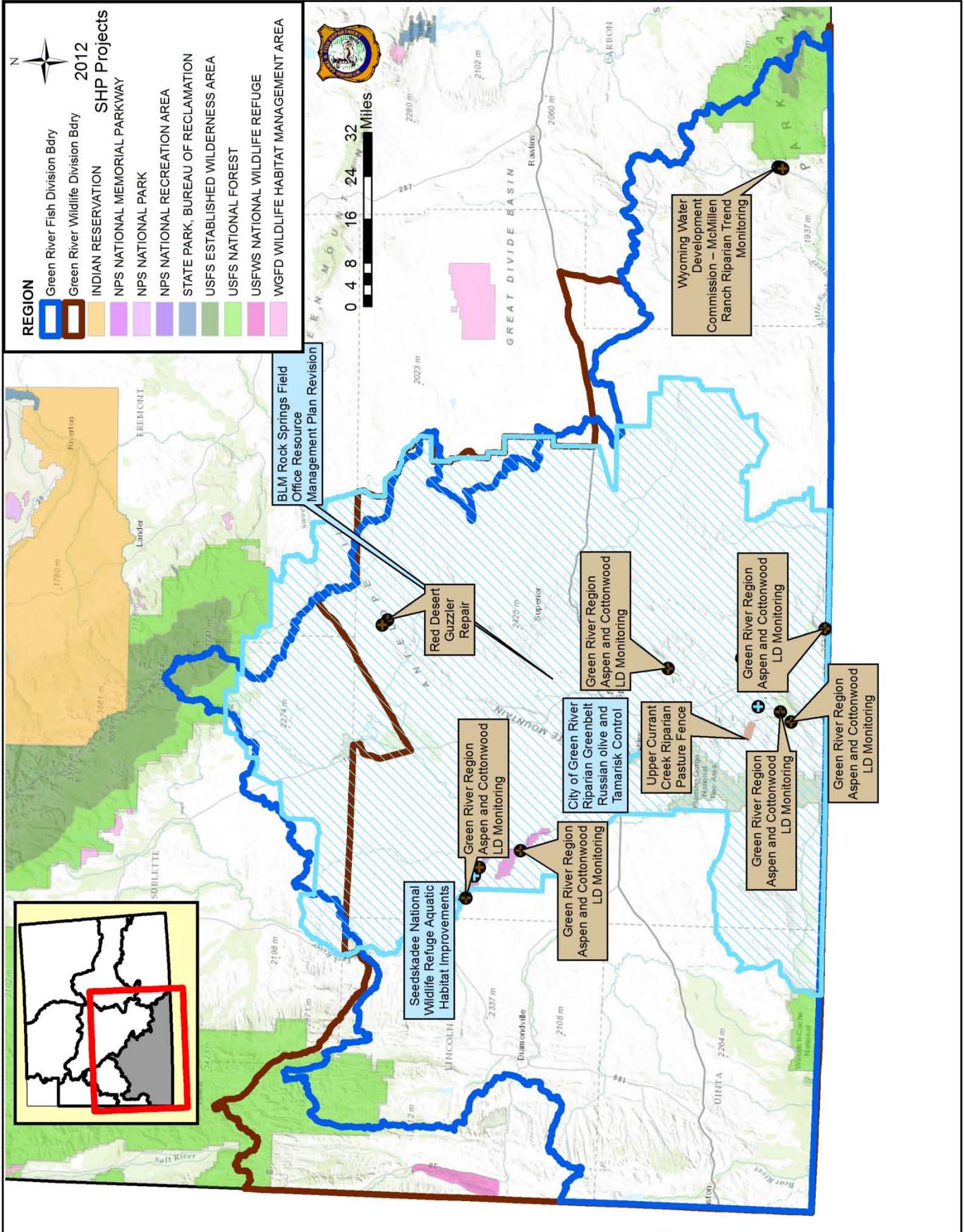


GREEN RIVER REGION



GREEN RIVER REGION HIGHLIGHTS

- Juvenile fish habitat was improved in two lateral side channels along the lower Green River.
- 586 riparian acres were treated to control Russian olive and tamarisk along five miles of the City of Green River's greenbelt corridor.
- Approximately 275 acres of dense sagebrush was chemically thinned to enhance mountain shrub and herbaceous understory.
- Teton Science School (TSS) completed a Russian olive and tamarisk inventory on an additional 28 miles of the lower Green River riparian corridor.
- 10 water guzzlers were repaired in the Red Desert area of Wyoming.
- Over 500 students, teachers, boy scouts and others were taught about habitat opportunities and issues during the year.

