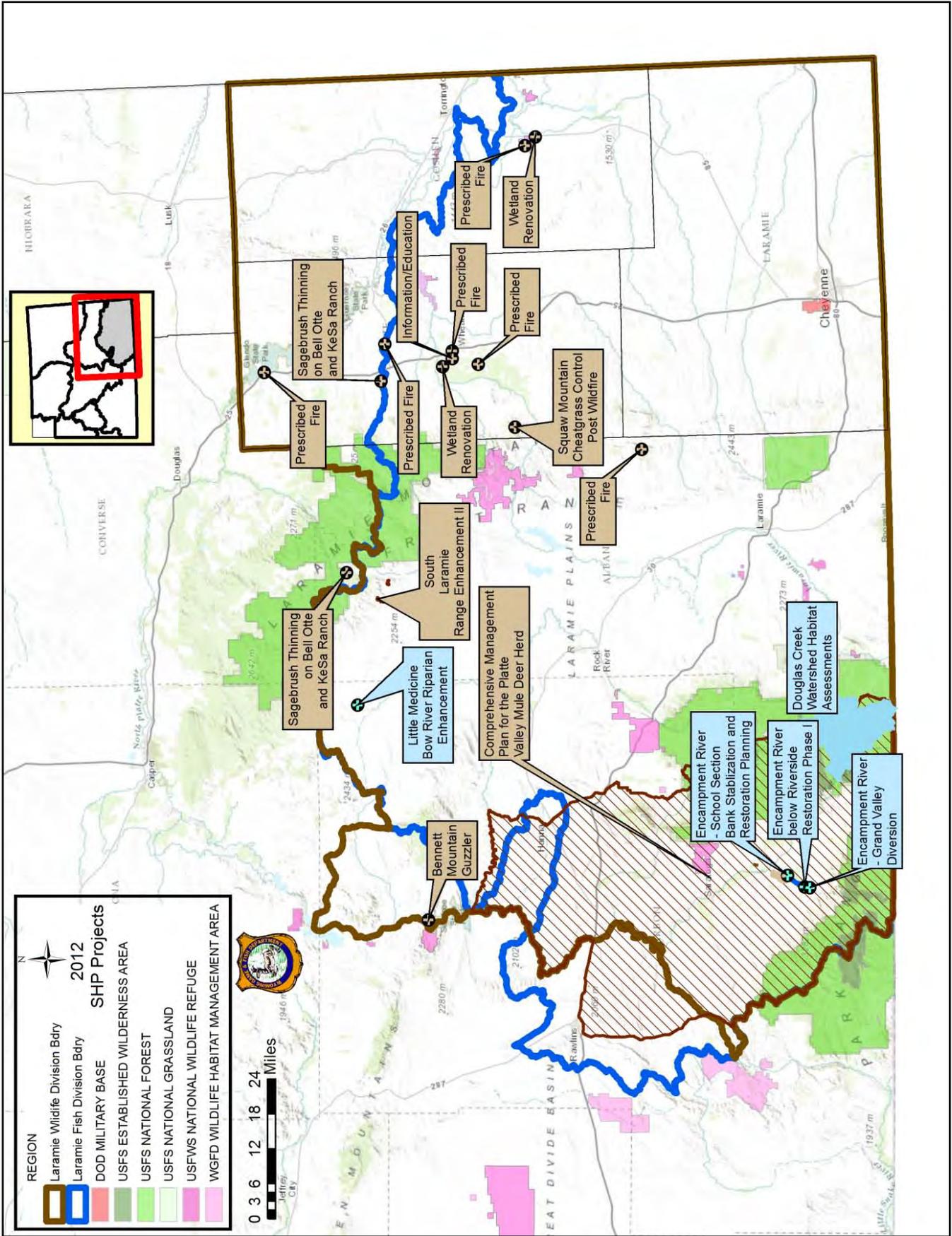


# LARAMIE REGION



## LARAMIE REGION HIGHLIGHTS

- Watershed Habitat Assessment Methodology (WHAM) surveys were completed on approximately 103 stream miles in the Douglas Creek Watershed.
- Along the Encampment River, approximately 1,850 feet of stream channel was restored and a fence was built creating a 77 acre riparian pasture.
- Sprayed 1,074 acres to control cheatgrass in the Baggott Rocks area of the Platte Valley.
- On the Pennock Mountain WHMA 132 acres of irrigated meadows were enhanced along with the development of a wildlife watering tank from a water well.
- Near Marshall, 1,850 acres of big sagebrush was chemically thinned to promote rangeland health.
- Approximately 5,100 acres were sprayed to control cheatgrass within the Squaw Mountain wildfire area.
- Many I&E efforts and public meetings were held relative to the Platte Valley Mule Deer Initiative and the Platte Valley Habitat Partnership.

