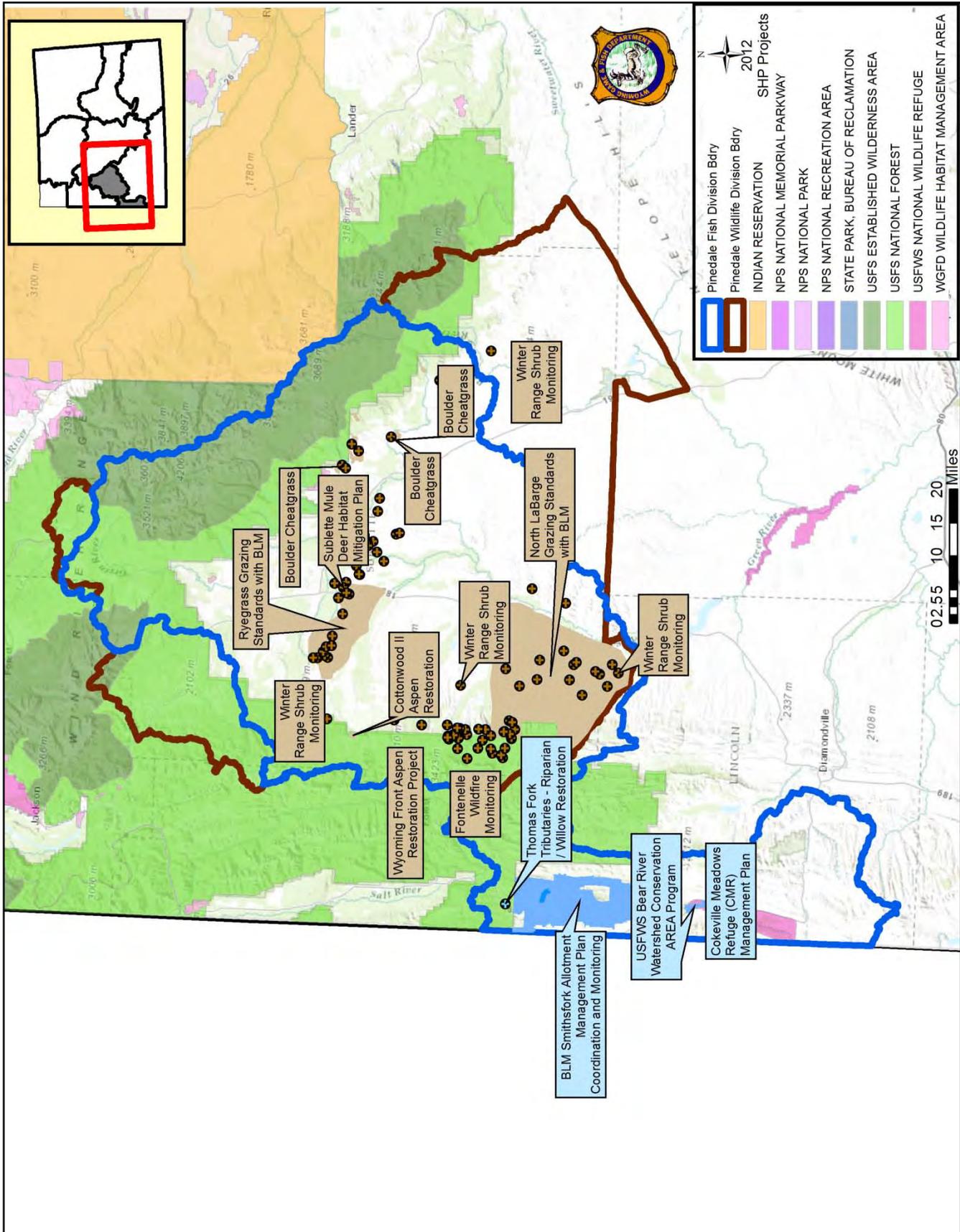


# PINEDALE REGION



## PINEDALE REGION HIGHLIGHTS

- Coordinated extensively, internally and externally, to develop a vegetation restoration plan following the 64,000 acre Fontenelle Wildfire.
- Planted approximately 150 willows, 20 cottonwoods, and 10 dogwoods in one of the newer Huff Creek exclosures.
- Coordinated with the BLM to implement and monitor the Smithsfork allotment management plan (AMP) and to develop a willow restoration plan.
- Prepared and submitted a draft EA to the BLM for the Coal Creek Sediment Reduction and Stabilization Project.
- Provided input on the USFWS Management Plan for Cokeville Meadows Refuge and for the proposed Bear River Watershed Conservation Area plan. Treated cheatgrass on 1,140 acres in the Boulder Lake area including 150 acres on the Fall Creek WHMA.
- Monitored reclamation and mule deer habitat treatments per Pinedale Anticline Project Office (PAPO) and Jonah Interagency Office (JIO) Mitigation Office plans.
- Initiated NEPA process for the Wyoming Range mule deer habitat project so that treatments can hopefully start in 2014.

### **P**ond and Holding Tank Development at the Boulder Rearing Station (Goal 2) – Ray Bredehoft, Matt Miller, Kade Clark, and Breanne Thiel

The Pinedale Habitat and Access crew along with assistance from the statewide crew and hatchery personnel constructed a new pond at the Boulder Rearing Station (Figure 1). A new entrance road was also constructed to provide vehicle access to the pond. The pond will be used as a water source for the newly constructed fish holding tanks that were installed next to the pond (Figure 2). The tanks will hold salvaged bluehead and flannelmouth suckers from the Big Sandy River while chemical treatments to remove non-native species are occurring.



Figure 1. Construction of new pond dike.



Figure 2. Installed holding tanks.

### **U**SFWS Bear River Watershed Conservation Area Program (Goal 1) – Floyd Roadifer

The USFWS continued to hold public meetings to discuss potential benefits and concerns associated with their proposed Bear River Watershed Conservation Area program. If approved, the program could make Land and Water Conservation Fund money available to support the purchase of CEs from willing sellers throughout the Bear River watershed. The USFWS is continuing their efforts to complete an EA for the project with the goal of having a final draft released for public comment by May 2013. The AHAB and other WGFD personnel provided

comments and information at public meetings and formally commented on the EA regarding potential wildlife and fisheries benefits.

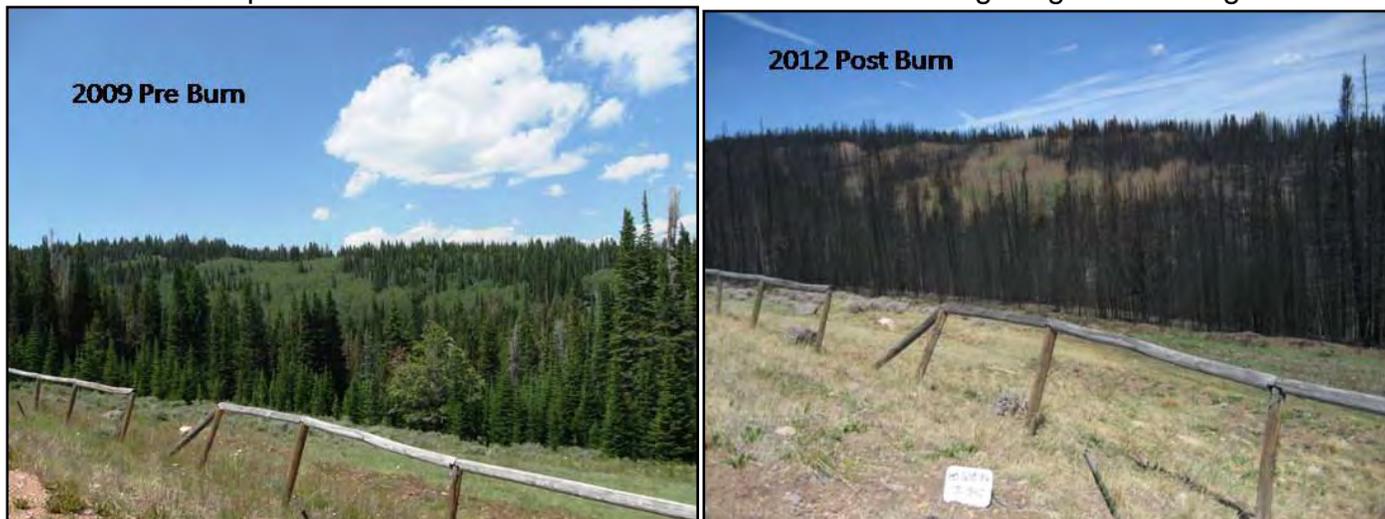
### **Pygmy Rabbit Habitat Occupancy (Goal 2) – WLCI, Jim Wasseen**

