

PINEDALE REGION HIGHLIGHTS

- Approximately 500 willow cuttings planted on Muddy Creek
- Two rock sills reconstructed and 1 maintained on Green River near Huston PFA
- Extensive coordination with BLM to implement and monitor Smithsfork AMP
- Wyoming Front Aspen Restoration Project in year 5 of enhancing aspen on BLM managed lands with 200 acres treated this year by prescribed fire
- The Espenscheid Conservation Easement was completed on 10,410 acres
- The Fish Creek Flying W Ranches Conservation Easement was completed on 1,530 acres and includes over 2 miles of walk-in fishing access on the Green River
- Extensive post-treatment monitoring continues to influence design of future projects in sagebrush and aspen communities
- Several mitigation activities occur through the Pinedale Anticline Planning Office (PAPO) and Jonah Interagency Office (JIO), including 1,000 acres of fertilizer applied to rangelands on the Mesa
- Cheatgrass control project continue near Boulder with 406 additional acres treated in 2011

USFWS Bear River Watershed Conservation Area Program (Goal 1) – Floyd Roadifer

The USFWS held six public scoping meetings (including Cokeville and Kemmerer) that WGFD personnel participated in to discuss the potential benefits from and evaluate local support for their proposed Bear River Watershed Conservation Area program. The proposed program was generally well-received by the public and the USFWS is now working on an environmental assessment. Their goal is to have it signed by the end of 2012. Upon approval, the plan may eventually make Land and Water Conservation Fund money available to support this program. Funding for conservation easements could be available as early as 2013.

Espenscheid Ranches Conservation Easement (Goal 1) – Jill Randall

Espenscheid Ranches completed a conservation easement project in 2011 conserving 10,410 acres of important habitat used by mule deer, moose, sage grouse and many other nongame species. The property includes sagebrush, riparian, cottonwood gallery and mixed mountain shrub habitats in the vicinity of Meadow Canyon, northwest of Big Piney. The area is very important for migration of wildlife and conserving open space being compromised by nearby energy development. Over 10,000 additional acres of BLM allotments are also included with the private land in a conservation plan, spearheaded by NRCS and the Jonah Interagency Office. The Wyoming Stock Growers Agricultural Land Trust is the holder of this easement.

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

Coordinated closely with Kemmerer BLM to analyze and interpret riparian greenline trend data and establish riparian vegetation and stream habitat objectives for 2013 and 2021 as per the 2008 Settlement Agreement between the BLM, permittees and other parties. Efforts continued to develop guidelines to limit impacts from trampling. These objectives and guidelines will be partially based on Multiple Indicator Monitoring (MIM) implemented in 2011.

BLM staff was assisted with collecting complete data sets at each of the 17 existing greenline trend monitoring locations using MIM protocols. Monitoring with this method is specifically required in the 2008 settlement agreement. Data collected on 10 indicators can be statistically analyzed. However,

riparian vegetation trends cannot be converted from existing Winward greenline data and riparian cross section data is not collected using these protocols. Therefore, to accurately assess long-term trends, both monitoring methods will need to be utilized, at least until differences can be reconciled. Other ongoing efforts included working with the BLM to complete an evaluation of current year's utilization at several greenline locations, including on Coal and Huff Creeks. The BLM is currently preparing an annual allotment monitoring report that will include a summary of MIM and utilization data.

Fish Creek Flying W Ranches Conservation Easement (Goal 1) – Jill Randall

Fish Creek Flying W Ranches Conservation Easement permanently protected 1,480 acres of important wildlife habitat from future development, as well as opened an additional two miles of walk-in fishing access on the Green River. This access is adjacent to the current Fear Fishing Access, which provides a very impressive opportunity for anglers. These two properties include riparian and sagebrush habitat that is very important to moose, mule deer and many other terrestrial and aquatic species. The Wyoming Game and Fish Commission is the holder of this easement.

Upper Green Grazing EIS Monitoring (Goal 1) – Jill Randall

The Pinedale Ranger District of the BTNF is currently preparing an EIS to analyze livestock grazing in the Upper Green River basin. In order to base decisions on current range conditions, an extensive monitoring effort was completed in 2011 by BTNF range personnel with assistance from the WGFD. Data were collected in each pasture of the analysis area, utilizing previous data where possible to evaluate trends over time. Twenty-six monitoring points were visited and rooted nested frequency, line point intercept or Ecological Unit Inventory methods were employed (Figure 1). Overall range conditions appeared adequate and were on an upward trend compared with previous data collection from the 1980s.



Figure 1. Upper Green range monitoring point from 2011.

Twin Creek Watershed Fish Passage and Habitat Improvement (Goal 2) – Floyd Roadifer

The old WYDOT gravel pit near Twin Creek at Sage Junction was visited with the State Lands representative in September. In March 2009 and on at least one other occasion in the recent past, this abandoned gravel pit filled with water when the banks of Twin Creek ruptured allowing the creek to spill into the pit. TU completed temporary repairs in 2009, but a permanent solution is needed to prevent fish from becoming trapped in this pit.

WGFD personnel continued working with landowners and other partners to improve riparian habitats and watershed conditions throughout the Rock Creek drainage. The state land parcel on Rock Creek was visited with the State Lands representative. Discussions were focused on development of improved grazing management strategies to restore the degraded stream and riparian habitats in this watershed. The potential to shift livestock grazing impacts onto adjacent crucial big game winter ranges is a concern with some of the proposed adjustments in the current operation. A clear solution

that satisfies all the key partners involved has not become apparent. Many of the willow cuttings planted in the private land enclosure continue to survive, but heavy browsing impacts by wildlife remains a serious threat to the long-term survival of those that are not fully protected.