### **S**quaw Mountain Cheatgrass Control Post-Wildfire (Goal 2) – Ryan Amundson

To address potential cheatgrass invasion following the August 2011 wildfire on Squaw Mountain, located southwest of Wheatland, approximately 5,100 acres of south facing aspects and areas of high fire intensity were aerially treated with imazapic herbicide in September 2012 (Figure 1). Funding from numerous partners was applied for and received to implement the treatment. Several permanent monitoring transects were established pre-treatment to measure herbicide effectiveness. Extreme drought conditions in 2012 resulted in little perennial vegetation recovery post-fire, and at the same time little cheatgrass emergence was seen (Figure 2). Two years of cheatgrass control post-treatment are expected on treated areas. The area serves as crucial winter range for mule deer and elk, and post-fire we expect to see bighorn sheep pioneer into the area as well.



Figure 1. Steep, rugged topography made herbicide application from fixed wing or ground impossible, so a helicopter was used to apply the herbicide.



Figure 2. Re-sprouting of key winter range shrubs was seen post-fire, but cheatgrass in the understory is cause for concern.

## **P**ennock Mountain WHMA Well Development (Goal 2) – Josh DeBerard

The WGFD crew leader installed three hundred feet of pipeline, one 500 gallon water trough and one 30 gallon trough to provide a seasonal water source for wildlife including sage grouse, pronghorn, mule deer, and elk. The well development site is located on a dry sagebrush / grass upland bench.

## **E**ncampment River – Grand Valley Diversion (Goal 2) – Christina Barrineau

The Encampment River – Grand Valley Diversion improvement aims to remove an existing cobble push-up dam and replace it with a more stable cross-vane structure. In 2012, WGFD contracted with Stantec Consulting Services, Inc. for a survey and design for the diversion, which is located on the Encampment River, near the town of Riverside. Each year, during the irrigation season, heavy equipment is used to push-up the riverbed to divert flow into the Grand Valley Ditch. The push-up dam spans the width of the channel and inhibits upstream fish movement. Downstream of the dam, the channel has become over-widened and cannot efficiently transport sediment. The new diversion structure will allow water users to receive water without having to annually manipulate the riverbed, while also allowing for fish passage (primarily brown trout and rainbow trout). In order to create the stability for the new structure, the stream channel immediately upstream and downstream (~550 ft each direction) will be narrowed and deepened.



Figure 3. Surveying the Encampment River – Grand Valley Diversion for a new, stable structure and stream channel.

Survey work on the river was completed in December 2012, and a design is expected in spring 2013 (Figure 3). Construction is slated for fall 2013. The Saratoga-Encampment-Rawlins Conservation District (SERCD) is the lead for the project and will work closely with the landowners, water users, and funding partners. Other partners for the improvements include; WLCI, USFS Resource Advisory Council, WWNRT, and TU.

## **C**heatgrass Herbicide Treatment at Baggott Rocks in the Platte Valley (Goal 2) – Heather Halbritter



Figure 4. Spraying cheatgrass at Baggott Rocks.

The Baggott Rocks area in the Upper North Platte River Valley is considered crucial winter range for mule deer; however, range conditions have been degraded with an infestation of cheatgrass. With assistance from the Rawlins BLM, the SERCD, and the OSLI a total of 1,074 acres were aerially sprayed with Plateau® herbicide in September (Figure 4). Cheatgrass response to the herbicide will be monitored and the data collected will determine the need for future treatments.

## Wetland Renovation (Goal 2) – Ryan Amundson

A 100 acre wetland complex near Wheatland had been previously aerially treated with herbicide to kill Russian olives that had dominated the area for over 15 years. In winter 2012, the Russian olives were masticated followed by interseeding of desirable grasses. In addition, the wetland area was treated with Milestone® herbicide to control kochia and Canada thistle that had dominated the understory of the Russian olive stands for years (Figure 5). Treatment was completed with a boom truck, ATV sprayer units, and backpack sprayers.



Figure 5. Noxious weeds were some of the only plants that had an excellent growth year in 2012 near Wheatland. Efforts to combat weed invasions in new seedlings were necessary.