Three Patches BLM Recreation Area Fence Modification (Goal 2) – Ben Wise

Fence modification and wildlife friendly improvements were conducted during the spring of 2012 at the Three Patches BLM Recreation area south of Rock Springs. The WGFD was asked to assist in the fence inventory, project planning and execution of the modifications in conjunction with a spring BLM field work day for the Rock Springs Field Office. Approximately two miles of livestock enclosure fence was converted to wildlife friendly specifications (Figure 1). This project is located on Aspen Mountain, in a highly productive pronghorn and mule deer parturition area (Figure 2).



Figure 1. Post modification photo of improvements made to the Three Patches BLM Recreation Area livestock enclosure fence.



Figure 2. One of the many pronghorn fawns located during the fence inventory.

Aspen Effectiveness Monitoring (Goal 2) – WLCI, Jim Wasseen

Aspen communities in the WLCI area are widely disbursed across numerous mountains and ranges that connect the vast shrub-steppe system separating the northern and southern Rocky Mountains. Because of their wide distribution, the influence and response of aspen communities to change agents is inconsistent. In addition, consistently applied indicators to address change agents and to monitor effectiveness of treatments are lacking. To address the lack or inconsistent application of indicators we propose to establish ecological indicators associated with aspen communities that are sensitive to change caused by invasive species, altered wildland fire cycles, climate change, energy development and other stressors that can be applied across ecoregions. To accomplish this, some indicators will be used in an assessment that evaluates how the

ecological and hydrological settings of aspen communities are affected by different change agents. Funding from the WLCI Program during 2012 was matched by US Geological Survey (USGS) to augment USGS effectiveness monitoring and to support efforts to provide landscape-scale monitoring and GIS support to other WLCI projects. WLCI and USGS funding was used to: 1) cross date previously collected tree cores and develop establishment dates for aspen and conifer trees in the Savory and Little Mountain Project areas; 2) meet with BLM and investigators with the Wyoming Natural Diversity database (WYNDD) to implement common sampling protocols for aspen and cheatgrass in the Little Mountain Ecosystem; and 3) complete Global Positioning System (GPS)-based mapping and effectiveness monitoring of aspen treatments in the Sierra Madre from 2008 to present.

Baggs Underpass (Goal 2) - WLCI, Jim Wasseen

An additional underpass was installed to allow migrating herds of mule deer to safely cross State Highway 789, thereby reducing the number of incidents of deer-vehicle collisions (Figure 3). This second underpass was installed approximately five miles north of Baggs.



Figure 3. Mule deer underpass on Highway 789.

BLM Rock Springs Field Office Resource Management Plan Revision (Goal 1) - Kevin Spence, Mark Zornes, Ben Wise, and Patrick Burke

The Rock Springs BLM Field Office began revising their resource management plan (RMP) during 2011. Once completed, this RMP will guide resource management and land uses on approximately 3.6 million acres of public land during the next ten years, including some of the more important aquatic and terrestrial wildlife habitats in southwest Wyoming. During the first quarter of 2012, WGFD representatives attended several “cooperating agency” meetings with BLM to provide recommendations for formulating a range of resource management alternatives covered by the RMP. Additional BLM meetings were attended in the last quarter of 2012 to discuss development of a travel management plan as a component of the RMP revision, and developing a range of management alternatives for those resources not discussed earlier in the year. The BLM RMP revision process and cooperating agency meetings are expected to continue into 2013.

Bitter Creek Restoration (Goal 2) - WLCI, Jim Wasseen

This project involves replacing a failing in-stream structure, controlling invasive plant species in the riparian corridor, and reestablishing native vegetation in the Bitter Creek watershed. The Pierotto ditch diversion off Bitter Creek is in danger of being rendered dysfunctional as a channel incision moves upstream. Landowner access was granted, allowing the Sweetwater Conservation District’s boring contractor to collect core samples in the vicinity of the structure. These core samples will be analyzed to determine the best location and method for installation of a new structure to benefit the Pierotto Ditch.

Muddy Creek Spike (Goal 3) – Ben Wise and Jill Randall

As part of the Wyoming Range Mule Deer Initiative, habitat treatments in the south LaBarge Common Grazing Allotment have been identified to improve mule deer winter range. These treatments are a collaborative effort between the WGFD, BLM, livestock grazing permittees, Sublette County Conservation District, and the NRCS. Treatments involved the use of an herbicide (Spike) to thin canopy cover of Wyoming big sagebrush 30-50%, allowing increased vigor of understory mountain shrubs (primarily antelope bitterbrush), increase herbaceous production and overall improvement of rangeland diversity, health and watershed function. The herbicide application took place on approximately 275 acres in late October (Figure 4). Post-treatment monitoring will occur in the spring of 2014 to determine the success of the project. Funding was provided by WWNRT and WGBGLC and special thanks to Ed Nikolaus of Wyoming Helicopters Inc., and Sublette County Conservation District for ongoing conservation partnerships. Future projects in this area have been designed and are being actively evaluated.