Infrared-activated cameras will be placed on the Pinedale Anticline near known pygmy rabbit burrow complexes exhibiting various levels of sign. The cameras will record rabbit activity to develop relationships between habitat quality and rabbit presence and abundance. Field work for this project has not begun, but is scheduled for September, October, and November 2013, due to the increased ability to detect rabbits at their burrows in the fall months.

### **Fontenelle Wildfire Monitoring (Goal 5) – Jill Randall and Floyd Roadifer**

The Fontenelle Wildfire started on June 24, 2012 in the LaBarge Creek drainage and moved in a northeasterly direction along the east front of the Wyoming Range. The fire burned in a mosaic pattern across 64,000 acres, largely in the Piney Creek watersheds, before it was contained in late July. With proper follow up management over the next several years this event has the potential to provide both short-term and long-term benefits to wildlife habitat diversity, livestock forage production, and overall watershed health and stability. However, without proper management, risks of negative impacts to these values and resources are substantial. Significant funding has been secured to implement various restoration actions including weed control, fence reconstruction, and fireline rehabilitation. Additionally, to rest the ten affected federal allotments, alternative pasture needs to be secured for some of the permittees. A WGFD Trust Fund proposal was submitted targeting funds specifically to assist several permittees with the costs of leasing alternative private land pasture. Livestock use is expected to resume on these allotments once quantified monitoring of key vegetation indicates proper restoration of vegetation has occurred. This large scale restoration effort is part of a coordinated partnership between BTNF, Pinedale BLM, NRCS, WGFD, Sublette County Conservation District (SCCD), federal permittees and private landowners.

Monitoring the positive vegetation response of the Horse Creek Wildfire which occurred in 2007, and the numerous other prescribed fires conducted in the Wyoming Range since 1997, provided a template to set vegetation objectives for restoration of vegetation in this wildfire. Federal lands will have monitoring established for quantified aspen objectives in 2013. Additionally, 5 photo points were established on BLM land and 21 photos on USFS land (Figure 3). Most of these were photos taken in 2009 as part of the Mule Deer Habitat Assessment or existing range monitoring sites.



**Figure 3. Example of photo point in the Fontenelle Wildfire that was taken in 2009 (pre-wildfire) and retaken in 2012 (post-wildfire) to help managers understand the long-term effects of vegetation changes due to the wildfire.**

The relatively large scale of the Fontenelle Wildfire combined with more than 13,000 acres of other recent natural and prescribed treatments in the northern Wyoming Range (i.e. the 2002 Mule Fire, the 2005 Horse Creek Fire, and the 2007 Triple Peak Fire) is expected to provide abundant and widely distributed forage. This should greatly reduced potential impacts from excessive browsing by wild ungulates, ultimately increasing the likelihood of long-term successful restoration of healthy and desirable key plant communities such as aspen.

## **L**egume Seeding, Sommers and Grindstone Ranches (Goal 2) – Jill Randall and Ray Bredehoff

In May 2012, 10 acres were inter-seeded with five species of legumes using a Lawson aerator operated by WGFD Habitat and Access personnel (Figure 4). The project was developed with two private landowners to enhance forage quality for sage grouse and mule deer. The areas selected for seeding were adjacent to irrigation ditches, which provide additional moisture required for birdsfoot trefoil, small burnet, sainfoin, cicer



Figure 5. Emergence of legumes occurred on both sites, in spite of drought conditions in 2012.



Figure 4. Lawson aerator inter-seeding legumes into upland habitat.

milkvetch, and falcata alfalfa. The project was designed as a cooperative trial and monitoring was done in 2012 by NRCS to determine if plant emergence occurred (Figure 5). In 2013, follow-up monitoring will determine the success or failure of each species in both locations. If this proves to be successful, this could be an option for private landowners to incorporate into ranch management plans where wildlife goals are a priority.

## **L**ynx Habitat Assessment (Goal 2) – WLCI, Jim Wasseen

This assessment of lynx habitat will help the BLM gain an understanding of pre- and post-treatment impacts to localized snowshoe hare populations from aspen regeneration treatments. The information garnered from the assessment will allow for a greater understanding of when and where to thin forested areas in the Wyoming Range. Work completed included 50 permanent snowshoe hare pellets plots within the Camp Creek prescribed fire 1-year post burn area and 50 permanent snowshoe hare pellets plots within the proposed Miller Mountain prescribed fire area. Additional data collected at each of the above locations included stand measurements, snowshoe hare browse, horizontal cover, and photo points. In the Camp Creek prescribed fire area the plots were split among: slashed but unburned; burned; and un-slashed unburned.

## Winter Range Shrub Monitoring (Goal 5) – Jill Randall

The growing conditions were extremely poor in 2012 due to lack of precipitation in the spring and preceding winter. The drought conditions of 2012 were widespread and severe. Precipitation data from the NOAA weather station near Big Piney documented this to be the driest April through June since 1895, when monitoring started at this site. Many shrubs were simply unable to produce any leaders and leaves were even stunted in many cases (Figure 6). Ephemeral leaf drop occurred in August on many plants, just one of many response mechanisms to the extremely dry conditions. Seed production was very minimal for all species due to lack of resources available to the plants.

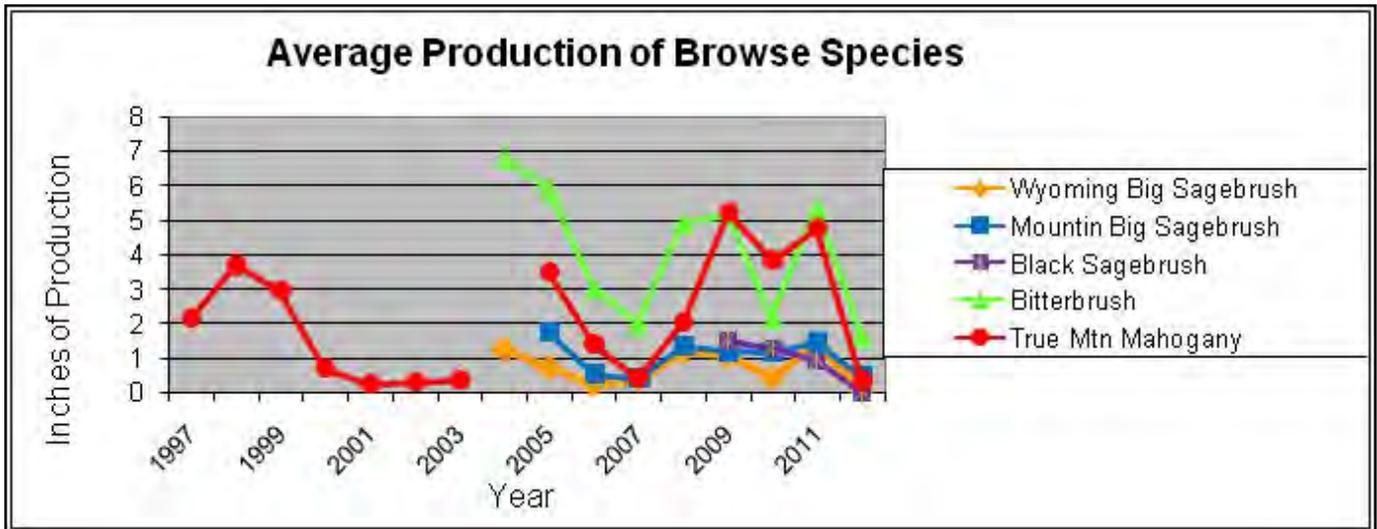


Figure 6. Average leader production on winter range transects monitored in 2011 throughout the Pinedale Region. These data include measurements from 33 transect locations monitored by wildlife biologists, game wardens and habitat biologists.

