

# LANDER REGION

## **L**ander Front Mule Deer Habitat Improvement Project (Goal 2) - Carrie Dobey

Phase I of the project was completed in 2009 with a total of 4,338 acres being treated including 70 acres of sagebrush mowed, 2,567 acres of sagebrush thinned with Spike, 1,701 acres of juniper mechanically removed/thinned and 2 wells upgraded to solar arrays. No monitoring transects were read in 2009, but they will all be reread in 2010 to determine the effects of the treatments.

Phase II began in 2009 with 339 acres of juniper thinned, 200 acres of Russian olive and saltcedar mulched and sprayed, 15 acres of basin big sage mulched and juniper removed from several aspen pockets. In 2010, an additional 210 acres of juniper will be treated, the Russian olive and saltcedar will be spot sprayed to control re-sprouts, 500 acres of sagebrush will be mowed and 540 acres of sagebrush will be thinned with Spike. A monitoring transect was established prior to the new juniper treatment and will be reread in 2010 and two transects will be established prior to the sagebrush treatments as well. A watershed management plan was written for Beaver Creek to direct current and future treatments and management.



Figure 1. Mechanical removal of saltcedar on Beaver Creek.

- 875 acres of juniper removed/thinned.
- 200 acres of Russian olive and saltcedar on Beaver Creek removed and treated.
- A Yellowstone cutthroat trout moved almost 25 miles during the telemetry study in the East Fork Wind River drainage.
- A total of 61 fish were captured in 2009 during entrainment investigations of irrigation diversions on the Spence/Moriarty Wildlife Management Area (WMA), however none were trout.
- A 0.5 acre enclosure was constructed on Red Canyon WHMA to monitor wildlife browse use.
- Began removal of conifers on 50 acres of riparian habitat along Bear Creek.

## **L**ander BLM Resource Management Plan (RMP) Revision (Goal 1) - Nick Scribner and Carrie Dobey

We reviewed the RMP, attended operator meetings, and provided comments on goals and objectives of the plan to ensure protection and rehabilitation of habitat throughout the region. The revised RMP will guide management of about 2.5 million acres of BLM administered public lands for the next 15-20 years. The final plan is scheduled for completion in 2010. We also participated in the Lander BLM RMP revision and commented on the range of alternatives for wildlife, vegetation, weeds and fire.

## Yellowstone Cutthroat Trout Telemetry Study (Goal 2) - Nick Scribner

TU, WGFD, and the Shoshone National Forest (SNF) have identified fish movement patterns as a key unknown regarding the status of native Yellowstone cutthroat trout in the East Fork Drainage of the Wind River near Dubois. As a result, a telemetry study was developed to address four primary goals:

1. Identify Yellowstone cutthroat trout winter habitat and movements in the East Fork Wind River drainage;
2. Identify spawning habitat and time of migration to spawning areas;
3. Determine cutthroat trout movement patterns associated with storm events, spring runoff, and the summer season; and
4. Assess cutthroat trout entrainment in irrigation systems.

Movements of cutthroat trout were evaluated by implanting radio transmitters in 41 adult cutthroat trout during the fall of 2008 and in 16 adult cutthroat trout during spring 2009 (Figure 2). Two tagging sessions ensured a full year of movement data since the radio tags only last roughly 6 months. All radio tagged trout were between 10.2 and 17.7 in long and weighed between 0.4 and 2.5 lbs. Radio tagged fish were relocated about once every month from the time of tagging through September 2009 from an automobile, airplane, or while walking along the river.

During the winter (September – March) cutthroat trout that had been radio-tagged in Bear Creek, Wiggins Fork, and the middle and upper East Fork Wind River occupied a small home range (mean < 0.6 miles), and most fish were found near woody debris, large boulders, or bedrock outcrops. The longest recorded movement during winter was 2.6 miles downstream for a fish in the East Fork Wind River.

The home range size for radio-tagged cutthroat trout in the upper East Fork Wind River during summer (April – September) was much larger (mean = 14.3 miles) than was observed for radio-tagged fish in the same reach during the winter. The longest recorded movement during the summer for a fish was 24.9 miles, which was a trout that moved down from the upper East Fork Wind River and up the Wind River just past the Jakeys Fork. In addition, one trout was caught by a fisherman and another became entrained in an irrigation ditch and ended up dying in irrigation pipe.