In recent years, nesting waterfowl have been scarce on the project site. In spring 2012, the wetland was utilized by numerous sandhill cranes, Canada geese, widgeon, teal, and mallards during spring breeding season. Several pairs of ducks, geese, and cranes ended up using the wetlands for nesting, and numerous young broods were seen throughout the summer.

## Encampment River Below Riverside Restoration Phase I (Goal 2) – Christina Barrineau

The Encampment River below Riverside is highly unstable with areas of bank erosion, extensive transverse bar development, channel degradation, and channel aggradation. Causes of the instability include: historic tie drives, mining, dredging, water diversions, Cheyenne Stage II, and land use activities. The instability is causing riparian habitat and agricultural land loss, as well as degraded in-stream habitat for aquatic species. Construction efforts for the Encampment River below Riverside Restoration began in 2011 and continued again in late summer and fall 2012 (Figure 6). The goals of the restoration are to 1) dissipate energy and prevent land loss by building floodplain benches, installing bank protection and expanding pool habitats, 2) improve bedload transport by changing stream dimension and pattern, 3) provide grade control by installing in-stream structures, and 4) improve trout habitat with overhead cover on banks, deeper and more abundant pools, and narrower riffles.

Restoration completion was expected in 2012, but due to changes in land ownership and in the original design plan, the restoration was neither completed in two field seasons or within the initial budget. Approximately 1,850 feet of stream

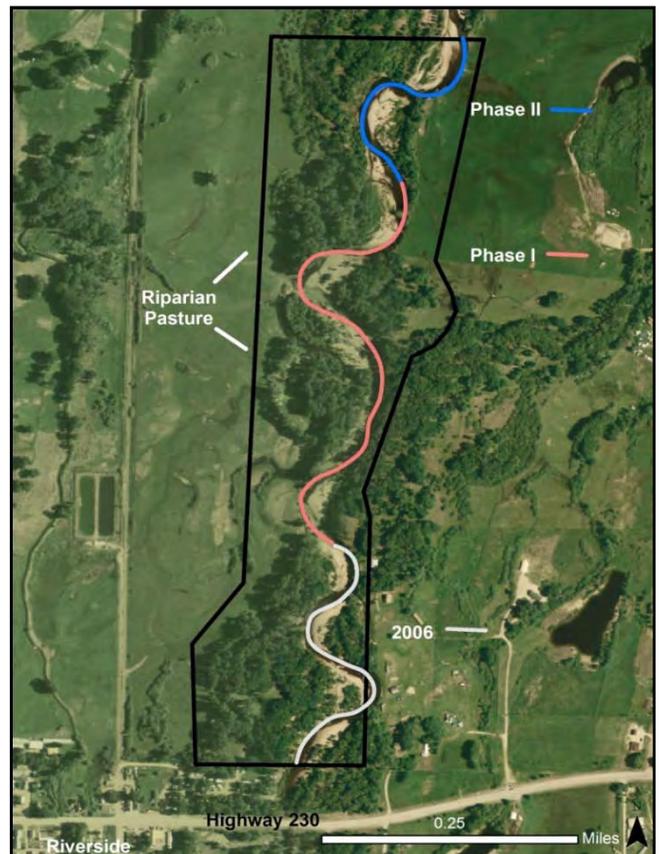


Figure 6. Aerial map of the phases of the Encampment River below Riverside Restoration and the riparian pasture. Phase I represents work completed in 2011 and 2012. Phase II represents work planned for 2013.

channel was restored in 2012, and efforts focused on adjusting meander bends, grading floodplain benches, constructing in-stream rock structures, installing toe wood for bank stabilization, and planting willow stakes and clumps (Figures 7a and 7b). Daily construction oversight was provided by WGFD and TU. Additionally, 6,750 linear feet of fence was installed creating a 77 acre riparian pasture. A 10-year agreement was established between the USFWS and the private landowner for grazing within the riparian pasture.



Figures 7a and 7b. The Encampment River below Riverside Restoration Phase I before (left) construction with an over-widened channel, bank erosion and excessive sediment deposition. Following construction (right), the river has a narrower, deeper channel with floodplain benches and toe wood along pool habitats.

Partners for the 2012 Encampment River below Riverside Restoration Phase I project include; TU, WGFD, private landowner, SERCD, WWNRT, USFWS, and USFS Resource Advisory Council. For 2013, about 1,350 feet of channel will be constructed to complete the restoration on this property. Monitoring efforts will also continue including photo points and channel cross-sections.