The amount of production in 2012 is of great concern going into winter for mule deer and pronghorn. Very poor production will require animals to use second and third year growth as a major component of their diet. Older growth is much poorer quality and will not produce the required level of nutrition for many animals. We can expect to see considerable mortality of mule deer even without severe winter conditions. An additional management concern is that summer use was noted on many shrubs, particularly in the Wyoming Range Mule Deer Herd. This was presumably due to lack of herbaceous production which resulted in a dietary shift by domestic and wild animals this summer.

In 2012, 8 additional monitoring locations were established on big sagebrush sites in the Wyoming Range Mule Deer Herd in conjunction with an upcoming research project that will collar 70 mule deer during the winter of 2012/13. The project will include correlating mule deer body condition with vegetation conditions to better understand a habitat based carrying capacity or objective for this herd. The total number of transects in the Pinedale Region has been increased to 33 with this effort.

Shrub hedging categories and age class data are collected at our monitoring locations on a 3-5 year basis. These variables are highly significant influences on the vigor of important browse species and the ability of these plants to be resilient in years of drought. Hedging classes are divided into three categories: severe, moderate and light. The hedging categories of each separate transect are represented in the graph below (Figure 7). Unfortunately the data indicates an overwhelming condition of severe hedging. These conditions inhibit shrub productivity, vigor

and seed production that in the long run can result in reductions of long-term big game population sustainability. Mountain big sagebrush transects have the least amount of severe hedging. However, these transects are found at higher elevations in areas less likely to serve as crucial winter range, particularly on winters with more extreme conditions. The species is noted on each transect label (WY=Wyoming big sagebrush; MTN=Mountain big sagebrush; BIT=Bitterbrush; MAHOG= True Mountain Mahogany and BLACK=Black sagebrush).

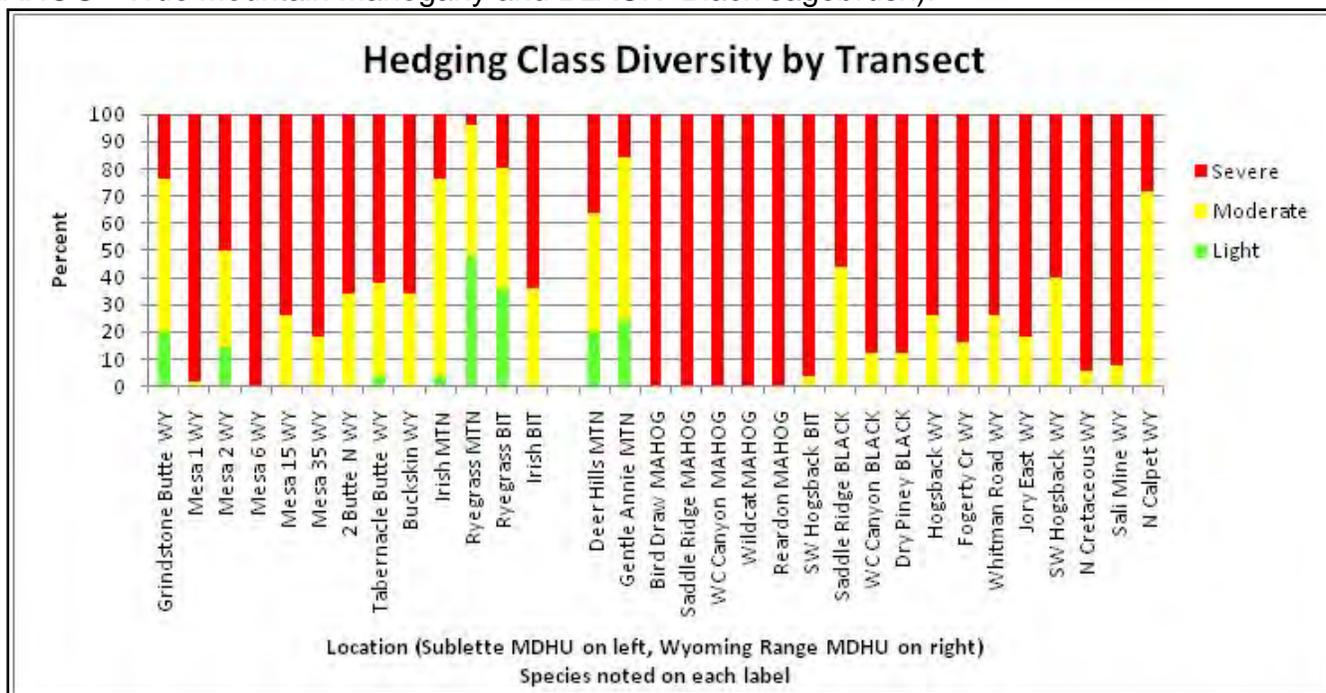


Figure 7. Hedging class diversity throughout all transects in the Pinedale Region.

Age class diversity is another indication of the health of the shrub community. Diversity in age class indicates the shrubs are reproducing and will be able to maintain productive plants into the future. Age class categories include young, mature, decadent and dead. When the shrub community has a majority of decadent plants the annual production is far less than potential, particularly in years with lower precipitation conditions. Decadent plants dominate many transects (Figure 8). The lack of young plants, regardless of species is of great concern for long-term productivity of the winter ranges for wildlife. In many cases a dominance of decadent plants can indicate that a disturbance or treatment may benefit the quality of habitat for wildlife.

