kevin Spence

The Regional I&E Specialist collaborated with the Green River Chamber of Commerce, City of Green River Parks and Recreation, Greenbelt Task Force, and the Sweetwater County Historical Museum to develop a series of 10 informational signs to be erected along a trail at the new chamber of commerce visitor’s center adjacent to the Green River. Each sign has an individual theme. Collectively they discuss topics focused on the Green River including history and uses, geology, watershed function, river system ecology, and aquatic/terrestrial wildlife species and their habitat needs. Wildlife oriented signs offer the reader opportunity to learn about habitat along the lower Green River system from a watershed perspective, better understand how the river and riparian habitat has changed as a result of regulated flows released from Fontenelle Dam, and active efforts to restore lost habitats such as the Killdeer oxbow wetlands (Figure 8). The interpretive sign project was a multiple cost share venture utilizing funding from WGFD Habitat Trust Fund, WGBGLC, WHF of Wyoming, City of Green River, and Sweetwater County Historical Museum.

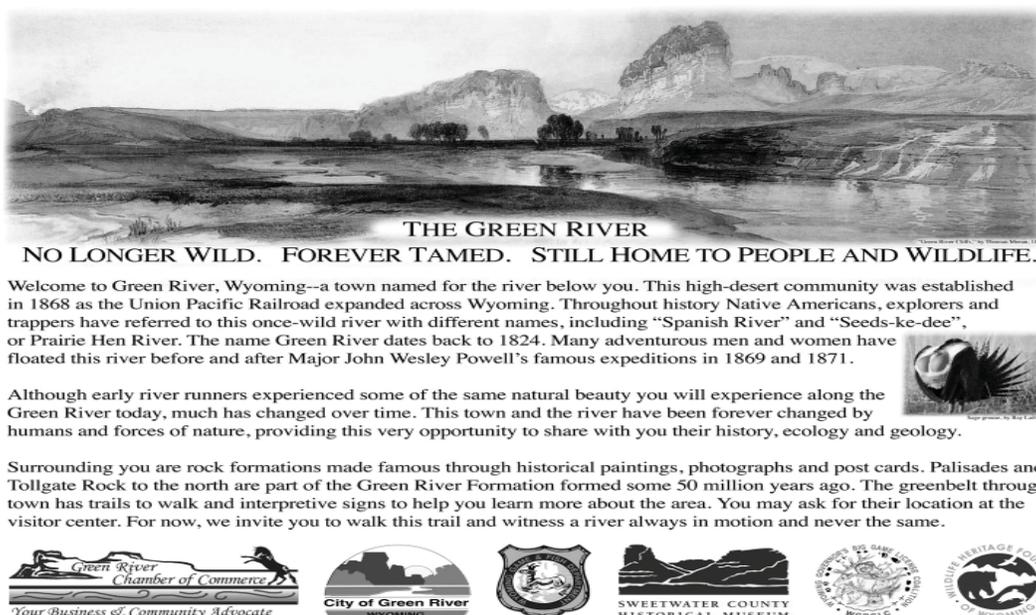


Figure 8. One of ten habitat interpretive signs developed for the new Green River Chamber of Commerce Visitor’s Center.

Aspen Conservation Joint Venture: Upper Muddy Creek Aspen Restoration - WLCI

The project consists of restoring healthy aspen communities through conifer removal and treatment of old aspen clones from existing stands through mechanical treatments. Approximately 439 acres were completed in 2009. Partners involved with this project include Little Snake River Conservation District, USFWS, WGFD, Ducks Unlimited (DU), TU, and private landowners. The WLCI provided \$30,000 towards this project.

B-Q Canal Rehabilitation, Wetlands Improvement, and Elk Movement Monitoring - WLCI

This project includes three separate aspects that provide for improved ecosystem function at the landscape level. The first includes rehabilitation of 7 miles of dike for the B-Q Canal system Cokeville Meadows National Wildlife Refuge (1.2 miles) and private lands (5.8 miles). One mile of dike improvements on the Refuge was completed in 2009 (Figure 9). The second aspect of the project will restore 1,300 acres of irrigated hay meadows on the Refuge. The third component involves monitoring elk movement in the West Green River elk herd east of Cokeville, Wyoming. Multiple parties are involved in various aspects of these projects, including local private landowners, WGFD, USGS, BLM, USFWS, NPS, NRCS, RMEF, Mule Deer Foundation (MDF), DU, and Wyoming Audubon Society. Portions of this large landscape project received ARRA funding and much of the project will be completed next year. The WLCI contributed \$30,000 to one mile of dike improvements in 2009.



Figure 9. Completed repairs to a section of the B-Q Canal.

Little Snake Aspen Treatments - WLCI

In the Little Snake watershed on the west side of the continental divide in the Sierra Madre Mountain range and the associated foothills there are approximately 35,000 - 40,000 acres occupied by aspen that are at-risk of being lost. Conifer removal and aspen regeneration will be accomplished through mechanical treatments and prescribed fire. Beginning in 2008, aspen treatments associated with this project were monitored by USGS. Approximately 514 acres of aspen were treated in 2009. Partners include the Little Snake River Conservation District, WSGALT, TNC, and RMEF. The WLCI contributed \$70,000 in 2009, towards this enhancement project.

Muddy Creek and Blacks Fork River Tamarix Removal - WLCI

This project continues the removal of tamarix (salt cedar) along Muddy Creek and the Blacks Fork River to improve and restore wetland and stream riparian areas. The Uinta County Weed and Pest District treated 189 acres in 2009. Partners on this project include Uinta County Weed and Pest District, Lincoln County Weed and Pest District, Uinta County Conservation District, BLM, USGS, TNC, and private landowners. The WLCI provided \$50,000 funding to this project.