An evaluation was done with one of two landowners to evaluate the diversion structures and fish screens installed in 2008 and 2009 on Rock Creek. High spring runoff in 2011 basically buried all of the diversion structures and fish screens. TU attempted first to flush the structures with a water jet stinger. When that proved inadequate, they used an oil field vacuum truck to clean them in place. This solution appears adequate and the hope is that the historic runoff events of 2011 are an aberration and the structures will now perform as intended during runoff and the irrigation season.

Wildlife Friendly Fence Initiative (Goal 2) – WLCI

This five-year initiative offers cost-free livestock and wildlife-friendly fence improvements to interested public and private landowners within a portion of a key mule deer migration route. Improving fencing is critical to the survival of big game, as they must be able to move freely between seasonal ranges. To date, 35 miles of existing fence has been modified in the Phase II project area, which represents 18% of the 202 miles of existing fence originally inventoried (Figure 2). Partners include WLT, BTNF, private corporations and individuals, oil and gas industry, PAPO, WWNRT, WGFD and many NGOs.



Figure 2. Wyoming Land Trust's wildlife-friendly fencing Phase II.

Muddy Creek (East Fork River Tributary)/MJ Ranch Willow Planting (Goal 2) – Floyd Roadifer

Woody species cuttings planted along Muddy Creek on the M-J Ranch in 2010 were evaluated. Because survival was very high (estimated at >50%), another ~500 willow cuttings were planted in June and July. Based on a rapid evaluation in late September, survival rates again appeared promising. This work was conducted inside of an approximately one mile long enclosure constructed as part of the Conservation Management Plan on land recently protected by a conservation easement. The landowner is very interested in constructing in-stream habitat structures to more rapidly improve fisheries habitat.

Impacts of Ravens on Sage-grouse Nests (Goal 2) – WLCI

This study will compare sage-grouse nesting success and productivity in raven removal and non-removal study sites. The goal of the study is to identify a method to mitigate some of the adverse impacts of anthropogenic development on sage-grouse. In 2011, 180 sage-grouse were tracked using radio collars, 109 sage-grouse nests were found, data of survival rates during the breeding season was collected and a paper was submitted for review.

Boulder Cheatgrass (Goal 2) – Jill Randall and Ray Bredehoft

The first year of herbicide control of cheatgrass using Imazopic (4 oz/acre) in the Boulder Lake area began in 2010. In 2011, 150 acres were treated on Fall Creek WHMA with the chemical Matrix and an additional 256 acres were treated on BLM with Imazopic. The plans are to continue to treat additional acres in the immediate vicinity in 2012 (Figure 3).

Additionally, Sublette County Weed and Pest, BLM, WLCI and the WGFD are cooperatively working with USGS and DuPont on several test plots for a new chemical, Matrix, which is designed to treat cheatgrass with a reduced impact on native grasses compared to chemicals currently approved for use on BLM lands. The intent is to determine if results on vegetation are favorable and, if so, potentially providing required documentation and justification for getting Matrix approved for use on federal lands.



Figure 3. Cheatgrass pre-monitoring associated with the 2012 aerial spraying to control cheatgrass near Boulder Lake in western Wyoming.

Monument Ridge Unit 1 Prescribed Burn (Goal 2) – Jill Randall

Monument Ridge Unit 1 was prescribed burned in the fall of 2006. It is located on the southwest side of US Highway 189-191 near Bondurant, WY. The vegetation consists of mainly sagebrush, with several parallel draws with Douglas fir on the north-facing slopes and willows in the drainage bottoms. The monitoring objectives for this burn unit were: 1) burn 30-60% of the sagebrush communities having >15% canopy cover in a mosaic pattern within the project area; 2) attain $\geq 80\%$ mortality of sagebrush in burned areas by one year post burn; 3) attain 60% ground cover in sagebrush/grass communities after the second growing season post-burn and 80% ground cover after the fifth growing season post-burn; and 4) attain a diverse array of native successional plant species in burned areas.

The sagebrush data shows a significant (92%) reduction in big sagebrush density one year post-fire, indicating sagebrush reduction objectives were met. In 2011 (5 years post-burn), big sagebrush cover was 15.8% and silver sagebrush cover was 7.2%. More data and further summary information is available in the annual BTNF Fire Effects Monitoring Report.

Monument Ridge Unit 2 Prescribed Burn (Goal 2) – Jill Randall

Monument Ridge II is the second unit to be prescribed burned in the three unit project area southwest of the town of Bondurant. The burn was completed in fall 2010. The project objectives include reintroducing disturbance to this mature monotypic sagebrush stand that serves as important transitional and summer range for mule deer and pronghorn. Additionally, fuels objectives will be met by breaking up continuous fuel loads adjacent to private land in the town of Bondurant.

Big sagebrush cover was measured pre-burn in 2009 and again in 2011, one year post-burn. Results show a significant reduction in big sagebrush (Figure 4) and we will continue to track big sagebrush reduction/recovery into the future to improve sagebrush objectives for this and other projects. Ground cover was measured in 2009 and again in 2011, one year post-burn. Bare soil did increase (from 21% to 27%) post-burn, but to a level well below the stated objective (less than 40% bare ground one year post-burn). We will measure ground cover percentage again five years post burn, as the objective changes for that time period (less than 20% bare soil). More data and further summary information is available in the annual BTNF Fire Effects Monitoring Report.