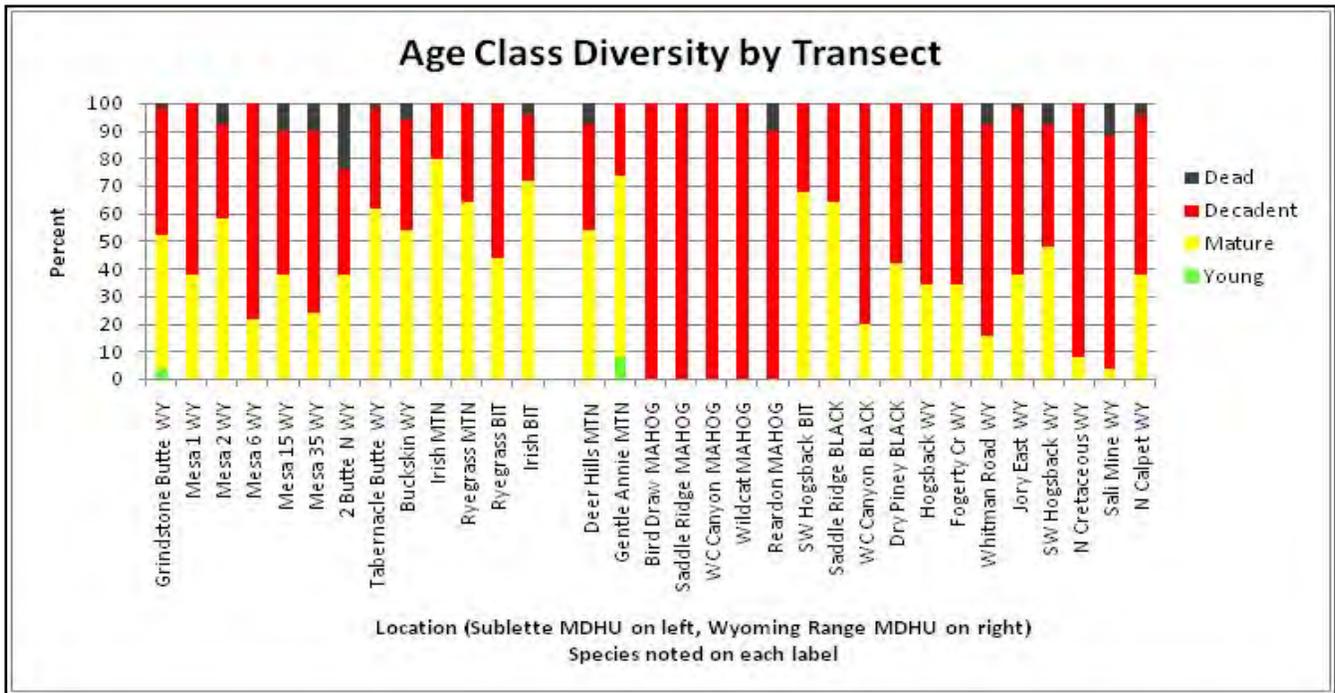


Figure 8. Age class diversity throughout all transects in the Pinedale Region.

**Pinedale BLM Field Office Noxious Weeds (Goal 2) – WLCI, Jim Wasseen**

This is an annual, on-going project to survey and treat noxious weeds on BLM lands within the BLM Pinedale Field Office. In 2012, 24,035 acres were spot treated for noxious weeds. Species treated included: leafy spurge, perennial pepperweed, whitetop, Dalmatian toadflax, Russian knapweed, spotted knapweed, musk thistle, Canada thistle, and others.

**Thomas Fork Tributaries - Riparian / Willow Restoration (Goal 2) – Floyd Roadifer**

With assistance from habitat and access personnel, maintenance was completed in July on the two recently constructed Huff Creek exclosures, Lower, Upper, and Middle Little Muddy Creek, and the Klein Creek exclosures. Willows (~150), cottonwoods (~20), and dogwoods (~10) were planted in the lower of the two newest Huff Creek exclosures in May. The need for follow up maintenance was monitored at the lower end of Little Muddy, upper end of Coal Creek, and all Huff Creek exclosures in June and July. No maintenance was needed at those times. However, by the end of the season a gate was broken at the lower Huff Creek exclosure and planted willows and other vegetation had been heavily browsed.

**Squaretop Allotment, Jonah Interagency Mitigation (Goal 5) – Dan Stroud**

One of the first mitigation projects funded by the JIO was the upgrading of several water wells and drilling of a new one. Each of these three sites had an area fenced from livestock with a pond and/or overflow from the water well to enhance vegetation within the enclosure (Figure 9). These protected areas with added water provide vegetation diversity and greater insect abundance (Figure 10).



Figure 9. Overflow on one well site.



Figure 10. Increased vegetative cover due to overflow.

Cameras were installed at each of the areas to monitor wildlife use. Since 2009, hundreds of photos have documented a range of wildlife use including sage grouse, pronghorn, various passerines and raptors, badgers, coyotes, fox, pygmy rabbits, cottontail rabbits, jackrabbits, and ground squirrels (Figure 11).



Figure 11. Sample photo from monitoring cameras.

One highlight of these projects is seasonal use by sage grouse (both hens and chicks) from May through September. On at least one of these sites, hens with chicks have been documented for the past two years.

Following hatching, the first three weeks are critical for sage grouse chick survival and the need to meet protein requirements (in the form of insects) is extremely important. Taller vegetation, greater vegetative diversity, added wet areas, and mulch all play a part in increasing insect abundance. Photo documentation suggests these areas provide added diversity which attracts many different types of wildlife. More of these types of projects have been funded, and, in addition, some fenced areas in wet meadow complexes are being proposed in the future to benefit to sage grouse and numerous other wildlife species.

## Mesa Fertilization (Goal 2) – Dan Stroud

In 2010 and 2011, two fertilization projects were implemented on crucial mule deer winter range within the boundaries of the Pinedale Anticline Project Area (PAPA) (Figure 12). A more rigorous data collection need had been identified and in 2012 Wyoming Wildlife Consultants was contracted to collect and summarize the data (Figures 13 and 14). A preliminary report should be forthcoming in 2013 and a final report will be provided by March of 2014.



Figure 12. Aerial application of fertilizer in 2011.

LOCATION	PERCENT OF LEADERS UTILIZED	
	2010-2011	2011-2012
2010 CONTROL	17	9
2010 40# TREATMENT	43	10
2010 80# TREATMENT	28	15
2011 CONTROL	NA	5
2011 TREATMENT 40#	NA	4

Figure 13. Shrub utilization on fertilized areas for the winter of 2010-12 and 2011-12.

LOCATION	HERBACEOUS PRODUCTION - LBS/ACRE	SHRUB PRODUCTION (LEADERS - INCHES)
	2010-2011	2011-2012
2010 CONTROL	GRASSES - 236.5	0.79
	FORBS - 123.7	
2010 40# TREATMENT	GRASSES - 249.8	1.93
	FORBS - 54.2	
2010 80# TREATMENT	GRASSES - 239.5	1.34
	FORBS - 86.1	

Figure 14. Shrub and herbaceous production collected in 2011 (2010 treatment).

## Trumpeter Swan Summer Habitat Enhancement (Goal 2) – WLCI, Susan Patla

This project includes construction and restoration of shallow water wetland ponds on private lands to enhance summer habitat for Trumpeter Swans and other waterfowl, water birds, and wildlife in the Green River Basin. At the Swift Ranch, island construction for nesting, headgate installation on a feeder to the pond, and site reclamation and cleanup work were completed in 2012. At the Sullivan Pond, project planning for construction of two ponds was completed in 2012. At Rimfire Ranch, eight pre-planted vegetation mats were installed which completes work at this site.

## Wyoming Front Aspen Restoration Project (Goal 2) – Eric Maichak and Jill Randall

In 2012, on-the-ground progress, research opportunities, and unexpected benefits continued for the Wyoming Front Aspen Restoration Project (WFARP). During two days in late May, about 450 acres of conifer-aspen slashed in 2010 were burned without incident by BLM, USFS, and WGFD personnel on the Upper Billies allotment. Post-treatment data were collected by WGFD, BLM, and University of Montana personnel from Upper Billies and Red Canyon (August), as well as those and all other previously treated allotments (October) as part of a University of Montana masters student forestry project.



Figures 15 A and B. Interior of a conifer-encroached aspen stand on the Upper Billies allotment prior to (A) and three months after (B) prescribed fire, western WY.