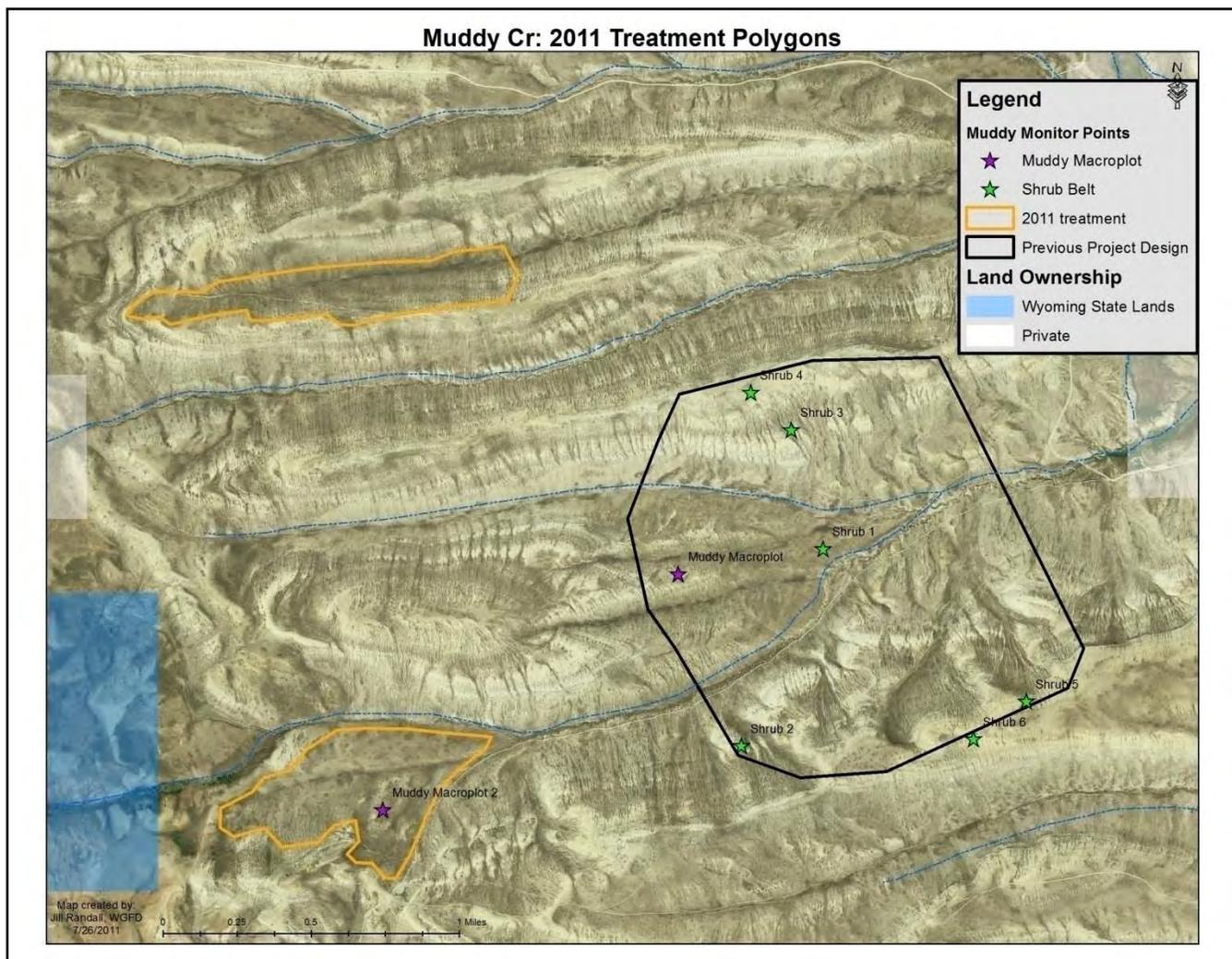


Figure 4. The Muddy Creek Spike area near Big Piney, WY. Following additional data collection the yellow outlines the portion treated whereas black outlines the area originally scheduled for treatment.