### **R**ed Rim – Grizzly WHMA Forage Reserve Grazing (Goal 1) – Dave Lewis

Six cattle operators grazed the WHMA under the cooperative management of the WGFD and BLM in a rest rotation grazing plan designed to benefit wildlife habitat values inside the WHMA and habitat adjacent to the WHMA boundary.

### **R**ed Rim – Daley WHMA Livestock Grazing (Goal 1) – Dave Lewis

Two cattle operators grazed 2,048 AUMs on the WHMA under the cooperative management of the WGFD and BLM in a rest rotation grazing plan designed to benefit wildlife habitat values inside the WHMA and habitat adjacent to the WHMA boundary.

### **C**onduct Ranch Habitat Improvement (Goal 2) – Heather Halbritter

This project was designed to enhance seasonal and crucial habitats for mule deer, elk, and antelope by providing an immediate source of water, enhancing distribution of livestock from other areas, and removing competition from invasive and encroaching species of plants. Water developments which included well development along with pipeline and stock tanks installation were completed in 2012 with fence construction scheduled this spring. Once infrastructure is complete, livestock grazing management strategies can be implemented to accommodate habitat treatments to control invasive species and improve forage quality.

## **R**ed Rim – Daley WHMA Fence Conversion (Goal 2) – Dave Lewis

A contractor completed the conversion of four and one-half miles of woven wire and five wire fences to improve migration of pronghorn and other big game. The fence was converted to a four – wire wildlife friendly design (Figure 8).



Figure 8. Red Rim - Daley WHMA fence conversion.

## **E**ncampment River – School Section Bank Stabilization (Goal 2) – Mike Snigg and Christina Barrineau

The Encampment River – School Section Bank Stabilization focused on stabilizing approximately 270 linear feet of eroding streambank on a half section of state land several miles downstream from Riverside (Figure 9). The public has access to the river through the state land via two parking lots. The Encampment River was eroding a bank adjacent to a road. Although the road is private,



Figure 9. Bank stabilization along the Encampment River on state owned lands.

the public has pedestrian access to the road. There was concern from the private landowner who uses the access road, as well as safety concerns for the public along the eroding bank. WWC Engineering was contracted to design the stabilization, which entailed re-sloping the bank to a more stable angle, installing rock barbs and rip-rap, and re-seeding the bank. The bank stabilization was constructed in fall 2012.

In addition to the bank stabilization, over the past several years the local Platte Valley TU Chapter has expressed interest in additional habitat projects on this half section of state land. Several other areas of channel instability exist along the Encampment River through the state land.

In November 2012, WGFD contracted with Stantec Consulting Services, Inc. to complete a survey for conceptual designs for future habitat improvements using Natural Channel Design. Approximately 4,000 linear feet of channel was surveyed in December 2012. Future habitat projects are planned for 2014 and 2015, following further development of conceptual designs and agreements with State Land Board and grazing lessees.

## **P**ennock Mountain WHMA Meadow Enhancement (Goal 1) – Josh DeBerard

The improvement of 132 acres of historical hay meadows included the installation of 1,000 feet of irrigation pipe, four culverts and six water control structures. Installation was performed by a private contractor and the Habitat and Access crew leader. These improvements will increase standing forage production for big game, especially elk wintering on the WHMA.

## **B**ennett Mountain Guzzler (Goal 5) – Ryan Amundson

In July 2012, a group of 20 dedicated volunteers and WGFD employees installed a wildlife guzzler on top of the Bennett Mountains near Seminoe Reservoir (Figure 10). The 2,000 gallon capacity guzzler was hauled to the site and initial ground site preparations were completed by the Rawlins BLM Field Office Engineering and Operations staff. The guzzler, catchment apron, and livestock exclusion fence were installed by members of the Wild Sheep Foundation, BOW, RMEF, and WGFD personnel (Figures 11 and 12).



Figure 10. A hard days' work for a dedicated group of volunteers.

Some bighorn sheep transplanted into the Seminoe Mountains in recent years have made their way across Seminoe Reservoir and have taken up residence on nearby Bennett Mountain. Lack of water at high elevations results in bighorns making long daily trips up and down the mountain to the North Platte River for water. This makes them more susceptible to predation and likely impacts lamb survivability. The guzzler project, costing approximately \$10,500 to complete, will serve as an important seasonal water source for elk, mule deer, antelope, and bighorn sheep.