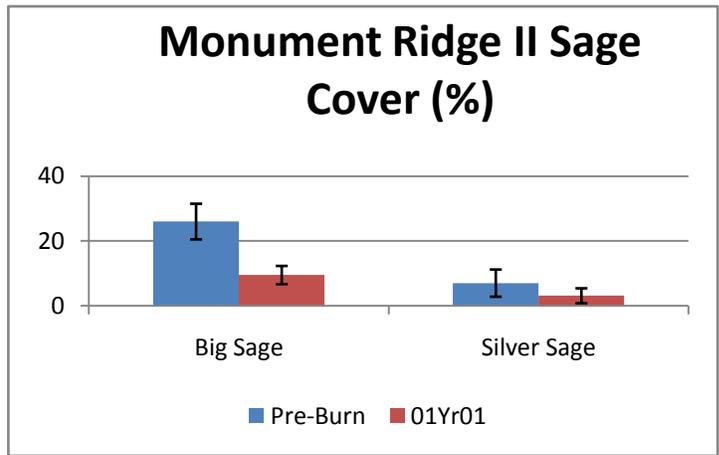


Figure 4. Graph indicating a significant reduction of sagebrush compared pre- and 1-year post-burn on the Monument Ridge Unit II Prescribed Burn, Bondurant, WY.

Huston PFA and Jerry Moore Riparian Habitat Improvement (Goal 2) – Floyd Roadifer

Maintenance work was completed in November on the three sills installed in the side channel upstream from the boat ramp in 2001 and repaired in 2002. The two lower sills were reconstructed by widening them to better fit the expanding channel and increase the sharpness of the angle from the bank. Approximately 30 rocks were added to each. An additional 15 rocks were added to the upper sill to reduce the volume of flow into this side channel (Figure 5).

Riparian woody vegetation along the Green River, New Fork River and other major stream courses provide essential habitat for a broad variety of wildlife and also are vital for proper stream channel function. Strategies to monitor and reduce ungulate use on woody riparian species were developed with private landowner



Figure 5. Reconstructed sill in the side channel upstream from the Huston PFA boat ramp.



Figure 6. Successful cottonwood regeneration along Green River downstream from the Huston PFA boat ramp on Grindstone Cattle Company property where Walk-in Access for fishing is now available.

Jerry Moore, his consultant and neighboring landowners on the Green River. A site visit and discussions in May with Moore’s consultant and the downstream landowner (Maggie Miller, owner of Grindstone Cattle Company) revealed successful cottonwood regeneration (Figure 6), resulting primarily from livestock management

changes over the past eight years. This is very encouraging, indicating that proper livestock management on a larger scale can release cottonwood suckers in this area, in spite of browsing impacts from wildlife (i.e. moose and deer). Opportunities to expand the successful management demonstrated on this property across the Green River valley were discussed at length with Moore's consultant. An education effort with others in the Green River valley to demonstrate the successes followed by coordination with interested private landowners will be essential.

Salt Creek Restoration and Fish Habitat Enhancement (Goal 2) – Floyd Roadifer

The FS hydrologist initiated a project to replace old culverts at the lower end of Salt Flat, clean up or reclaim disturbance associated with the small salt mine at this location and address maintenance needed on the numerous fish habitat structures built in this area in the late 1980s and early 1990s (Figure 7). WGFD personnel reviewed the project outline provided by the FS and participated in a site visit with various FS specialists. There was unanimous agreement that the culverts should be replaced and the mining activity should be cleaned up or terminated. Maintenance needs for structures will need to be evaluated on a case-by-case base relative to the original objectives, current conditions and impacts or benefits to natural channel form and function.



Figure 7. The condition of a gabion structure installed in Salt Creek 30 years ago.

Boulder Jonah Cheatgrass (Goal 2) - WLCI

The BLM Pinedale Field Office collaborated with Sublette County Weed and Pest (SCWPD) to treat the encroachment of cheatgrass on south facing slopes in the Boulder Lake area and within the oil and gas fields. This project, in its second year, involves chemical treatments to control cheatgrass. In 2011, 300 acres were treated in Phase II. Phase I of the project will be monitored with the help of USGS remote sensing. Phase III will be planned after monitoring data is analyzed. These efforts were completed with help from BLM, WGFD and SCWPD.

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. Several locations along Coal Creek have eroded over the years due to a BLM road, past grazing impacts, down cutting and high runoff events. In 2010, the WGFD hired a consultant (AVI, Inc.) to develop conceptual plans to address the large amounts of sediment contributed into the stream at 11 key sites along a 2-mile stretch of Coal Creek. Proposed solutions included new road crossings, stream and road re-alignments and re-contouring vegetating back slopes and toe slopes. Funding proposals were prepared and submitted to WWNRT, WLCI and the WGFD Trust Fund for the Coal Creek Stabilization project. An overview of the project was presented to the Lincoln County WLCI team and a project tour was held with the WWNRT Executive Director and a local board member. The WWNRT opted not to fund the project, citing uncertainty about wildlife habitat benefits. To further develop the project and portray the many anticipated benefits to water quality, stream channel morphology and Bonneville cutthroat trout habitat, site specific options were evaluated with BLM engineers and the fisheries biologist. All options and potential funding sources

were reviewed and discussed with the AVI, NRCS, BLM, landowners/permittees, State Lands representative and the Lincoln County Conservation District Chairman (Figure 8). Plans for 2012 include implementing projects at sites 1 and 2, coordinating with the BLM, preparing NEPA analysis for projects on BLM and seeking additional funding to complete the project in 2013 or 2014.



Figure 8. Coal Creek Crossing (Site 2-4). The preferred option is to install a bridge at this low water crossing.

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

In 2011, on-the-ground treatments were unfortunately reduced on the Wyoming Front Aspen Restoration Project (WYFARP). RMEF had been managing on-the-ground implementation and providing project funding and contracting oversight. The RMEF Habitat Stewardship Program was discontinued in 2011 and contractors were not hired and no cutting, piling or thinning operations were incorporated in the South LaBarge allotment on Miller Mountain. Nonetheless, in late June, about 200 acres of a potential 850 acres were burned on the Camp Creek allotment just prior to severe weather and unpredictable winds resulting in demobilization of interagency fire personnel.