Buckhorn Flowing Well (Goal 2) - WLCI, Jim Wasseen

This is a three phase project dependent upon donated materials to enclose approximately 100 acres around a flowing well and associated riparian area southwest of Farson. The well head was protected last year. This year a post pounder was purchased for the High Desert District to be

used by BLM and WLCI on this and future fencing projects. Enough material has been donated to enclose a 40 acre area; posts have been driven, by a contractor, for the second phase of fence construction. During winter 2012-13, time and weather permitting, BLM field staff will weld railings to posts until materials are depleted.

Seedskae National Wildlife Refuge Sill Reconstruction (Goal 2) – Anna Senecal

The Double Sills structure, located approximately 17 river miles downstream of Fontenelle Dam on the Seedskae National Wildlife Refuge, (NWR) was modified to improve stream channel condition and water delivery to adjacent side channel habitat and provides water delivery to a large wetland complex (Figure 5). Survey and design were completed during the summer of 2011 and 550 cubic yards of rock was purchased for reconstruction of the river-wide sill. Seedskae NWR and WGFD maintenance crews began instream work on the structure September 4-7, 2012. The base of the sill was widened to increase stability at high flows, a thalweg notch was included, and the arms of the sill were angled upstream in the horizontal plane and down in the vertical plane towards the thalweg notch. Sill modifications will direct water and sediment down the middle of the channel, increase adjacent stream bank stability and maintain water delivery to the Seedskae NWR ditch system and upstream, natural side channel (Figure 6). Additional work will need to be done during the 2013 season to complete sill reconstruction and stabilize side channel stream banks. While the functionality of the sill is vastly improved, finishing touches will be put on the sill and adjacent stream banks in 2013.



Figure 5. Before view of Double Sill. Note natural side channel mouth in top left of photo.



Figure 6. After view of sill reconstruction.

Carbon County Perennial Pepperweed Partnership (Goal 2) – WLCI, Jim Wassen

The Perennial Pepperweed Partnership project involves treating two main stream branches in the Sage Creek watershed for perennial pepperweed, whitetop, saltcedar, leafy spurge, and Russian knapweed. Chemical treatments are used to control weeds in this remote area. In 2012, 600 acres were treated and an additional 200 acres were monitored and 200 acres inventoried. This is a multi-year project with work continuing into 2013. No new infected sites were reported this year. Weed growth has slowed and weed patches were much thinner than found in the previous years.

Seedskae National Wildlife Refuge Aquatic Habitat Improvements 2012 (Goal 3) – Kevin Spence

Aquatic habitat was improved at two lateral river side channel sites located on the Green River at Seedskae NWR in 2012. A crew of regional WGFD workers, Seedskae NWR personnel, and local Trout Unlimited volunteers harvested several 6-12 ft green conifer trees from BLM lands in

the Miller Mountain area (Figure 7) and delivered the trees to McCullen Bluff and Headquarters lateral river side channel sites. The conifers were harvested from an encroached aspen stand delineated by the BLM as one of the sites for the Wyoming Front Aspen Regeneration Project, and the conifer removal served as a treatment to improve this aspen stand on Miller Mountain. Crews later used harvested trees to fashion and construct conifer revetment structures along the streambank at predetermined reaches of each lateral river channel to improve aquatic habitat for juvenile fish at Seedskadee NWR (Figure 8). Both lateral river side channels are very important juvenile trout and native nongame fish rearing habitat with margin niches and laminar flows needed for small fish survival and recruitment to adult populations in the Seedskadee reach of the lower Green River. The conifer revetment features are expected to provide juvenile fish escape and hiding cover along 950 ft of channel margin at the McCullen Bluff site and 500 feet along the edge of the Headquarters side channel. The conifer revetment cover also compliments river sill structure improvements completed in 2011 which now provide consistently higher flows to each lateral side channel for the benefit of juvenile fish.



Figure 7. Crews harvest small conifer trees to improve an aspen stand on Miller Mountain, and then haul cut trees to be used to improve fisheries habitat along the Green River at Seedskadee NWR.



Figure 8. Conifer structures being constructed along the margin of the Headquarters lateral river channel at Seedskadee NWR to improve juvenile fish rearing habitat.

Fontenelle Area Green River Russian Olive and Tamarisk Control and Native Tree/Shrub Rehabilitation (Goal 2) – WLCl, Jim Wasseen



Figure 9. Monitoring of Russian olive that was originally treated in the fall of 2011.

This project was initiated as part of a larger effort to control Russian olive and tamarisk along the Green River. The Sweetwater County Weed and Pest District monitored and reapplied herbicide on public and private lands above Seedskadee NWR this year (Figure 9).