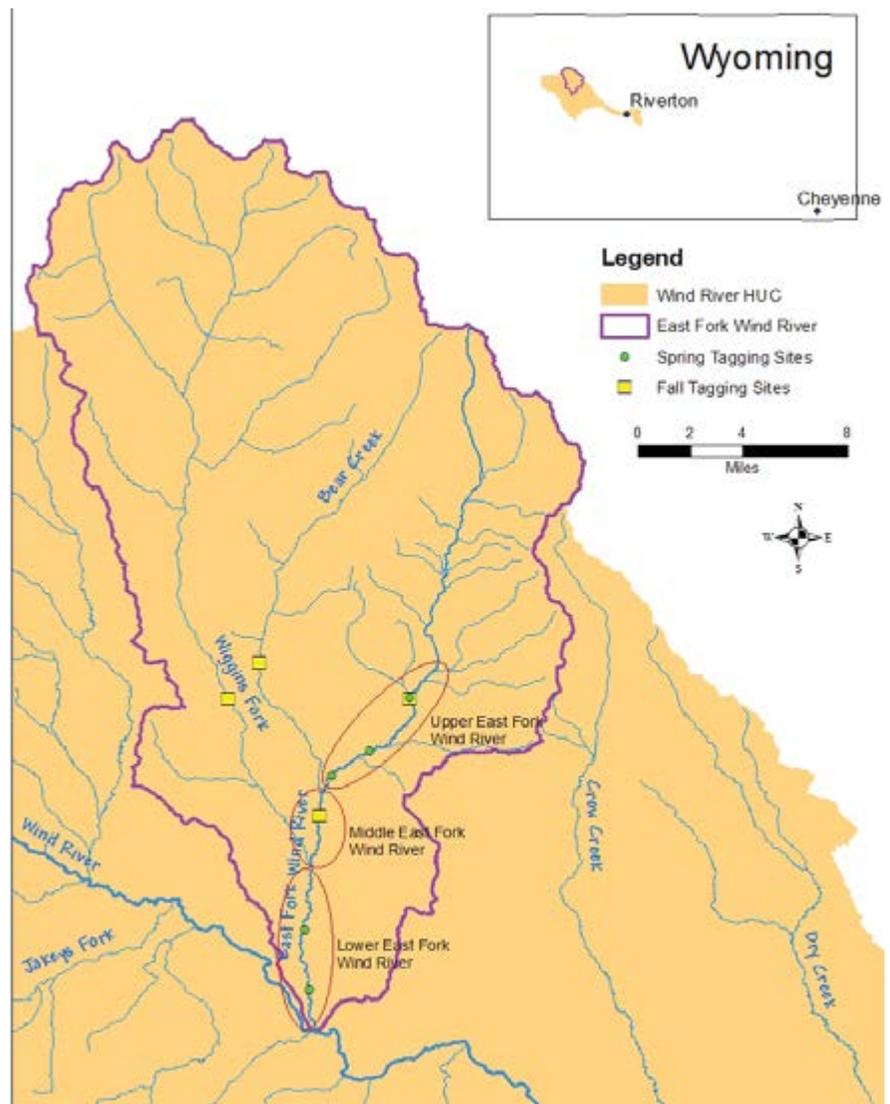


Figure 2. Study area and tagging sites for the Yellowstone cutthroat trout telemetry study. Red circles indicate different sections of the East Fork Wind River.

This study provided solid information on Yellowstone cutthroat trout movements in the East Fork Wind River drainage. It also identified where projects can be conducted to improve habitat conditions for fish and other wildlife. Below are some conclusions:

1. Cutthroat trout in the upper East Fork Wind River and its tributaries successfully over-winter in those locations, but some also move downstream to over winter in the Wind River;
2. Few fish were present in the lower East Fork Wind River and downstream portions of the upper East Fork Wind River during April of 2009. Almost all fish captured during this time were associated with complex woody debris jams (Figure 3), which were scarce in those sections of river, suggesting that winter habitat may limit overall fish numbers;
3. Cutthroat trout in the East Fork Wind River make extensive migrations; therefore, it is important to ensure that diversion dams and other potential migration blockages, such as road crossings, are constructed to facilitate trout movement; and
4. Bear Creek appears to be an important spawning tributary for the East Fork drainage based on several fish moving into Bear Creek during the spawning period.