Pre-treatment aspen data collected in 2011 on Miller Mountain show an average of 467 stems/acre, similar to pre-treatment findings at Maki (735 stems/acre), Red Canyon (526 stems/acre), Camp Creek (457 stems/acre) and Upper Billies (477 stems/acre) allotments. We also found that 7.3% of current-year terminal leaders were browsed on Miller Mountain, compared to 6.7% (Maki), 12.5% (Red Canyon), 20% (Camp Creek) and 4.2% (Upper Billies). To monitor for additional project objectives, we collected species composition and percent cover, as well as herbaceous production data. We found seven species of forbs (dominated by arnica, 6.4% cover), three species of grasses (dominated by Sandberg bluegrass, 1.6% cover) and that Douglas fir (36.6%), rather than aspen (2.4%) dominated cover estimates. Similar to findings from Upper Billies in 2010, herbaceous production was relatively low, with only 5.1 lb/acre and 17.1 lb/acre of forbs and grasses, respectively.

On the Maki Individual allotment, a temporary electric fence was again established around the burn perimeter to prevent livestock grazing. Monitoring of aspen (two-year post-burn) showed increases in both sucker density (2,847/acre vs. 1,987/acre in 2010) and height class diversity with about 15% of all suckers encountered falling within the 3-6 foot height class compared to 0% in 2010 and 2009. Browsing of terminal leaders again was low (6.6%), and unlike 2010, it did not appear that all previous year terminal leaders had been browsed, possibly resulting from deep, persistent snowpack throughout the spring transition period. Although herbaceous data were not collected, grass, tall forb and shrub regeneration within the burn area appears to be excellent (Figure 9).



Figure 9. Vegetation succession on the Maki Individual allotment approximately 1 month, 1 year and 2 years post-burn.

On the Red Canyon Common allotment, range-riders were used in 2010 and 2011 to prevent excessive browsing and persistent use of 40 cow/calf pairs in treated areas. Visual assessment in 2010 (2-months post-burn) suggested a positive effect of range riding as good to excellent regeneration of herbaceous species and aspen were observed. Visits by BLM personnel in 2011 again suggested good to excellent regeneration.

BLM and WGFD personnel met in late October to discuss WYFARP logistics and agreed that the BLM would likely oversee project implementation over the next few years. Ultimately, follow-up burns on Camp Creek, about 600 acres of scheduled burns on Upper Billies and mechanical cutting/piling/harvest of conifers within about 600 acres on Miller Mountain are anticipated for spring/summer 2012. Additional detailed information is available in project files and will likely be summarized in a future publication.

Stoner Creek Headcut Control (Goal 2) – Floyd Roadifer

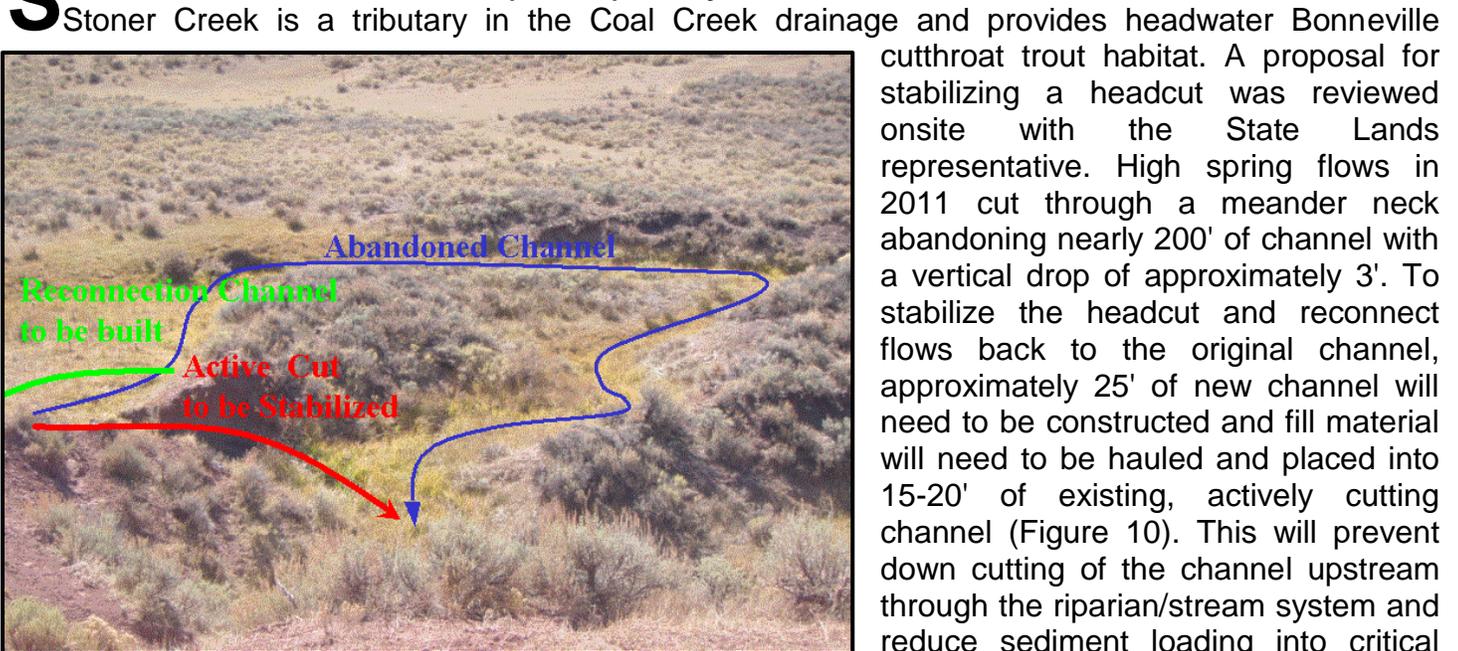


Figure 10. Schematic of Stoner Creek headcut control area project.

the Corps of Engineers was prepared for State Lands. The Office of State Lands has not yet submitted this to the COE.