On the Upper Billies allotment, burning consumed most fuels and initiated regeneration (Figures 15 A and B), however full stocking and seasonal use by domestic cow-calf pairs was permitted in the same year as the prescribed burn. We found 36% terminal leader use, 9,300 stems/acre, and most stems 0-1 foot tall compared to 5% use, 480 stems/acre, and 1-3 feet tall pre-treatment. Based on use of terminal leaders and previous experience (i.e., Maki Individual allotment, 2009, 45% use and full stocking of yearling steers permitted same year as the prescribed burn), the BLM will erect a temporary fence across the lower portion of the Upper Billies allotment in 2013 to prevent livestock use for two years. In Red Canyon, 2-yr post-burn monitoring showed good recovery of aspen averaging 14,200 stems/acre, 5% terminal leader use, and most stems 1-3 feet tall (Figure 16). This compares to pre-treatment data of 526 stems/acre, 13% terminal leader use, and most stems 1-3 feet tall.



Figure 16. Two-year, post-burn aspen regeneration on the Red Canyon common allotment, in western WY.

As a result of the 64,000 acre 2012 Fontenelle Wildfire, over 75% of the remaining conifer/aspen stands identified for slash/prescribed burn treatments in the WFAWP project area were “treated”. A monitoring plan drafted by WGFD, BLM, and SCCD will assess short and long-term recovery of these stands, and in conjunction with BLM policy, determine future livestock turn-on for affected allotments. With NEPA complete and most of the Fontenelle burn occurring in an adjacent Lynx Analysis unit, remaining treatment operations in the South LaBarge allotment (slash/pile/burn) and Camp Creek allotment (burn) have been scheduled for 2013.

## **R**uby: Assessment of Springs and Reservoirs (Goal 2) – WLCI, Jim Wasseen

In 2012 additional springs, seeps, and reservoirs within the priority areas as set by WLCI’s Ruby Project sub-committee were assessed for their ability to provide water and habitat for livestock and wildlife. The 209 reservoirs and springs that were assessed last year have been prioritized in the order of importance and repair needs. Those reservoirs and springs that are in need of repair and require minimal NEPA work will be proposed projects in 2014.

## **BLM Smithsfork Allotment Management Plan Coordination and Monitoring (Goal 1) – Floyd Roadifer**

The aquatic habitat biologist coordinated closely with Kemmerer BLM to collect, analyze and interpret trend and seasonal use data, and establish guidelines and objectives for 2013 and 2021 as per the 2008 Settlement Agreement. These objectives and guidelines will be partially based on Multiple Indicator Monitoring (MIM) implemented in 2011, including limits on trampling impacts and utilization.

A cooperatively developed, allotment-wide, stream temperature monitoring plan involving 18-20 year-round temperature loggers is pending final approval of a categorical exclusion document. Assistance was also provided to the BLM with collecting end-of-season, short-term MIM data (bank alteration, stubble height, and willow use) at eleven key monitoring locations on the Smithsfork Allotment. Locations included North Corral, Mill Creek State, Mill Creek Federal, First Creek, Muddy Creek, Upper Coal Inside, Upper Coal Outside, Upper Little Muddy, Little Muddy Inside, Little Muddy Outside, and Stoner Creek. BLM completed similar data collection at an additional three sites on Huff Creek. Data from sites outside of exclosures indicated that stubble height criteria established in the AMP were met at one of eleven sites. At the six sites that support willows the percentage of leaders browsed ranged from 64% to 92%. Stubble height inside the Coal Creek exclosure averaged 18.9” compared to 3.4” at the comparable site outside the exclosure. The summarized monitoring data were reviewed and discussed with the BLM, and they presented it to the Smithsfork Grazing Association at their annual fall meeting in November and discussed its relevance to the Settlement Agreement. A plan to inventory willows in the Smithsfork Allotment was developed cooperatively with the BLM and assistance was provided with these inventories on upper Coal Creek. Individual willows and willow patches were mapped using a GPS unit (Figure 17). BLM completed similar inventories across most of the allotment and then plotted the data. Various methods and strategies to protect some of these areas to accelerate willow restoration efforts were discussed with the wildlife biologist, range specialist, and environmental coordinator.



**Figure 17. Numerous patches of low stature willows were documented throughout the Coal Creek drainage.**

A series of exclosures is being considered and may be approved through a categorical exclusion, or possibly included in the EA for the Coal Creek Stabilization project. Kemmerer BLM recently received wildlife funding (\$44,000) through their Budget Planning System (BPS). Current plans coordinated and discussed with the BLM are to use a portion of this money to hire the Utah Conservation Corps (UCC) to complete maintenance on all exclosures in the Field Office area in the spring of 2013. Smithsfork Allotment exclosures will be the highest priority. UCC will also be hired to implement a large scale willow planting effort in existing exclosures in the Coal Creek watershed in the fall of 2013.

**Little Colorado Ditch Fish Screen (Goal 2) – USFWS Partners, WLCI, Jim Wasseen**

The goal of this 2011 project was to eliminate fish entrainment from Pine Creek into the Little Colorado Ditch. Pine Creek is a tributary to the New Fork River, a tributary of the Green River. TU used electro-fishing equipment before and after construction, and found a significant reduction in the number of trout found in the irrigation ditch. To date the screen is working properly without too much required maintenance. The total cost of the project was \$88,940 with partner contributions from state TU, Upper Green Chapter TU, WGFD, WVNRT, USFWS Partner’s Program, and WLCI.

**Maki Creek Prescribed Burn Monitoring (Goal 2) – Erik Maichak and Jill Randall**

Year three of post-burn monitoring was completed on the 1,450 acre Maki Creek aspen enhancement project on the east slope of the Wyoming Range. In July 2012, WGFD and University of Montana personnel collected density, height, and terminal leader browse use of aspen suckers from stand MACB-2. Monitoring photos show conifer encroachment prior to slash/burn treatment, followed by complete kill of conifer and excellent recovery of aspen 1- and 3-year post-burn (Figures 18 A, B and C). Mean density of suckers in MACB-2 has risen steadily since pre-treatment (Figure 19), and at 3-years post treatment is similar to density observed in stand MACB-1 in 2011. Most suckers encountered in MACB-2 were 1-3’ tall, however over 30% and 5% were 3-6’ and 6-10’ tall, respectively. Increases in sucker heights may be attributed to low browse use of terminal leaders (7%). Fifth-year post-treatment monitoring is scheduled for MACB-1 in 2013 and MACB-2 in 2014.



Figures. 18 A, B and C. Pre-burn (A), 1-year post-burn (B), and 3-years post-burn (C) photos from aspen stand MACB-2 of the Maki Creek Aspen Enhancement Project, western WY.

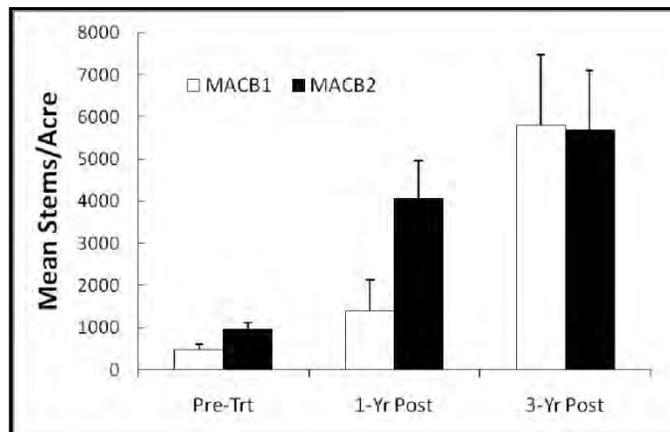


Figure 19. Mean sucker density (+ SE) during pre-, 1-year post-, and 3-years post-treatment from aspen stands MACB-1 and MACB-2 of the Maki Creek Aspen Enhancement Project, western WY.