Figure 3. WGFD personnel electrofishing the East Fork Wind River for cutthroat trout to radio tag near woody debris, excellent fish habitat.

### **Split Rock Ranch Allotment Renewal EA (Goal 1) - Nick Scribner**

**S**I provided input to BLM personnel on a project that will improve the riparian and stream habitat of East Sage Hen Creek, which had a stable brook trout fishery before drought, grazing, and water development impacts occurred over the past decade. The project would permanently fence cattle out of approximately 655 acres of upper East Sage Hen Creek riparian corridor. The fence would also protect a large headwater spring that provides significant flow to the creek and aid in restoring degraded riparian vegetation that is not meeting BLM standards. Eventually, beaver will be reintroduced when vegetation and hydrology are sufficient to support a population, which was historically adequate judging by relic beaver dams in the area. Implementation of this project is planned in the next couple years.

### **Environmental Impact Statement's (EIS) (Goal 1) - Carrie Dobey**

**E**I reviewed and commented on the Beaver Creek and Gun Barrel, Madden and Ironhorse Oil and Gas Field expansion EISs and the Lost Creek Uranium EIS.

## Shrub Production/Utilization Monitoring (Goal 2) - Carrie Dobey

Regional wildlife personnel collected production and utilization data on 10 shrub transects located throughout the region. Utilization over the 08'-09' winter was relatively low at all transects, ranging from 3-28% with an average of 14%. Wildlife could easily roam during the winter due to low snow cover throughout the region therefore they did not focus use in any particular area and over browse the shrubs. Sagebrush production actually declined from 24 mm in 2008 to 20 mm in 2009 despite frequent, significant rain storms that occurred throughout summer. Several other regions had similar results. A cold spring likely hindered the initiation of leader growth. Bitterbrush production did increase however, from 63 mm in 2008 to 94 mm in 2009.

## Herbaceous Production/Utilization Monitoring (Goal 2) - Carrie Dobey

Transects for over winter utilization were not monitored for the 2008-2009 winter due to late snow cover. By the time the areas were accessible, vegetation had already begun to green up making clipping extremely difficult. General observations indicated that most of the region had light to moderate use. Production increased at all areas in 2009 due to a wet spring and summer (Figure 4). The extremely high production on Red Rim WHMA was attributable to two transects located in meadows, but the uplands only produced 132 lb/acre.