Mesa Fertilization 2011 (Goal 2) – Dan Stroud

The WGFD and Pinedale Anticline Project Office (PAPO) implemented a rangeland fertilization project on 1,000 acres of Wyoming big sagebrush habitat to offset natural gas development impacts to the wintering mule deer and year-round greater sage-grouse populations (Figure 12). This is the second application located on the Mesa area of the Anticline Gas Field. Natural gas development on the Mesa has led to direct (habitat conversions) and indirect (human presence, noise) habitat losses on and adjacent to development sites (well pads, road/pipeline corridors, ancillary facilities). The potential for increasing shrub productivity on winter ranges through fertilization has been documented in other studies, dating as far back as 1975 in Colorado.



Figure 12. Fertilizer application on the Mesa in western Wyoming.

the potential of contracting out a more rigorous data collection effort over the next two years to monitor shrub and herbaceous response. Since future fertilizer applications are dependent upon the success of the first two applications, outside sources have indicated a need for data that is more statistically rigorous. Data collected on treatments done in 2010 have illustrated sagebrush production increases for both the 40 and 80 pound rates; however, the 40 pound rate appeared greater (Figure 13). Little discernible differences were noted relating to herbaceous production or canopy cover in the treatment areas.

The fertilization projects received a considerable amount of attention and currently staff in the PAPO is looking at

YEAR	CONTROL	40 LBS/AC	80 LBS/AC
2010 Pre-treatment	0.08 inches	0.16 inches	0.12 inches
2011 Post-treatment	0.79 inches	1.93 inches	1.34 inches

Figure 13. Shrub data collected pre- and post-treatment on the 2010 fertilizer project.

Pinedale Field Office Weed Management (Goal 2) - WLCI

This project increases the level of control to minimize the economic and ecological impacts caused by invasive species. Controlling noxious weeds is a priority for the BLM and this collaborative effort with Sublette, Lincoln and Teton counties reinforces this commitment. Partners include private landowners, permittees, Forest Service, BLM and Sublette County Weed and Pest District.

Maki Creek Prescribed Burn Monitoring (Goal 2) – Eric Maichak, Jill Randall and Floyd Roadifer

During 2011, numerous portions of the Maki Creek prescribed burn I were evaluated. Excellent regeneration was observed in most areas visited. Numerous stems have grown to a height of 4 to 5 feet and recent browsing was judged to be light to moderate, indicating that many stems are likely to escape above the browse line in spite of moderate to heavy past use. Nearby large wildfires (2002 Mule Fire of 3,925 acres; 2007 Horse Creek Fire of 8,588 acres; and the 2005 Triple Peak fire of 521 acres) likely provide “treated” areas with increased forage availability and promoted dispersion of elk

and other wild herbivores in the area away from the approximately 1,450 acre Maki Creek fall 2008 prescribed burn and associated previous 191 acre mechanical conifer removal treatments. All of these factors contributed to reduced browsing impacts and ultimately the long-term success of the prescribed treatments as discussed below.

Third-year, post-burn monitoring was completed in 2011 on the Maki Creek aspen burn. WGFD personnel collected information on aspen regeneration and browse use, as well as basal ground cover from random transects in stand MACB-1. Also, WGFD and GTNP measured species composition, shrub density, basal cover and herbaceous production from permanent macroplots both inside (MSBN-1) and outside (MSCN-1) the burn perimeter in mountain big sagebrush habitat.

Aspen monitoring photos show heavy subalpine fir encroachment pre-burn followed by complete kill of conifer and good vegetative recovery one- and three-year post-burn (Figure 14).



Figure 14. Pre-burn (A), 1-year post-burn (B), and 3-year post-burn (C) photos from aspen stand MACB-1 in the Maki Creek Aspen Enhancement Project, western Wyoming.

Third-year post-burn sucker density appears to have stabilized at about 5,800 stems/acre, but remains variable (Figure 15) as suckers continue to slowly erupt toward the center of the stand. When plots that had no suckers were removed from the dataset, mean sucker density was 8,690 stems/acre. Browsing of terminal leaders was 1.3%, however it appeared that less than 10% of previous year terminal leaders were browsed as compared to almost 100%, 1-year post-burn. Subsequently, 72% of all suckers were 1' to 3' tall while 10% were 3' to 6' tall, (compared to 0%, 1-year post-burn). Reduction of terminal leader browsing and increase in height class diversity in 2011 is likely the result of deep, persistent snow cover through June. Ground cover (litter, plant) was 66% in 2011, as compared to 53% 1-year post-burn and likely is continuing to recover.

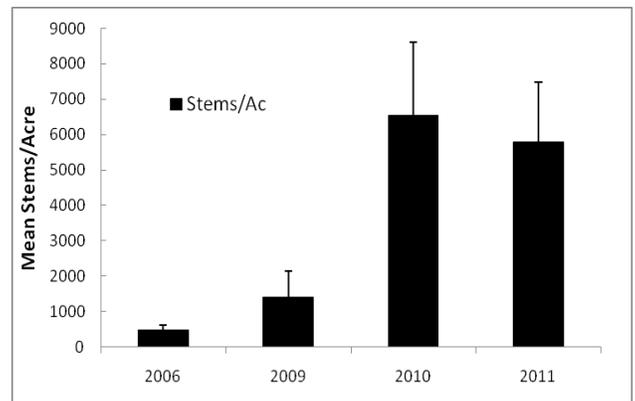


Figure 15. Mean aspen sucker density pre-burn (2006) and 1 - 3 years post-burn from aspen stand MACB-1 in the Maki Creek Aspen Enhancement Project in western Wyoming.