## **Cottonwood II Aspen Regeneration (Goal 2) – Jill Randall and Eric Maichak**

In 2012, the first of several aspen enhancement units was treated on the east slope of the Wyoming Range with prescribed fire after mechanical preparation in previous years. One hundred acres was burned in the spring in a unit located just north of North Cottonwood Creek on USFS lands. This unit demonstrated that the fuel bed created by mechanical preparation was conducive to excellent fire behavior and meeting vegetation objectives for aspen regeneration (Figure 20). Remaining units are planned for prescribed burning in spring and fall of 2013.



**Figure 20. Prescribed fire in a conifer encroached aspen stand to promote regeneration of aspen.**

## **Coal Creek Sediment Reduction and Stabilization (Goal 2) – Floyd Roadifer**

Coal Creek is a tributary to the Thomas Fork River in western Wyoming and provides important habitat for Bonneville cutthroat trout. Conceptual plans to address the large amounts of sediment contributed into the stream at eleven key sites along a two mile stretch of Coal Creek were developed in 2010. Proposed solutions included new road crossings (Figure 21), stream and road re-alignments, and re-contouring/re-vegetating back slopes and toe slopes.



**Figure 21. Little Muddy Creek Bridge (Site 1). The preferred option is to replace the old bridge and reclaim the low water crossing at this location.**

An overview of the entire project was presented to the Lincoln County Conservation District and NRCS in Cokeville in January 2012. Specific portions were also discussed with the OSLI, and a letter was prepared and sent to OSLI outlining all portions of the project proposed on state lands. A power point presentation was developed cooperatively with the BLM to provide an overview to the permittees at the fall Smithsfork Grazing Association meeting in Cokeville. The land will need to be rested from grazing to successfully reclaim the unstable /disturbed sites. Strategies to provide that rest will present some challenges. Alternatives to address this

issue and fully analyze the overall project will be included in an EA expected to be released for public comment in April or May, with final approval anticipated in June 2013. Archaeological surveys were completed in October and the associated report was provided to the BLM.

Assistance was provided to the BLM with completing and submitting a Wyoming Native Trout Initiative funding proposal including a WGFD letter of support in October.

## **P**inedale Wildlife Habitat Management Areas (Goal 2) – Ray Bredehoft, Matt Miller, Kade Clark, and Breanne Thiel

- 26 miles of crucial winter range elk fence was maintained on and around the **Soda Lake WHMA**. Elk fence was constructed through contract labor. Approximately 1,000 elk posts were replaced, all wildlife gates were replaced, one new elk jump was constructed, and over one mile of fencing was rebuilt.
- 1.25 miles of crucial winter range elk fence was maintained on **Muddy Creek Feedground**.
- 3.3 acres of noxious weeds were sprayed in Sublette County on PAAs, WHMAs, and Feedgrounds.
- Grazed 500 domestic cattle yearlings on the **Black Butte Feedground** from July 1st – August 31<sup>st</sup> to improve the nutritional quality of forage and overall rangeland health.
- Drilled a new water well on the **Soda Lake WHMA**.
- Developed new public hunting easement northwest of Kemmerer called **V-Cross Cattle Company PAA**. A new parking area and road were developed along with new signing and fencing.
- A new public fishing access area near Pinedale called **Remmick PAA** was developed. A new road and parking area was constructed.

## **N**ew Fork River Restoration and Wetland Enhancement (Goal 2) – Floyd Roadifer

The aquatic habitat biologist coordinated closely with the SCCD, USFWS, the landowner, and his consultant on this proposed bank stabilization/potential meander cut off prevention project on Olsen Ranch on the New Fork River (Figure 22). This proposal seeks to address an immediate threat to stream, riparian, and wetland habitats at an outside bend of the river that is migrating laterally. If not addressed the river will eventually cut off a meander, decreasing its length by 1 mile and dewater an irrigation diversion. The proposed solution is to restore approximately a quarter of a mile of river bank by constructing three or four rock j-hook vanes and a riparian vegetated bankfull bench. Also, approximately eight acres of adjacent seasonal floodplain wetlands will be created or enhanced through construction of a series of rock and/or earthen "check dams" designed to control the gradient, store overbank flood flows, and prevent further down cutting of gullies across the floodplain. WGFD involvement included several site visits, reviewing and commenting on design plans, and assisting with measurement to estimate wetland pond elevations and area as well as elevations of bankfull indicators. Assistance was also provided with the preparation of a WVNRT project proposal submitted through the SCCD and with development of a WGFD letter of support.



Figure 22. The landowner proposes to stabilize the New Fork River bank to prevent the river from cutting through the meander. Stream habitat conditions will be improved and adjacent riparian and wetlands habitats will benefit.

store overbank flood flows, and prevent further down cutting of gullies across the floodplain. WGFD involvement included several site visits, reviewing and commenting on design plans, and assisting with measurement to estimate wetland pond elevations and area as well as elevations of bankfull indicators. Assistance was also provided with the preparation of a WVNRT project proposal submitted through the SCCD and with development of a WGFD letter of support.

## **N**orth LaBarge and Ryegrass BLM Grazing Standards (Goal 1) – Jill Randall

The Pinedale BLM Office is undergoing landscape planning efforts to include livestock permit renewals and potential changes to grazing management among other actions. The North LaBarge and Ryegrass areas were assessed in 2012 to determine if BLM Standards for Rangeland Health are being met. This qualitative effort will inform managers of areas that need further attention in

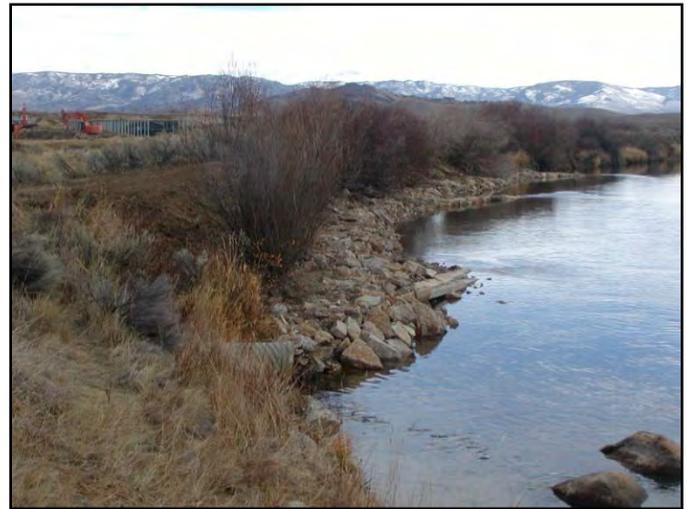
the upcoming permit renewal process. Due to the critical nature of these areas as wildlife habitat, WGFD participated on these field assessments and provided input particularly on vegetation components. Overall range conditions in Wyoming big sagebrush communities were lacking in shrub age class diversity, had more sagebrush cover than desirable, and had a disproportionate amount of rhizomatous grass on many sites. The mountain big sagebrush communities in higher precipitation zones had similar issues with excess canopy cover but support a more diverse herbaceous component.

### **E**ast Fork River Bank Stabilization (Goal 2) – Floyd Roadifer and Chip Moller

Regional aquatic habitat and fish management personnel assisted Boulder Rearing Station personnel with developing design plans to stabilize ~300 feet of bank along the East Fork River where it was threatening to cut into the lower settling pond (Figure 23). Bankfull indicators above and below the project site were identified and evaluated and a suitable elevation identified for construction of a bankfull bench. The AHAB also coordinated with the contractor to ensure the rock source was appropriate and with the adjacent ranch manager regarding concerns about potential effects of the project on downstream livestock water gaps. The project was completed October 29, 2012 (Figure 24).