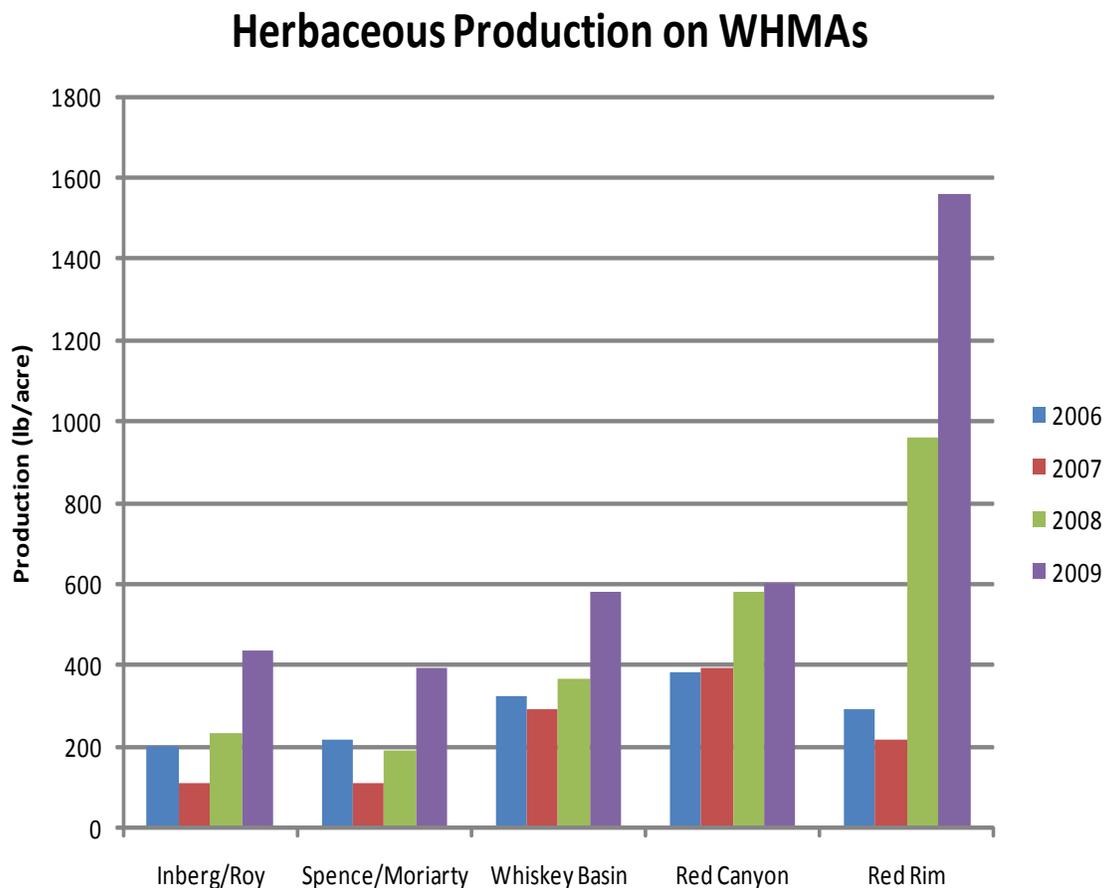


Figure 4. Herbaceous production on WHMAs.

### **Lysite Reclamation Study (Goal 5) - Carrie Dobey**

Extremely dry conditions have led to highly unsuccessful reclamation on newly constructed oil and gas pads in the Lysite and Beaver Creek areas. WGFD assisted the BLM, NRCS, Conoco-Phillips and Devon Energy in the development of a reclamation study being conducted at Conoco-Phillips' Lysite oil field and at Devon's Beaver Creek oil field. In an effort to increase reclamation success both companies agreed to complete various planting techniques on three different soil types at each oil field. Tests were set up on a clayey, sandy and saline site on both units. Each pad was divided into a split plot design to test 3 variables – cover crop vs. no cover crop, drilling vs. broadcasting, and irrigated vs. non-irrigated. The sections selected to receive a cover crop were planted with barley in May and mowed in July-August. Barley germinated at all but one saline site. Initially the group decided not to erect temporary electric fencing because of cost, but grazing on the cover crop was significant. The group will decide later whether or not to erect fences before germination in spring 2010. Native seeds were drilled or broadcast in November. Personnel from all agencies and companies will cooperatively monitor the response in late spring-early summer 2010. The goal is to determine the best methodology to use to achieve successful reclamation.

### **Regional Public Information and Agency Collaboration Efforts - (Goals 1, 4 and 5) - Carrie Dobey**

- Participated in the Red Canyon CRM to plan the grazing management on TNC, BLM, USFS and WGFD lands.
- Presented the Lander Front Mule Deer Habitat Improvement Project at The 8th Western States and Provinces Deer and Elk Workshop in Spokane, WA.
- Participated in a cooperative monitoring of the Atlantic City grazing allotment with the BLM and USFS range conservationists and allotment permittees.
- Began planning prescribed burns on the Ferris and Seminoe Mountains with the BLM and landowners.

### **Sand Mesa WHMA - Brian Parker**

Building on the momentum gained by the replacement of the pivots at Sand Mesa WHMA a surge valve was added to the gated pipe fields. The farm fields were planted in barley, wheat and corn during 2009. This effort was associated with increased fall waterfowl and pheasant use.

### **Whiskey Basin WHMA - Brian Parker**

The Basin Meadow at Whiskey Basin WHMA was farmed and the irrigation infrastructure was converted from ditch/flood irrigation to gated pipe. This project will benefit wintering bighorn sheep by reducing forage utilization on adjacent BLM grazing allotments.