In mountain big sagebrush, 24 and 20 species of forbs were found on burned and unburned sites respectively, whereas 10 and 11 species of grasses were found on burned and unburned sites. Sulfur buckwheat dominated aerial cover of forbs on burned (20.6%) and unburned (25%) sites; Letterman's needlegrass (22.8%) and Idaho fescue (36.2%) dominated cover of grasses on burned and unburned sites, respectively. Basal cover in the burn (92.6%) has exceeded 3-year (60%) and 5-

year (80%) post-burn objectives. Density of live sagebrush continued to differ between burned (2,371 plants/acre) and unburned (198,390 plants/acre) sites, yet both sites were dominated by seedlings (58.3% burned, 79.1% unburned) suggesting adequate to exceptional recruitment. Cover of live sagebrush also continued to differ between sites (0% burned, 29.2% unburned), but should become similar over time as seedlings mature. Production of forbs differed between sites (1,064.4 lb/acre burned, 441.3 lb/acre unburned) and via comparison of monitoring photos is visually apparent (Figure 16), while production of grasses was similar (386.6 lb/acre burned, 424.0 lb/acre unburned).



Figure 16. Comparison of photos from unburned (A), 1-year post-burn (B), and 3-years post-burn (C) sites show relative difference and increase in production of forbs in mountain big sagebrush habitat of the Maki Creek Aspen Enhancement Project in western Wyoming.

Monitoring information will continue to be collected in future years. Additional detailed information is included in project files and will be summarized in a future report.

Wildlife Habitat Management Areas (Goal 2) – Ray Bredehoft, Matt Miller, Kade Clark

- On Soda Lake WHMA, approximately 25.5 miles of elk fence was contracted with funding provided by the Legislature. A water well has been drilled and will be completed in 2012 to benefit wildlife and start pasture management with draft horses.
- Noxious weed control was completed on all the WHMAs in the Pinedale Region.

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

The Pinedale Anticline Record of Decision (ROD) (BLM 2008) signed September 12, 2008, acknowledged that “some impacts to resources from implementing this ROD (for example, wildlife habitat and vegetation resources) are not likely to be adequately mitigated on site.” Because of this decision, the operators made commitments to provide funding for on and off-site mitigation. As indicated in the ROD, “The mitigation process utilizes performance-based measures to proactively react to emerging and undesirable changes, specifically declines in populations, early enough to assure both effective mitigation responses and a fluid pace of development over the life of the project. In that regard, this process is designed to provide certainty to the affected agencies and the public that impacts to wildlife will be addressed before consequence become severe or irreversible by monitoring changes and responding early.” A wildlife monitoring and mitigation matrix was established through the ROD to identify certain “thresholds” or “triggers” based on population monitoring, used to essentially “jump start” or provide for identification of changes that reflect the need for a “mitigation response.” For mule deer, this “specific change requiring mitigation” was a “15% decline in any year, or cumulatively over all years, compared to reference area.” This trigger was reached in early 2011 (Sawyer and Nielson, 2011) and a habitat assessment was initiated to identify potential habitat improvements that could be implemented in those areas important to the segment of the Sublette Mule Deer Herd Unit that utilizes/utilized the Mesa as a winter range.

The habitat assessment conducted during the field season of 2011 generally utilized “qualitative” techniques that are described in the Wyoming Range Mule Deer Habitat Assessment: South LaBarge Study Area (Smith and Younkin 2010) and consisted primarily of photos with GPS locations, descriptions of site characteristics including dominant plant species on site, and treatment recommendations. The

assessment area included approximately 17 allotments and 80 assessment points, the majority with numerous photos (Figure 17). More than 8,000 acres were identified for habitat enhancement, utilizing various techniques including both traditional (e.g. burning, herbicide, mechanical, etc.) and nontraditional (shrub planting, seeding, pipeline enhancement, drainage planning and restoration, etc.).