Eradication of Dalmatian Toadflax and Dyer's Woad on Raymond Mountain - WLCI

This project involves removal of two aggressive invasive species and improving the forage base for wildlife species in the Raymond Mountain area within the Highland Cooperative Weed Management Area. Treatments have been on-going; however 2009 was the first year WLCI has been a partner and contributed \$25,000 toward the treatments. A total of 750 acres were treated and assessed on Raymond Mountain in 2009. Partners involved with this project are Lincoln County Weed and Pest and BLM.

Bitter Creek and Red Creek Tamarix Removal - WLCI

This continuing 2008 project involves both biological and herbicide control of tamarix on Bitter Creek and Red Creek (Figure 10). An estimated 150 acres were treated in 2009 by Sweetwater Weed and Pest District. Partners for the Bitter Creek treatment include Rock Springs Grazing Association, Anadarko, Sweetwater County Weed and Pest, and for the Red Creek portion Adam Lerrick, WGFD and Kanda Lateral Mitigation Fund. The WLCI contributed \$20,000 to this project.



Figure 10. Tamarisk has replaced most of the native vegetation along the banks of Bitter Creek.

Wheat Creek Wildlife Area - WLCI

This project completed approximately 1.5 miles of new fence, and replaced or upgraded approximately 8 miles of existing fence to maximize the quantity and quality of the forage for wildlife on approximately 1,600 acres. Most of the work was accomplished in 2008, with completion of about 200 acres in 2009. Partners in previous years on related projects included DU, Intermountain West Joint Venture, Water for Wildlife (WFW), National Fish and Wildlife Foundation (NFWF) and in kind partner contributions. The WLCI provided \$10,000 to help support this project.

Lincoln and Uinta counties Noxious Weed Management - WLCI

This project involves spraying and biological control of all invasive/noxious weeds within the BLM Kemmerer Field Office (KFO) area within Lincoln and Uinta Counties (Figure 11). The WLCI funding of \$20,000 contributions helped achieve treatment and assessment of 850 acres. Partners include Lincoln County Weed and Pest District, Uinta County Weed and Pest District and BLM.



Figure 11. Post weed treatment along Cottonwood Creek.

Sand Creek Salt Cedar Control - WLCI

Three Hundred acres were treated to control tamarix, with 20% being treated thru August, and the remainder being treated in September in 2009. This project benefits two stream systems, native vegetation and the wildlife that use it. This project will also free up water into the Colorado River system and help achieve Standards for Healthy Rangeland. Sweetwater County Weed and Pest District received \$15,000 from WLCI in support of this project.

Sweetwater County Invasive Weed Control - WLCI

Under this project 330 acres of weeds were treated and assessed during 2009. This project included treatment for cheatgrass, Russian knapweed, leafy spurge, various thistle, perennial pepper weed, and white top, where invasion is of particular concern. Sweetwater County Weed and Pest District provided seasonal crews, equipment, supervision, transportation and chemicals. WLCI helped fund this project by contributing \$20,000.

Hay Reservoir Weed Treatment - WLCI

Sweetwater County Weed and Pest District reported 600 acres treated with half done in July and the remainder in September. Their monitoring also discovered a new location of a sensitive species, *Rorippa calycina*. This project will also free up water to benefit the Great Divide Basin. This project also addresses the fact

that the area has failed Standards for Healthy Rangelands due to invasive plant infestation. Industry, grazing permittees, landowners, Sweetwater County Weed and Pest, and WLCI (\$9,000) contributions helped achieve this goal.

Battle Creek Restoration - WLCI

This project is a cooperative USFWS Partner's project to restore 6,300' of Battle Creek and replace two irrigation structures which currently block seasonal fish migration. The joint project will improve native Colorado Cutthroat trout fish habitat, improve thermal and low flow habitat, and reduce bank erosion. Restoration included narrowing the channel to accommodate 590 cfs bankfull flows; excavating pools and installing J-hook vane structures to improve low flow trout habitat; and re-establishing riparian vegetation to prevent further erosion. This lower portion of Battle Creek will allow complete fish passage to USFS lands. Partners included the Little Snake River Conservation District, NRCS, WWNRT, and landowners; their contributed funds totaled \$138,300.

YC Ranch Project - WLCI

This project enhanced 640 acres of sagebrush steppe, riparian and wet meadows, by constructing a 13,800 ft. of wildlife friendly fence to exclude livestock for three years with development of a long term wildlife and livestock management plan. The landowner was the partner on this project and they contributed \$6,000.

Oregon Slough – Continental Peak Riparian Enclosure - WLCI

This project involved reconstruction of an existing enclosure built to protect riparian habitat and also provide protection to sensitive plant species habitat. The 41 acre enclosure was in need of repair and its completion will also help achieve Standards for Healthy Rangelands and provide improved grazing management by allowing for rest and recovery of the vegetation within the enclosure boundaries. The BLM was a partner on this project.

Medicine Bow National Forest – Little Snake River Restoration - WLCI

This project involved construction of 1-mile of fence along the Little Snake River. The intent was to reduce streambank erosion and restore aquatic habitat and implement improved grazing management. The fence would meet forest plan standards which allow wildlife movement. Partners on this project included BLM and USFS.

Pacific Creek – Continental Peak Riparian Enclosure - WLCI

This project provides for the reconstruction of an existing enclosure to improve riparian habitat along Pacific Creek north and east of Rock Springs. The 130 acre enclosure was rebuilt and improved. Riparian and wetland habitats, and water quality will be improved and the project will enhance use of the area by wildlife including white faced ibis and migratory waterfowl. Grazing management will also be improved and the project will help achieve Standards for Healthy Rangelands. The BLM is a partner on this project.