### **Government Draw Sage Grouse Habitat Improvement, Hudson WY - Amy Adams**

Habitat and Access Development Crew personnel treated 500 acres of sagebrush with the 20-foot rotary cutter. Some of the treatment goals were to increase vegetative species diversity and the overall nutrient quality to encourage sage grouse to remain longer on their nesting and early brood-rearing habitats. Devon Energy and Wyoming Wildlife Federation provided fuel for the equipment.

### **Red Rim/Daley - Carrie Dobey**

A contractor was hired to spray weeds on the Red Rim/Daley WHMA as part of an overall habitat improvement project underway on the unit. Forty-three acres of Canada thistle and 17 acres of halogeton were treated in 2009. A spot spray will be completed in 2010 or 2011 to remove any missed or re-sprouted plants.

### **Ferris Mountain WSA Leafy Spurge Treatment - WLCI**

This project treats areas in and around the Ferris Mountain Wilderness Study Area (WSA) for invasive weeds: mainly leafy spurge, Russian knapweed, and whitetop. Treatment consists of herbicide application on public and adjoining private lands in this extremely rugged area. During 2009, 400 acres were treated. Partners include the BLM, grazing permittees, and Carbon County Weed and Pest District. The WLCI supplied \$20,000 to aid in controlling these invasive weed species.

## Sinks Canyon WHMA (Goal 2) - Carrie Dobey

An arsonist started several fires in the Sinks Canyon WHMA during 2009 ranging from 1 to 30 acres. In an effort to control cheatgrass spread, WGFCD contracted with the Fremont County Weed and Pest to spray Plateau on approximately 13 of the 18 acres burned in February (Figure 5). Some areas were too rugged to spray by foot and not large enough to warrant using a helicopter. The treatment will be monitored to determine the effects of the Plateau.



Figure 5. Fremont County Weed and Pest spraying Plateau on arson burn.

## Spence/Moriarity WMA Fish Entrapment Investigations (Goal 2) - Nick Scribner

Fish entrainment was intensively studied in 2009 on 2 diversions within the Spence/Moriarity WMA. One ditch (East Fork Diversion) was off the East Fork Wind River roughly 1 mile above the Bear Creek confluence. The other ditch (Wiggins Diversion) was off the Wiggins Fork approximately 2 miles above the confluence with the East Fork Wind River.

In the East Fork Diversion, a total of 27 fish were captured over 47 days of sampling; 3 mountain suckers, and 24 longnose dace. Sampling began May 27th and ended August 12th. Most fish (15) became entrained during July. Irrigation flows in this ditch were steady at 12-15 cfs for most of June into early July then dropped to about 1 cfs for the remainder of the irrigation season. Above average water years like 2009 appear to make this diversion a low priority for us to address since very few fish were caught and none were Yellowstone cutthroat trout. However, as recent as 2006, the entire East Fork Wind River was diverted down this irrigation ditch in what was a below average water year (Figure 6). Thus, improvements to this diversion or irrigation strategy are warranted.



Figure 6. The East Fork diversion in July 2006 diverted the entire East Fork Wind River and left roughly 1 mile dry for a short period of time.

In the Wiggins diversion, a total of 34 fish were captured over 37 days of sampling; 4 suckers and 30 dace. The sampling period was the same as the East Fork diversion; however some days were missed because of difficulties setting a net in this large ditch. Again, most of the fish (21) became entrained during July. Flows in the diversion were high during June at 24 cfs, then dropped to about 10 cfs in July, and decreased to roughly 4 cfs the first half of August. These results confirm earlier small scale sampling that caught very few fish entrained and none of them trout. Higher stream flows in the Wiggins Fork, very low fish loss, and a better irrigation take out location make this diversion a low priority for modification.