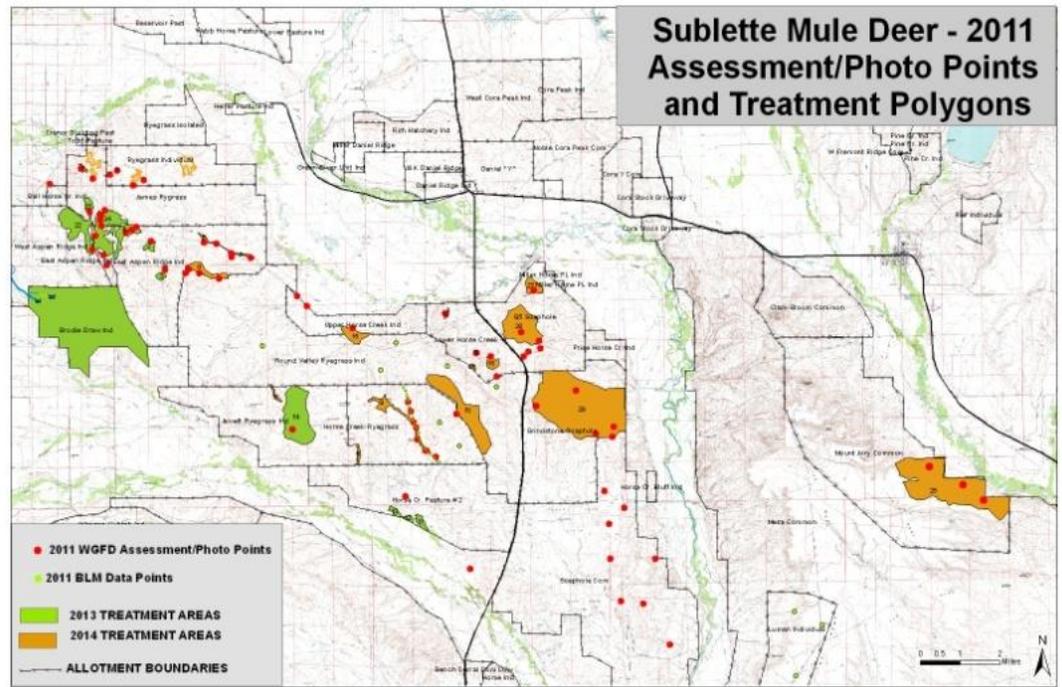


Figure 17. Sublette mule deer assessment data and proposed project locations through the Ryegrass and northern portion of the Mesa in western Wyoming.

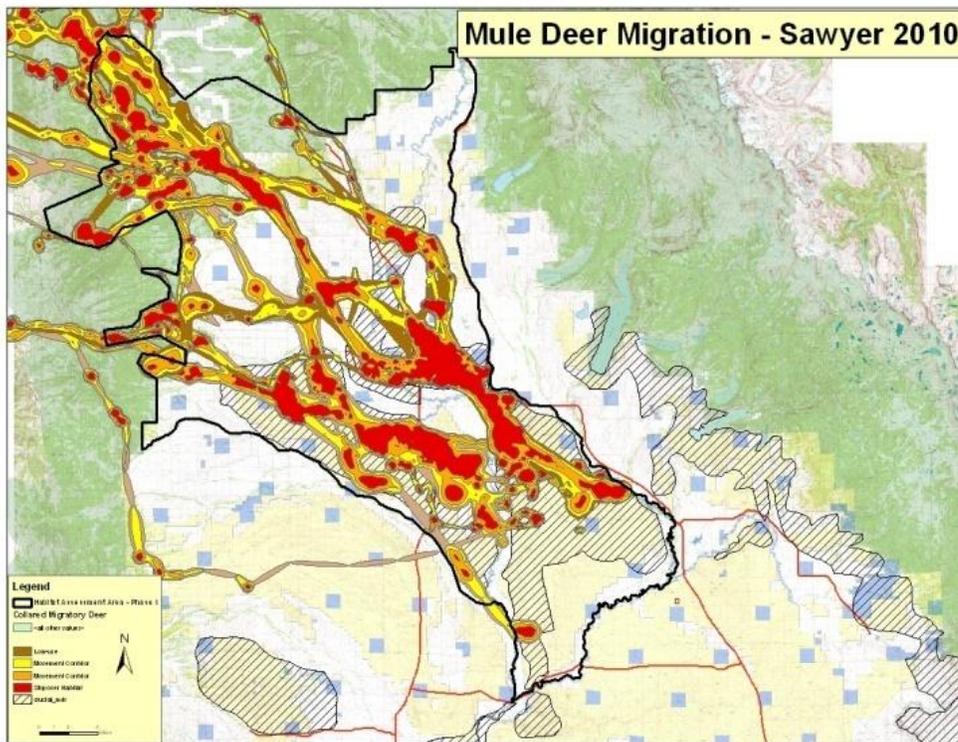


Figure 18. Mule deer migration routes and stopover locations delineated by WEST, Inc. utilizing collar data from the Mesa in western Wyoming.

Currently, information is being assembled to prepare a 10-year mule deer mitigation plan focusing both on the previous assessment and project implementation as well as identifying future assessment and habitat enhancement areas. This work/plan focuses on the segment of the Sublette Mule Deer Herd Unit that migrate to the Mesa to winter and incorporates information from the mule deer monitoring efforts currently in progress by WEST, Inc. (Figure 18).

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

Pinedale, Green River and Jackson Regional WGFD personnel have been actively involved in the Wyoming Range Mule Deer Initiative since 2008. One action item requested by the public was a Mule Deer Habitat Plan. In 2011, the Department hired an At-Will Employee Contract (AWEC) employee to focus work on delineating treatment polygons based on Teton Science School Mule Deer Habitat Assessment work, and to collect additional site-specific reconnaissance and local expertise information. A 10-Year Habitat Plan for the Pinedale and Rock Springs BLM Field Offices will be finalized in 2012. NEPA analysis, cultural clearance and grazing management options will be addressed in 2012 with anticipated implementation to start in 2013 (Figure 19).