Wyoming Range Mule Deer Habitat Management Plan, Kemmerer to Cokeville (Goal 1) – 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 2012, the WGFD hired an employee to focus on delineating treatment polygons based on TSS Mule Deer Habitat Assessment work, and to collect additional site-specific reconnaissance and local expertise information (Figure 10). WGFD personnel and the Kemmerer BLM biologist are currently determining project readiness and ability to conduct habitat work within delineated treatment polygons. NEPA analysis, cultural clearance and grazing management options will be addressed in 2013 with anticipated implementation to start in 2014.

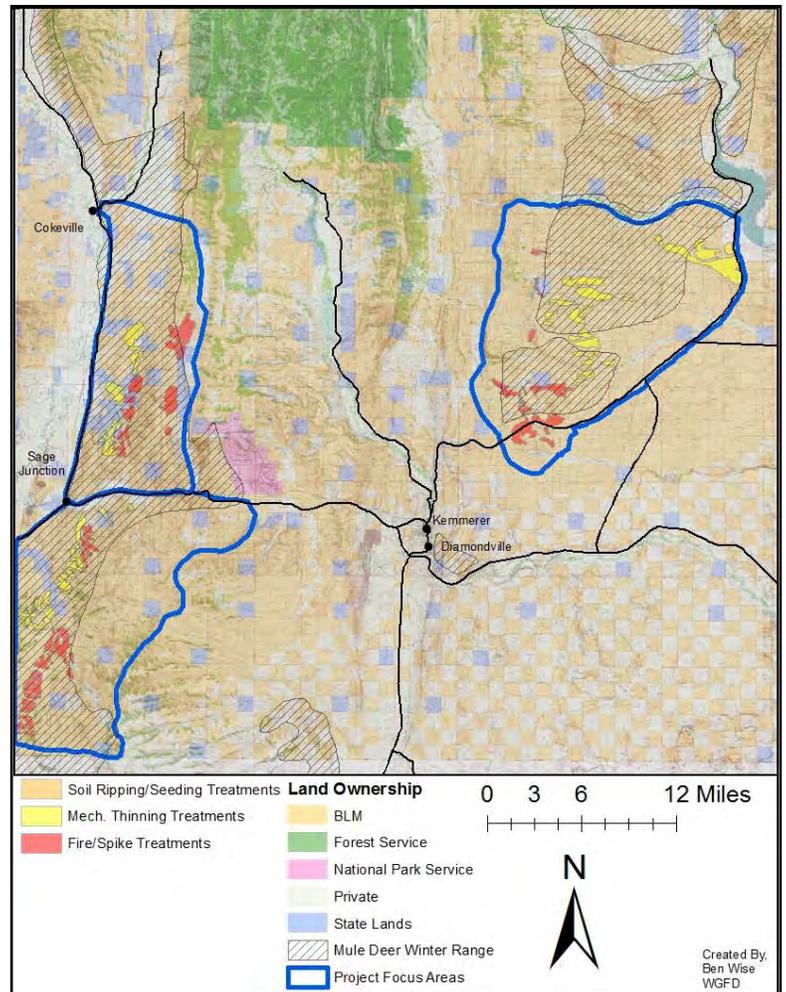


Figure 10. Proposed treatments in the Wyoming Range Mule Deer Habitat Management Plan for Kemmerer BLM field office.

Dirtyman Creek Fish Barrier (Goal 2) – WLCI, Green River Fish Management

This project involved construction of a low water crossing and fish barrier to expand a genetically pure population of Colorado River cutthroat trout in Dirtyman Creek. In 2012, WGFD completed landowner access agreements with two private landowners and construction of the fish barrier during the fall. Changes to the final design required new interdisciplinary clearances (i.e. cultural and wildlife) which were completed prior to construction.

Halogeton Invasion and Restoration in Southwest Wyoming Salt-Desert Shrublands (Goal 2) – WLCI, Jim Wasseen

Treatments were done to improve habitat conditions in two, two-acre exclosures. The native plant communities (i.e. Gardner saltbush) known to exist within these exclosures have been invaded and displaced by halogeton. Treatments to improve habitat conditions have included a variety of soil preparation and seeding techniques as well as introducing different plant materials. Preliminary findings from 2012 include: both the new seed trial and transplant trial appeared to be failures. Very little germination could be seen and many of the transplants appeared to have died – probably from late freezes followed by below average precipitation. In both seeding studies and the spaced-plant study, we observed that although some grasses had germinated and/or become

established, many were dead by late summer. Due to low precipitation, very little growth occurred on established transplants and we were not able to collect biomass yield as a determination of vigor.