**Figure 23. Bank along the East Fork River near the Boulder Rearing Station settling pond before project implementation.**



**Figure 24. Bank along the East Fork River near the Boulder Rearing Station settling pond after project implementation.**

### **B**oulder Cheatgrass (Goal 2) – Jill Randall and Ray Bredehoff

The Sublette Invasive Species Taskforce, a partnership with Sublette County Weed and Pest, BLM, WGFD, WLCI, SCCD, Upper Green River Basin Sage Grouse Local Working Group, and TNC, contracted Wyoming Helicopters to treat 1,140 acres of cheatgrass in early October 2012. Included in the 1,140 acreage was a retreatment of 150 acres in the Fall Creek WHMA with the chemical Matrix due to failure of the 2011 Matrix treatment for unknown reasons. For the additional 990 acres of treatment with the chemical Imazapic on BLM, State, and private land, we added two new photo monitoring points, one north, and one south of Boulder Lake.

Additionally, survey efforts for cheatgrass and other noxious weeds were conducted in 2012 on 5,324 acres and along 1,610 miles of road. These areas were prioritized and some treated as part of the 2012 acreage, and others will be treated as funding allows in future years.

## **P**inedale Anticline and Jonah Field Reclamation (Goal 2) – Therese Hartman

WGFD and Department of Agriculture staff with the PAPO have conducted reclamation monitoring in the PAPA since 2009. Surface disturbance must be reclaimed following reclamation criteria set out in the Record of Decision (ROD) which includes interim reclamation. Industry is encouraged to minimize the surface disturbance of a drilling pad location once drilling is completed and the pad is converted to a longer term production phase. Successful interim reclamation is key to providing functioning habitat for wildlife during



**Figure 25. Reclamation trending towards ROD criteria.**

the production phase of gas field development which can last for many decades. Monitoring results for 2012 identified 365 pads in various stages of reclamation in the PAPA gas field. Of 136 pad locations monitored by the PAPO in 2012, 40 pad locations appear to be trending towards the ROD criteria (Figure 25) and 96 were identified as needing additional measures if they were ever going to achieve successful reclamation according to the ROD requirements. Another 30 locations were not compliant with the ROD requirements and actions have been taken to bring them into compliance. Monitoring found potential issues inhibiting successful reclamation could be improper soil preparation, mixing of top soil with sub-soil, soil in need of amendments, and seeding when soil is frozen or compacted. Seed sources and unavailability of seeds for certain plant species have been reported as an issue by industry.

One operator has implemented the use of straw or wood chip mulch which appears to aid in holding soil moisture and reducing wind erosion. They have also incorporated innovative methods to reduce the pad size. Top soil intended for later use in final reclamation (after the production phase is complete and the well is plugged and abandoned) is spread and seeded in areas of the pad to provide additional interim reclamation (Figure 26).



**Figure 26. 30 acres put into interim reclamation on a 34 acre pad. Green indicates the area reclaimed around well pad.**

## Sublette Mule Deer Habitat Mitigation Plan (Goal 4) – Dan Stroud

In 2010, mule deer winter populations on the Pinedale Anticline decreased 20%, exceeding the 15% threshold, as outlined in the Record of Decision for Oil and Gas Exploration and Development. The 15% threshold is considered a trigger for increased mitigation efforts. In 2011, following a field habitat assessment, a 10 year mitigation plan was prepared to address the winter population decline. The plan includes treatments identified during 2011 as well as more recent habitat assessments (Figure 27). All habitat work will be performed within mule deer winter range and/or spring/fall range and migration corridors (Figure 28).

Since this area lies within a sage grouse core area, a Density Dependent Calculation Tool was completed, which resulted in identification of just under the 5% disturbance threshold. Various types of projects were identified including: mixed shrub/aspens enhancement (Figure 29); wet meadow enhancement, improvement of existing reclamation; drainage stabilization and sagebrush specific

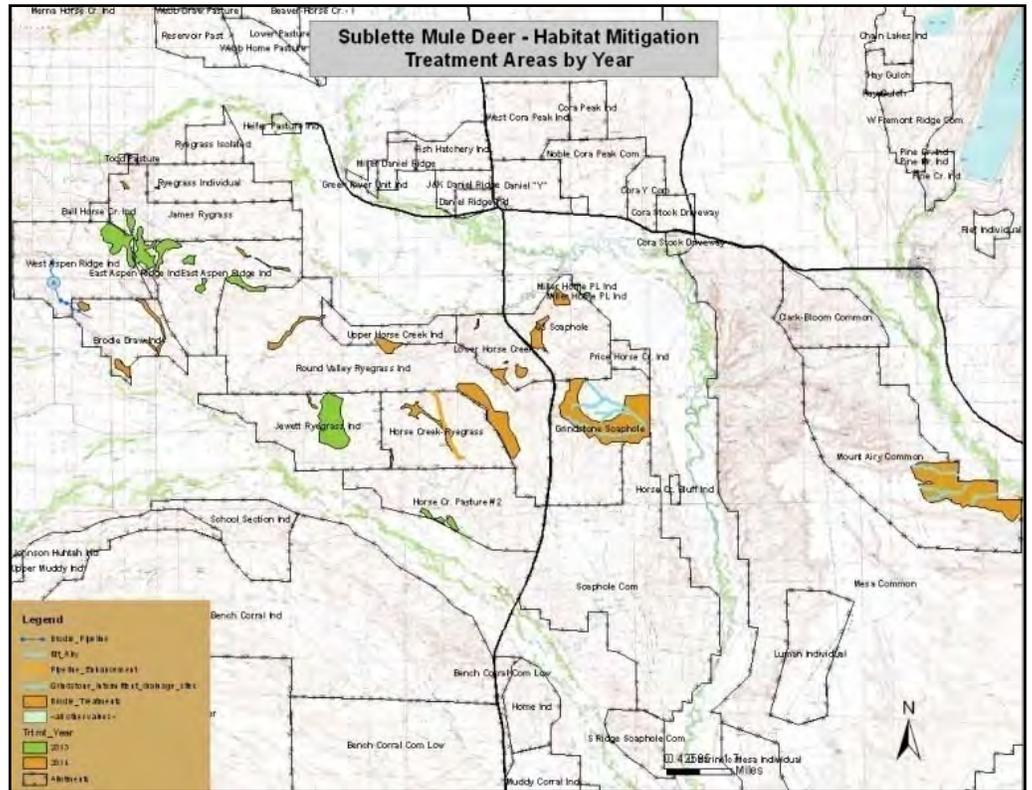


Figure 27. Areas identified for habitat enhancement efforts.