Figure 11. Rolling out the heavy mil plastic catchment apron liner.



Figure 12. The 100' x 30' catchment apron will catch moisture in the form of snow and rain and transport it to the tank through a small pipeline.

## Douglas Creek Watershed Habitat Assessments (Goal 2) – Christina Barrineau

WHAM Level 1 surveys were completed on Douglas Creek and 19 tributary streams, covering approximately 103 stream miles on the Medicine Bow National Forest during summer 2012. Surveys were conducted within the following four, sixth level HUCs: Upper Douglas Creek (101800020104), Middle Douglas Creek (101800020105), Pelton Creek (101800020106), and Lower Douglas Creek (101800020107). Streams assessed were stable, although some areas of instability were observed. Potential reference reaches were also identified for future data collection of stable stream habitat. Reference reaches provide vital stream channel design criteria for restoring degraded stream reaches. Most current beaver activity was found on Douglas Creek and its larger tributaries: Pelton Creek, Lake Creek, and Muddy Creek. Relict beaver activity was observed in most of the smaller tributary streams. Widespread watershed impacts observed included bark beetle impacts to upland conifer vegetation, unauthorized ATV trails, present recreational gold mining, and historical gold mining (Figure 13). An administrative report detailing observations and management recommendations for the surveyed drainages (2010-2012) will be completed in 2013. Additional information can be found in the WGF D WHAM and Photo databases.



Figure 13. Three separate ATV crossings of Camp Creek in the Douglas Creek Watershed.

## Platte Valley Mule Deer Habitat Management (Goal 2) – Heather Halbritter

The objective of the project is to modify fencing for mule deer migration, protect natural water sources, construct new water developments to spread livestock use, enhance upland habitat by increasing management flexibility, reduce juniper/conifer encroachment into riparian areas, and reduce noxious invasive weeds. In 2012 a water storage tank was installed, five miles of water pipeline were installed to support seven new tire troughs, and five miles of disturbed surface were seeded as a result of this pipeline install (Figure 14). In 2013, construction of 3 miles of new pasture fence and conversion of 2.5 miles of existing fence to wildlife friendly fencing standards is planned.



Figure 14. One of seven new tire troughs.

## Shrub Production 2012 (Goal 2) – Ryan Amundson

In 2012, shrub production was less than desirable throughout the eastern portions of the Laramie Region. Production of key shrubs such as antelope bitterbrush and true mountain mahogany decreased by more than 90% in the Laramie Range from 2011 levels. Many of the shrub transects read annually are within areas treated by prescribed fire or mowing in the last 10 years. Shrubs in treated areas exhibited five to six times greater leader growth compared to

untreated areas. In years like 2012, this is substantial, as untreated areas averaged less than 0.2 inches per leader. It is becoming increasingly apparent that prescribed fire and mowing treatments in mixed shrub habitats exhibit marked increases in annual leader production rates for five years post-treatment. After five years, production slowly tapers off and moves back towards pre-treatment levels. Utilization rates by wild ungulates follow a similar pattern, including high use for five years post-treatment, and then decreasing rapidly to pre-treatment levels as plants mature and nutritive content and palatability decrease. On the eastern flanks of the Laramie Range, annual precipitation was approximately 10% - 15% of “normal”, and shrub production followed this percent decline in precipitation in direct correlation.

## **P**rescribed Fire (Goal 2) – Ryan Amundson

Several prescribed fires were planned for 2012, with some smaller scale projects being completed. Wetland islands were burned to reduce woody vegetation (Figure 15), weed-dominated fields were burned to prepare seedbeds for interseeding (Figure 16), and 680 acres of dense nesting cover were burned to improve the health and vigor of introduced grasses on the Springer WHMA. Phase II of the Iron Mountain prescribed burn was not conducted in 2012 due to the spring burn window being missed (rapid, early green-up), and persisting drought conditions in the fall. If normal moisture conditions return in 2013, plans are to complete Phase II and III of the Iron Mountain project, totaling over 3,000 acres. Coordination with local fire departments, application for Wyoming Department of Environmental Quality smoke permits, and other federal and local clearances were conducted to assist several landowners.



**Figure 15.** Wetland islands were burned through prescription in spring 2012 to remove woody vegetation and improve nesting success by migratory waterfowl.