## **Bear Creek Conifer Removal (Goal 2) - Nick Scribner**

Conifer encroachment of the riparian area is having an impact on the deciduous vegetation regeneration and aquatic resources of Bear Creek on the Inberg/Roy WHMA (Figure 7). Removing conifers will enhance deciduous vegetation, which will increase soil moisture and invertebrate biomass that in turn can improve aquatic habitat. So to address this issue, approximately 78 acres were mapped in December 2008 for potential treatment within the riparian area of Bear Creek. The potential treatment sites were selected because the conifers were small, densities were low, marketable timber was limited, and they could be treated fairly easy with a hand crew and chainsaws. After regional consensus, work began to remove conifers on a 50 acre project area. Conifer trees 6' or shorter were quite dense along Bear creek within the project area. Work was done by a Department crew and will continue into 2010 to complete the project. Many of the larger trees remain standing and are being planned for use in Bear Creek and the East Fork Wind River as woody debris to enhance stream habitat.



Figure 7. Bear Creek conifer encroachment in 1979 (above) and 2008 (below).

## Red Canyon Exclosure (Goal 2) - Nick Scribner

**R**A historical photo (1900 era) of the Red Canyon WHMA depicts a very different riparian area than what currently exists along Red Canyon Creek (Figure 8). Only the foundation of the house is still visible while trees and shrubs have been reduced dramatically. However, reasons for such a change in vegetation are not well understood, though events such as wildfires and chemical spraying near this area have occurred over the past few decades. More recently, it appears browsing use from wildlife such as deer and elk may be limiting the establishment of shrubs and trees.

To assess this theory and to improve conditions for woody species, a 0.5 acre wildlife exclosure fence was constructed in 2009 with another 1.0 acre exclosure planned for 2010. The exclosures will remain up for at least 5 years with monitoring inside and outside the fences to document changes in vegetative health and determine if browsing is limiting tree and shrub growth.

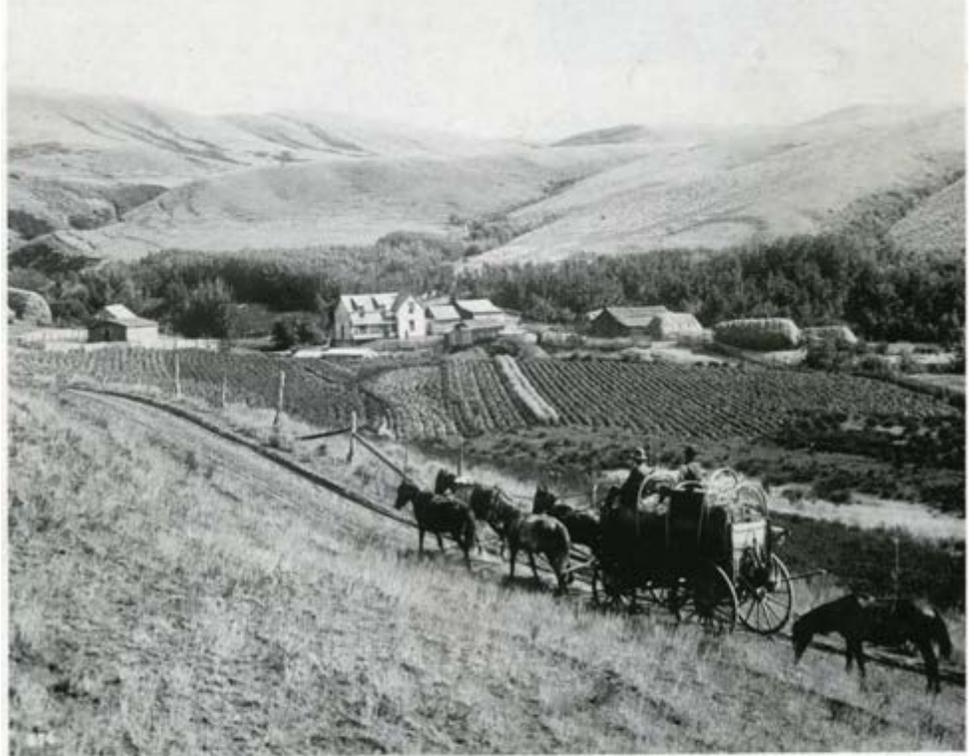


Photo credit Wyoming State Archives, Museums and Historical Department, Stinson Collection



Figure 8. Photo from around 1900 (above) and 2009 (below) documenting a very different riparian area.