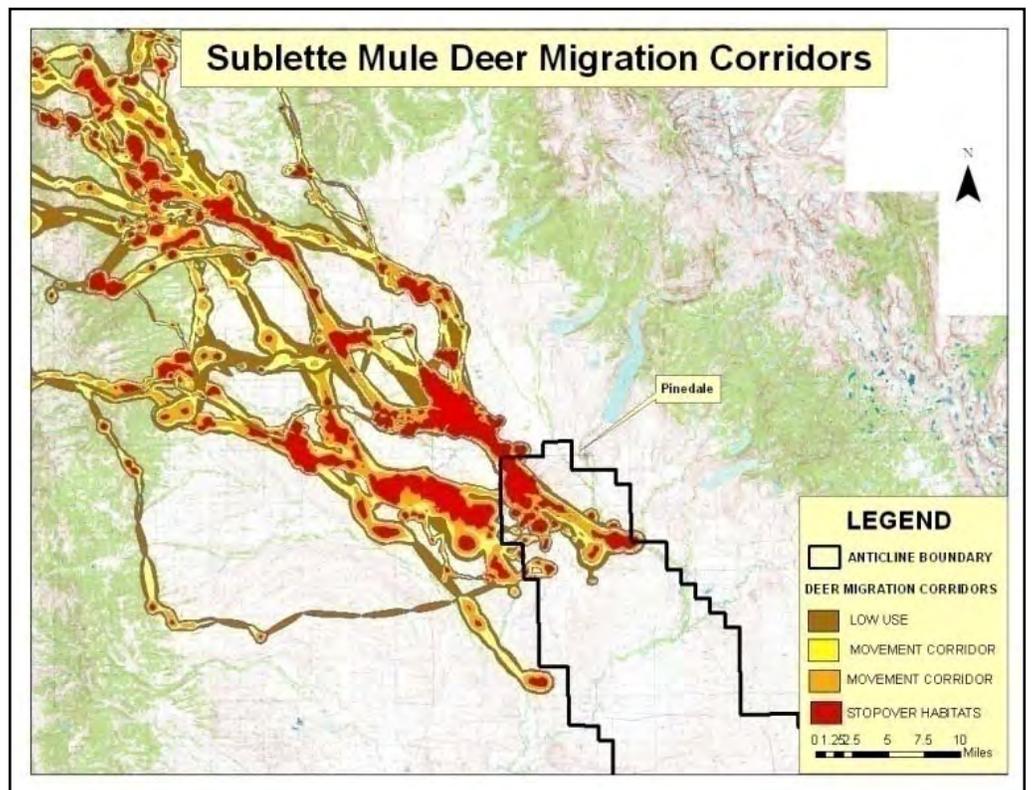


Figure 28. Mule deer migration corridors identified by Hall Sawyer.



Figure 29. Aspen stand and adjacent area to be treated under the Sublette Mule Deer Habitat Mitigation Plan.

projects (Figure 30). A combination of tools will be used including: mechanical with seeding; prescribed burning; exclosures in wet meadows; and small dike structures in drainages. Work is expected to commence during the fall of 2013 and last approximately 5-6 years covering approximately 6,000-7,000 acres.



Figure 30. Typical lower elevation sagebrush community and intermittent drainage.

### **R**uby: Impacts of Ravens on Sage Grouse Nests (Goal 2) – WLCI, Jim Wasseen

This study compared sage grouse nesting success and productivity in raven removal and non-removal study sites. The goal of this study was to identify a method to mitigate some of the adverse impacts of anthropogenic development of sage grouse. In 2012, 180 sage grouse were tracked using radio collars, 109 sage grouse nests were found, data of survival rates during the breeding season were collected and a paper was submitted for review.

## Wyoming Range Mule Deer Habitat Plan (Goal 4) – Jill Randall and Ben Wise

The Wyoming Range Mule Deer Habitat Plan has continued on schedule with a proposal presented to Pinedale and Rock Springs BLM personnel in 2012. This proposal was well received and an Interdisciplinary Team was developed to work on completing NEPA through a third party contract. Due to the vast scope of the proposed action including nearly 40,000 acres of treatment (Figure 31), NEPA is not expected to be complete until 2014 with the first anticipated treatments to be implemented in the fall of that year. The anticipated projects include sagebrush mowing, Lawson aerator, Spike and inter-seeding as well as aspen enhancements through prescribed fire and mechanical disturbance. This proposal includes treatments in 20 allotments, requiring considerable coordination and discussion with many livestock permittees to develop the project in a way to work with the multiple uses on the landscape. WGFD biologists believe this project has potential to positively affect the sagebrush communities used by Wyoming Range mule deer and other

sagebrush obligates long into the future. This project was a direct result of actions requested from the public through the Wyoming Range Mule Deer Initiative which was completed in 2011.

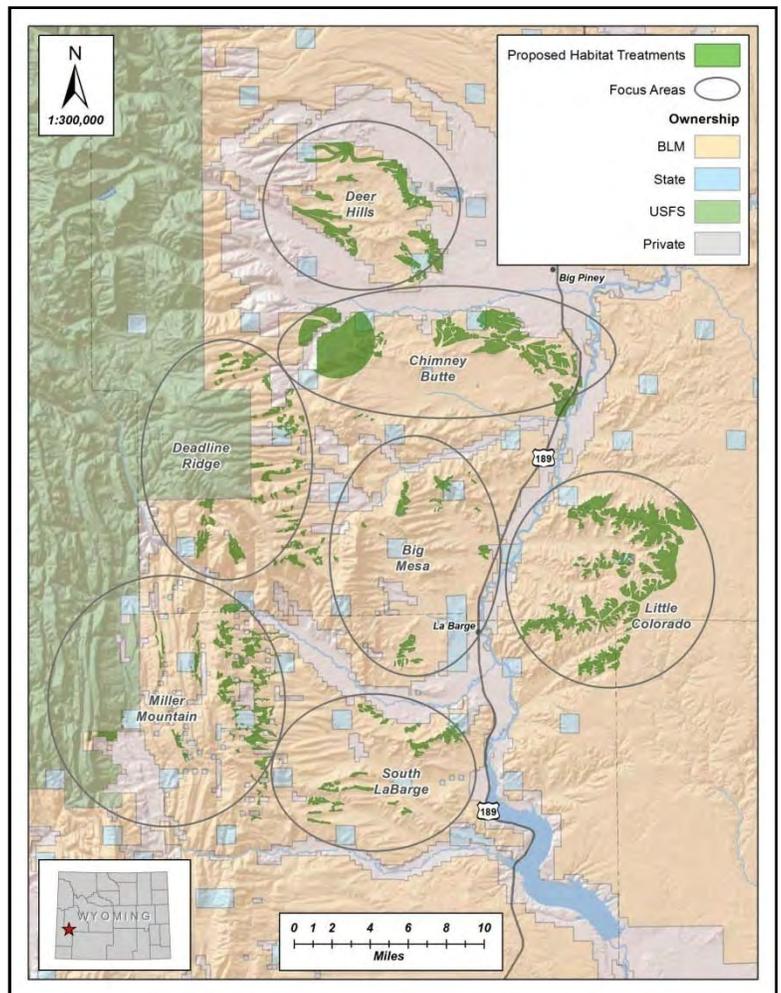


Figure 31. Map of the proposed treatments associated with the Wyoming Range Mule Deer Habitat Project.

## Cokeville Meadows Refuge (CMR) Management Plan (Goal 5) – Floyd Roadifer

WGFD personnel provided wildlife and habitat data to USFWS to support development of a long-term management plan for CMR. Comments included support for a variety of management recommendations to benefit wildlife and habitat and a commitment to continue to assist with the cooperative implementation of management strategies and vegetation monitoring. An updated draft plan was recently sent to USFWS administrators for review, and a final draft is expected to be released for public comment in May 2013.

Opportunities, methods, and strategies to restore woody vegetation on CMR were coordinated with the CMR manager. Assistance was provided with site selection and planting of several hundred small, containerized willows and cottonwoods in April. A local Boy Scout troop and leaders assisted with this effort.

## **S**outh Fork LaBarge Creek and Clear Creek Culvert Replacements (Goal 2) – USFWS Partners, WLCI

These two culvert replacements are in conjunction with the efforts to restore Colorado River Cutthroat trout in the upper LaBarge Creek watershed. The BTNF replaced the South Fork LaBarge Creek and Clear Creek culverts with bottomless arched culverts to improve fish passage. The new culverts have reconnected 19 additional miles of habitat for the native fish species to complete their life cycles. The total cost of the South Fork LaBarge Creek project was \$136,099 with contributions from the USFS, USFWS, and WLCI. The Clear Creek project cost was \$187,000 with partner contributions from the USFS, USFWS, WGFD, and WLCI.