**Figure 16.** Local volunteer fire departments are contacted to assist with containment of prescribed burns on private lands. The projects serve as valuable training exercises for volunteers, as well as accomplishing habitat enhancement goals.

## **P**latte Valley Mule Deer Initiative (Goal 2) – Heather Halbritter

Project development is ongoing with funding tied to improving mule deer habitat in the Platte Valley. A portion of these funds have been granted for a project on the Condict Ranch LLC which was impacted by the South Pennock wildfire. The wildfire burned approximately half a section of the ranch. A wildlife friendly cross-fence will be installed this spring with support from the private landowners and the SERCD to allow for better livestock management and proper recovery of the burn. The cross-fence will allow for two years of rest from livestock grazing in the burned area and will also allow for future use of livestock as a biological control to control cheatgrass.

## **S**hirley Basin Area Sage Grouse Habitat Management (Goal 2) – WLCI, Jim Wasseen

This project involves range improvements on BLM lands believed beneficial to sage grouse. The Shirley Basin watershed provides habitat for a variety of wildlife species including identified core areas for greater sage grouse, as well as historic sage grouse ranges outside of core areas. Project objectives center on bringing upland and riparian vegetation, wildlife habitat, and watershed health towards a condition that will better benefit grouse. Improving areas of nesting habitat as well as brood rearing habitat for grouse will be the major focus in the Shirley Basin area. Archeological and wildlife clearances on three miles of fence were completed. A contractor was hired and materials ordered for work to be completed in 2013.

## **S**aratoga Lake Public Access Area and Storer Wetlands – Dave Lewis

A contractor completed the installation of a new control headgate and 100 feet of new culvert to repair the main outlet control structure in the Saratoga Lake dam in 2012. (Figures 17 and 18).



Figure 17. Saratoga Lake control headgate during construction.



Figure 18. Saratoga Lake headgate completed.

## **H**abitat Extension Biologist, Information and Education Efforts in SE Wyoming (Goal 4) – Ryan Amundson

Numerous presentations were given to schools, 4H groups, and sportsmen organizations during 2012. Projects included tours of local habitat projects, hands-on fish habitat structure construction projects, lake aerator system installation, Science Day and Agriculture Exposition presentations, sportsman convention booths, and other formal educational presentations (Figure 19). In total, over 12 formal events were attended, with over 350 people receiving a conservation message.



Figure 19. Local 4H members assisting WGFD personnel with construction and installation of fish habitat structures at Festo Lake near Wheatland.

### **Platte Valley Habitat Partnership (Goal 5) – Heather Halbritter**

The Platte Valley Habitat Partnership was developed as part of the Platte Valley Mule Deer Initiative. Monthly facilitated public meetings began in Saratoga during the spring of 2012 with an average of 30 participants and as many as 50 attendees. Various agencies, private landowners, and other interested groups have been well-represented at these meetings and through the process of collaborative learning the group has gained knowledge about mule deer ecology and the tools available to improve habitat in the Platte Valley. Participants are currently working on developing a habitat plan that will guide habitat management efforts in the Platte Valley into the future.

### **Little Medicine Bow River Riparian Enhancement (Goal 3) – Christina Barrineau**

Willow planting efforts on the Little Medicine Bow River continued in 2012 with assistance from the USFWS and the Medicine Bow Conservation District (Figure 20). This marks the third year of willow planting along the Little Medicine Bow River on private land. Approximately, 2,000 feet of streambank was planted with willow sprigs near the Walker-Jenkins PAA. Over the next several years, willow plantings will continue to be monitored for success and other areas will be identified on the ranch for future plantings.



Figure 20. Planting willows along the Little Medicine Bow River.

### **Wildfires 2012 (Goal 1) – Ryan Amundson**

Several large wildfires totaling over 130,000 acres occurred in 2012, including the Arapaho Fire (Laramie Range), Cow Camp Fire (Laramie Range), Guernsey State Park Wildfire (human-caused), and Squirrel Creek Fire (Snowy Range). Time was spent assessing fire severity and coordinating with federal agency partners and private landowners to discuss fire rehabilitation efforts. Efforts are on-going to evaluate risk of noxious weed invasion and erosion throughout the wildfires (Figure 21). Some positive signs were seen post-fire including excellent aspen regeneration throughout the Arapaho Fire area (Figure 22), and a general lack of high fire severity/intensity throughout most of the Squirrel Creek Fire area (Figure 23).