Red Desert Guzzler Repair (Goal 2) – Ben Wise

RIn response to information gathered during an inventory of water guzzler projects in the Red Desert conducted in the summer of 2011, BLM personnel and WGFD prioritized guzzler repairs and began repairing these existing range improvements. Throughout the summer of 2012 guzzlers were repaired, resulting in 10 of the 26 identified guzzlers receiving attention (Figure 11). Two guzzlers were completely redesigned to function properly, requiring substantial infrastructure upgrades and livestock enclosure fencing (Figure 12). An additional eight received maintenance to allow continued operation, including removing sediment from watering troughs, repairing enclosure fences, etc. This is an ongoing project and additional maintenance needs will be addressed.



Figure 11. Rock Springs BLM summer fence repair crew trenching and re-plumbing a guzzler basin in the Red Desert.



Figure 12. Guzzler improvements at this location included re-plumbing and setting the guzzler basin, constructing livestock enclosure fence, filling of the tank with approximately 500 gallons of water to demonstrate success of repairs.

City of Green River Riparian Greenbelt Russian Olive and Tamarisk Control (Goal 2) – Kevin Spence and Jim Wasseen

The City of Green River Parks and Recreation Department received cost share funding to conduct mechanical control of Russian olive/tamarisk and plant native trees along the Green River riparian greenbelt corridor on city property in 2011. The effort was also expanded to two adjacent parcels of private property allowing for most of the riparian corridor to be treated for these invasive species between Expedition Island and the downstream end of Scott's Bottom. Due to delays in approval to treat invasive species on a small parcel of BLM land, the mechanical control effort was postponed until June 2012. BOSS Reclamation LLC. was awarded the treatment contract and performed mechanical removal of Russian olive and tamarisk on 586 acres of riparian habitat along five miles of river between Expedition Island and the Scott's Bottom area.

BOSS Reclamation LLC used a specialized patented track-hoe attachment that surgically extracted the entire invasive plant and intact root crown (Figure 13), which was key to successful control as it severed lateral roots from the root crown allowing for practical follow-up chemical treatment next year to effectively kill any re-sprouts. A large rotary grinder was used behind the track-hoe to chip all Russian olive and tamarisk biomass and was scattered for reclamation mulch on site. Sites that could not be accessed with equipment or supported invasive plants too small for

mechanical control were treated with a combination of stump-cut/chemical and foliar chemical applications. Initial results of the control effort displayed a noticeable reduction in Russian olive/tamarisk densities and biomass (Figure 14). As expected, a large number of young invasive re-sprouts were observed by the end of the growing season. The City of Green River Parks and Recreation Department has pledged to conduct monitoring and follow-up chemical control of invasive re-sprouts for three consecutive years following the original mechanical control effort, and indicated they will conduct chemical control of re-sprouts beginning in the spring and early summer 2013. The city will also be rehabilitating the treated sites with larger sized native riparian tree and shrub plantings during the early summer of 2013. Speedy re-establishment of large stature native riparian tree and shrubs not only will provide the horizontal and vertical structure needed for wildlife habitat and the appropriate species composition for maintaining sound ecological processes, but may also encourage other urban river front landowners to participate in future control programs.



Figure 13. Mechanical control of Russian olive using a specialized patented track-hoe attachment that surgically extracts the entire invasive plant and intact root crown.



Figure 14. Pre- and post-mechanical treatment photos demonstrate the resulting reduction of Russian olive biomass at one location along the City of Green River’s riparian greenbelt area.

Muddy Creek Fish Passage Improvement (Goal 2) – WLCI, Jim Wasseen

The BLM in cooperation with TU, WGFD and the Little Snake River Conservation District (LSRCD), have undertaken a large conservation effort to protect native Colorado River fish species in the Muddy Creek watershed. This project is an ongoing effort to restore fish passage and connect over 30 miles of headwater streams in the watershed. Efforts include removal of 11 fish barriers (ten on Muddy Creek and one on Littlefield Creek) previously installed as part of non-native fish removal efforts; removal/modification of instream structures installed as stream gradient controls; and construction of fish barriers to protect restored sections of stream. Funding for this project will be used towards engineered design and construction of fish passage structures. During fiscal year 2012, an engineered design for the Littlefield Creek fish barrier was completed. Engineered designs for the modification/construction of two fish barriers were also developed.

These barriers must be constructed to protect the native fish population prior to the removal of any fish barriers upstream. Habitat and population monitoring of past and future project areas also occurred.