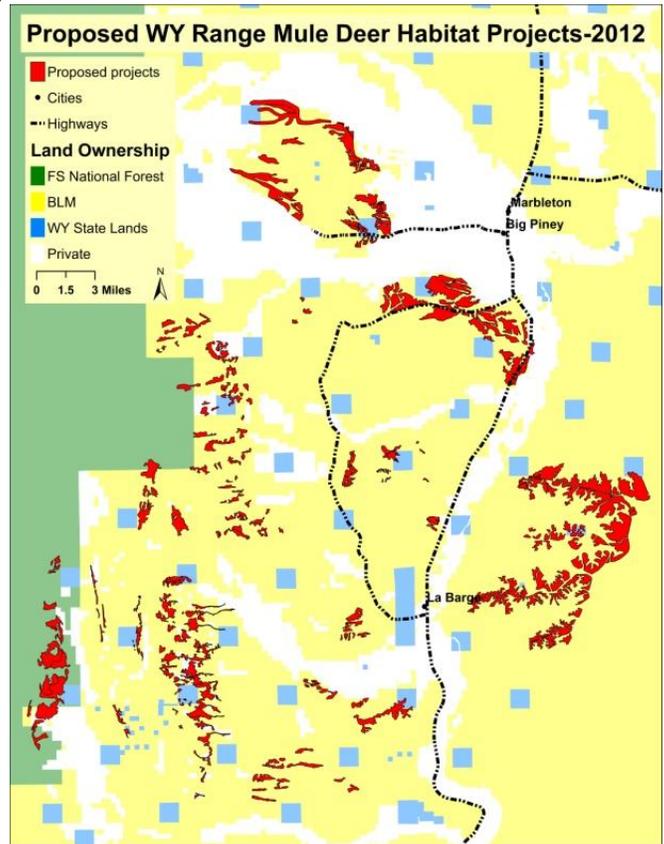


Figure 19. Map of proposed treatments in the Wyoming Range Mule Deer Habitat Management Plan for Pinedale and Rock Springs BLM field offices.

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

Wildlife and habitat data were provided to the USFWS both informally at public meetings and through the formal WER process 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. Opportunities and strategies to restore woody riparian species have been emphasized and discussed at length. Local CMR Managers recently sent a draft plan to USFWS administrators for review and the anticipated completion date for the plan is 2012.

Energy Development Collaboration (Goal 5) – Dan Stroud and Jill Randall

Extensive current and planned energy development within the Pinedale Region requires a great deal of time dedicated to communicating with federal agencies about wildlife resources and data, potential mitigation actions and proposed alternatives to NEPA documents. Some of the ongoing projects include Pinedale Anticline, Jonah, Normally Pressured Lance (NPL), 44,700 BTNF leases, Plain's Exploration (PXP), LaBarge Infill and Cimarex Helium plant.

Tall Forb Monitoring (Goal 5) – Jill Randall and Floyd Roadifer

Monitoring information was collected from permanent nested frequency trend transects in three of the Wyoming Range Allotment Complex (WRAC) allotments (Upper Greyback, Grizzly Creek and North Horse Creek) with BTNF Range personnel in August 2011 (Figure 20). For more details refer to “WRAC and TPFRR Background and Current Status” (Hayward and Randall, 2011). The area encompassed by the WRAC includes the upper portions of South and North Horse Creeks, Beaver Creek and the Hoback River. Sites continue to show slow recovery towards ground cover and species composition desired conditions. These monitoring sites now include soil sample collections at the same site in an effort to work with NRCS and BTNF on developing Ecological Site Descriptions for tall forb communities in Wyoming. In addition, reviews and edits were provided to Dr. Alma Winward on his recent paper on tall forb community types, “Disturbance Indicator Community Types Within the Tall Forb Cover Type.”



Figure 20. Monitoring photo of a tall forb nested frequency site located in the Upper Hoback from 2011.

No transects in Triple Peak Forage Reserve (TPFR) were scheduled for monitoring in 2011. Scheduling conflicts and other priorities precluded opportunities to locate and reread older, potential “relict site” transects in Horse Creek and Hoback watersheds.

Winter Range Shrub Monitoring (Goal 5) – Jill Randall

Overall, we experienced good annual production on shrubs throughout the Pinedale Region in 2011. Snowpack last winter and cool spring temperatures presented good opportunity for shrubs to uptake moisture for leader growth. The Mesa winter range demonstrated a notable increase in annual production in 2011. Bitterbrush and true mountain mahogany transects reflected the greatest relative increase compared to other species monitored, indicating moisture and temperature regimes were beneficial for the requirements of these species. On some transects, young plants were observed, but overall age class diversity is lacking in all shrub communities. Also, plants with severe hedging class demonstrate lower levels of annual production, indicating poor vigor of these plants is limiting the growth potential even on years of good precipitation. Fall weather conditions allowed wildlife to spend additional time on transitional range in 2011. This, combined with fewer animals coming to the winter ranges due to the mortality events of the 2010-2011 winter, should present good forage conditions for the 2011-12 winter for mule deer and pronghorn. Two additional transects were added in 2011 to assist with the Anticline mule deer management concerns: Mesa 15 and Mesa 35. Both of these Wyoming big sagebrush transects were previously monitored in 1994 as part of a winter range study with the BLM.

LaBarge Vegetation Restoration (Goal 5) – Floyd Roadifer

Portions of the USFS LaBarge Vegetation Restoration Project were visited with the USFS and the permittee/rider. Potential benefits, risks and concerns were discussed at length. A primary concern relative to potential impacts on fisheries habitats is increased sediment loading from access roads and skidder trails and other surface disturbances near streams. A potential benefit to a properly designed project could be rejuvenated aspen stands that could provide improved beaver habitat, as well as benefits to numerous other terrestrial and aquatic species. This project is being promoted to salvage beetle-killed pine trees. However, in order to make a salvage operation profitable, some live trees will need to be included in the sale. The USFS is attempting to balance these desires with the opportunity and need to treat/restore declining aspen stands. However, restrictions and limitations associated with management of potential lynx habitat will likely greatly reduce the size and scale of potential treatment areas unless exceptions can be designed into the planning process.

Squaretop Windmill Conversion (Goal 5) – Jill Randall

In 2011, BLM permittees converted a windmill to a solar-powered season-long water facility in the



Squaretop vicinity, southeast of Boulder, WY (Figure 21). This conversion removed a potential raptor perch and, more importantly, generated a season-long water source for sage-grouse and pronghorn use during the dry summer and fall months. This water source was previously shut off when cattle left the allotment around the first of July.

Figure 21. Solar powered water facility that benefits both livestock and wildlife through the summer and fall southeast of Boulder, WY.