Figure 21. Areas impacted by higher fire intensities were also prone to large erosion by wind and water post-fire. This site is scheduled for re-seeding in 2013 with grasses and legumes, and will be partially funded through the WGFD's Legume Seeding Program.



Figure 22. The Squirrel Creek Fire exhibited excellent mosaic burn patterns. With normal precipitation, recovery post-fire is expected to be excellent for winter mule deer habitats.



Figure 23. Aspen regeneration in areas burned in the Arapaho Fire was immediate and outperformed our expectations.

### **L**aramie Regional Information and Education Efforts (Goal 4) – Al Langston

Al Langston covers Laramie Region I&E duties, as well as numerous statewide duties. Most of his habitat related involvement during 2012 involved the Platte Valley Mule Deer Working Group and the Platte Valley Habitat Partnership. He attended numerous meetings, facilitated working groups, participated in a habitat tour with landowners and group members, and produced statewide and local news releases on this effort. He also worked with Christina Barrineau on developing interpretive signs for the Laramie River Greenbelt, which involves riparian habitat along the river. These signs are now completed and will be installed along the greenbelt this spring.

### **W**ildlife Habitat Management Areas (WHMA) and Public Access Areas (PAA) (Goal 2) – Habitat and Access Personnel

- In Albany County, 31 acres of WGFD PPAs were treated for noxious weeds.
- In Carbon County, 25 acres of WGFD PPAs were treated for noxious weeds.
- **Red Rim - Daley WHMA**, 49 miles of crucial winter range fence were maintained. 1,964 AUMs of livestock grazing were used under a forage reserve and habitat improvement program. A contractor converted 4 ½ miles of woven wire fence into four wire wildlife friendly fence.
- **Springer WHMA**, 116 acres of warm season grasses and 10 acres of cool season grasses were irrigated under a pivot irrigation system by the contract farmer. The farming contractor also planted, irrigated, and harvested 170 acres of corn and irrigated 20 acres of small grain food plots that were left standing for wildlife forage.
- **Red Rim - Grizzly WHMA**, 88 miles of boundary fence were maintained and 3,658 AUMs of livestock grazing were utilized for forage reserve and habitat improvement.
- **Forbes WHMA**, 4 miles of boundary fence were maintained and Albany County Weed and Pest sprayed one acre for noxious weeds.
- **Pennock Mountain WHMA**, 68 acres of hay meadow were irrigated and 29 miles of crucial winter range boundary fence were maintained. A contractor completed 25 acres of noxious weed control. Two water troughs were installed to provide water for wildlife.

- **Wick WHMA**, 653 acres of hay meadows were irrigated to provide forage for wintering wildlife. A total of 254 acres of noxious weed control was completed by a contractor and 20 miles of crucial winter range fence were maintained. The livestock operator used 220 AUMs on the existing grazing lease. The WGFD crew rebuilt one irrigation diversion structure on the Wick-Olsen ditch (Figure 24).



Figure 24. Wick – Olsen diversion structure.

- **Laramie Peak WHMA**, 6 miles of crucial winter range fence were maintained and Albany County Weed and Pest sprayed one acre for noxious weeds.
- **Thorne-Williams WHMA**, 7 miles of boundary fence were maintained, fencing supplies were purchased for three miles of woven wire fence conversion, and 4 acres of noxious weed control were completed by a contractor.
- A noxious weed contractor sprayed 62 acres on the **Springer, Bump Sullivan, and Mac's 40 WHMAs**. 11 goose blinds were re-leveled and rip-rapped at Bump Sullivan Reservoir to prevent erosion and improve public access (Figure 25). Goose nesting structures were repaired and re-bedded with assistance from the Two Shot Goose Hunt volunteers. 6 miles of boundary fence was maintained and the WGFD crew repaired and rip-rapped 1,600 feet of wetland dikes at the Wellnitz ponds (Figure 26).



Figure 25. Goose pit with rip rap.



Figure 26. Wellnitz pond dike with rip rap.

- **Table Mountain WHMA**, 50 acres of food plots were planted, irrigated through flood irrigation, and left standing for wildlife propagation. Goshen County Weed and Pest sprayed 10 acres of noxious weeds. 10 miles of boundary and pasture fence were maintained and 297 livestock AUMs were used by the BLM livestock grazing permittee.
- **Cottonwood Draw WHMA**, 3 miles of boundary fence were maintained.
- **Rawhide WHMA**, noxious weed location mapping was initiated for control efforts in 2013 and 7 miles of boundary fence were maintained.