Green River Region Spring Enclosures (Goal 5) – Ben Wise

The lack of availability and tendency for over utilization of naturally occurring water sources in the semi-arid areas of southwestern Wyoming has led to an increased interest in protecting these invaluable resources from further degradation. Two projects were developed and materials were purchased to protect approximately ten acres of active spring and associated sub-irrigated riparian areas adjacent to the active spring source. A steel jack fencing design was utilized for this project due to its durability and requirement for very little maintenance over the life of the enclosure (Figure 15). Working in conjunction with the Southwest Sage Grouse Local Working Group, Water for Wildlife Foundation and Muley Fanatics Foundation of Wyoming, funding was secured and 5,500 feet of fencing materials were purchased. Completion of both projects is anticipated in early summer 2013.



Figure 15. A full truck load of steel jack fencing materials for the Seven Mile Gulch and Scott Spring enclosure projects.

Hay Reservoir (Goal 2) – WLCI, Jim Wasseen

This has been a multi-year project to treat approximately 1,200 acres for Russian knapweed, whitetop, and swainson pea invasion on public and private lands over a three year period. Past monitoring showed the density of treated weed populations is reduced and patchy as compared to thicker and larger patches the previous year, and that beneficial grass cover is increasing. Saltcedar has been removed throughout the treatment area. In 2012 the project was completed when the final 600 acres were treated using ground applications of herbicide and monitoring information collected on 250 acres.

Wyoming Water Development Commission – McMillen Ranch Riparian Trend Monitoring (Goal 2) – Ben Wise

The McMillen Ranch property was purchased by the WWDC to mitigate the impacts of High Savory Reservoir. The property was set aside to offset the loss of riparian wetland habitat due to the formation of the reservoir behind the dam. Woody riparian species monitoring sites were established on this property and livestock grazing was deferred until the site reached an adequate level to fulfill the mitigation requirements of the property. Transects were re-read in June 2012 (10 years post establishment) with minimal improvements observed on the monitoring transects (Figures 16 and 17). The average height of willows across the three sites increased one foot and

cottonwoods increased 0.53 feet. A detailed report on this monitoring effort will be included in the 2012 Fish Division Progress Report.



Figure 16. Middle McMillen Ranch woody riparian belt transect, 2001.



Figure 17. Middle McMillen Ranch woody riparian belt transect, 2012.

Little Snake Aspen Conservation Initiative (Goal 2) – WLCI, Jim Wasseen

This is the fifth year of a ten year project to restore up to 5,000 acres of aspen stands in the Little Snake River Basin. This project treats aspen habitat through removal of decadent trees and encroaching conifers. The project consisted of removing the conifers and old aspen clones from existing stands through mechanical treatments and prescribed burns. In 2012, 621 acres were treated: 190 acres of private lands intermixed with 431 acres of BLM administered lands, in three separate parcels (Figure 18). Treatments have benefitted adjacent acres through increased vigor of aspen stands resulting in a two fold increase in effected acres for a total of 1,242 improved acres.



Figure 18. Aspen regeneration 3 years after treatment.

Wyoming Range Mule Deer Nutritional Carrying Capacity (Goal 5) – Ben Wise

In conjunction with the “Wyoming Range Mule Deer Nutritional Carrying Capacity” research project conducted by Dr. Kevin Monteith of the Wyoming Cooperative Fish and Wildlife Research Unit, a series of winter range production and utilization habitat transects were established. The main purpose of this study is to link habitat condition; winter range shrub utilization, mule deer body condition and carrying capacity together to better manage the overall herd health and population level of the Wyoming Range Mule Deer herd. Ten additional winter range production and utilization transects were established along with three existing transects to collect data across the entire extent of this crucial mule deer winter range (Figure 19). Due to the below average snowpack from the winter of 2011-2012 and extreme drought conditions of 2012, winter range

production was significantly lower than historical averages. Data were collected from Wyoming big sagebrush sites which produced less than 0.05 inches of growth, equating to only 5.9% of long term average annual growth. Mountain big sagebrush also only produced 0.07 inches of growth equating to only 6.9% of long term average annual growth.

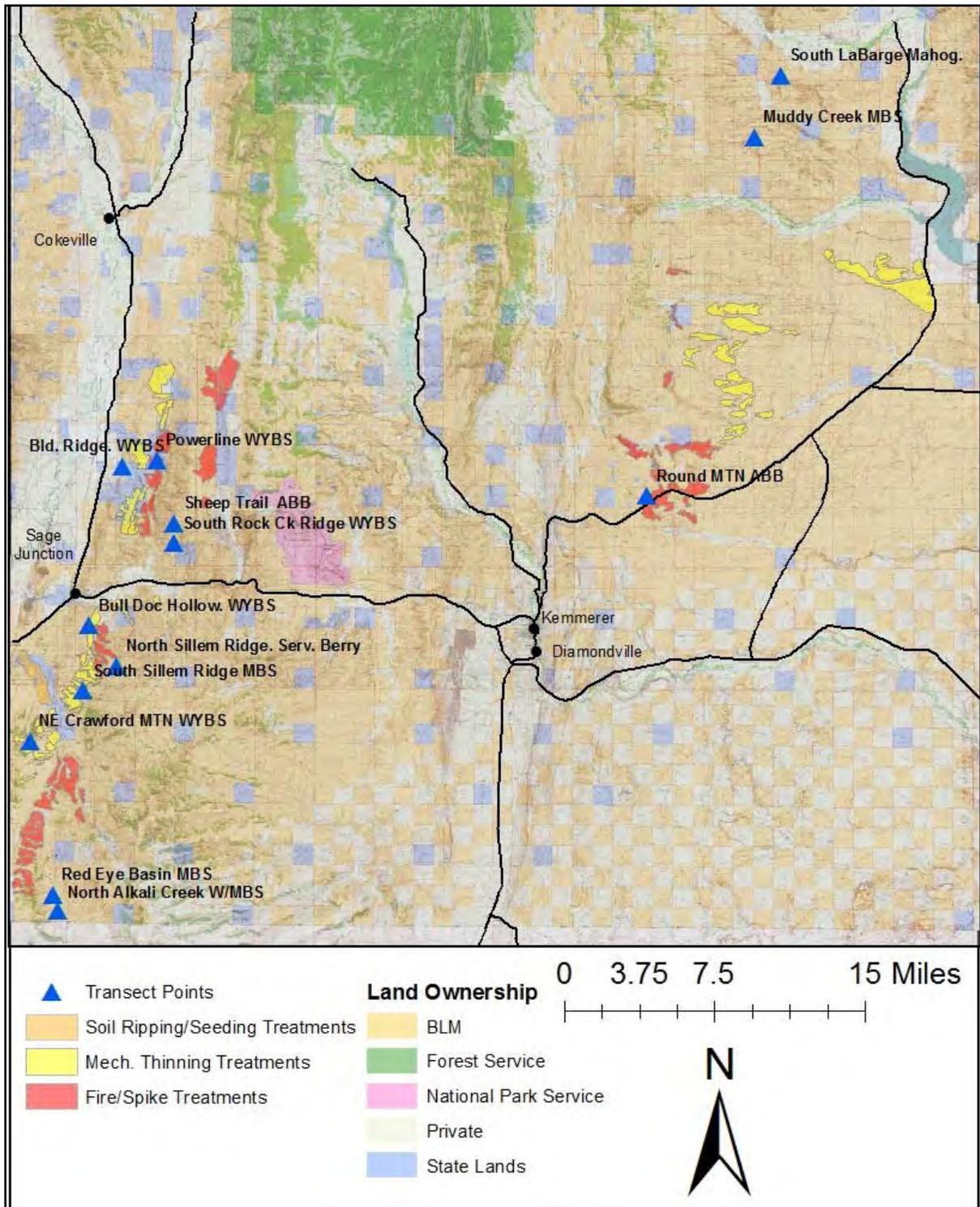


Figure 19. Locations of habitat production utilization transects in the southern winter ranges of the Wyoming Range Mule Deer Herd.

Muddy Creek Sheet Piling Modification (Goal 2) – WLCI, Jim Wasseen

The BLM in cooperation with TU, WGFD and the LSRCD modified four galvanized metal sheet piling structures that were acting as barriers to upstream fish movement. Additional rock ramp structures were placed in the stream to maintain the water table and allow for fish passage (Figure 20). This project is part of an ongoing effort to restore BLM and state sensitive native Colorado River cutthroat trout to the Muddy Creek watershed. This project reconnected an additional eight miles of stream for native BLM sensitive fish species in the Muddy Creek watershed.



Figure 20. Rock ramp structure to allow fish passage.

Rawlins Fence Conversions (Goal 2) – WLCI, Jim Wasseen



Figure 21. Pole Canyon allotment fence conversion.

Existing fences in the Powder Rim allotment were converted to wildlife friendly fences. This included converting 12 miles of 6 wire barbed; and mesh with 2 barbed wires to BLM standard 4 wire fences. This completed the primary conversion of north-south fences in the Powder Rim allotment. A Wyoming Conservation Corp crew was also funded to convert 1.1 miles of non-standard BLM fences on the north slope of Ferris Mountain (Pole Canyon allotment) to a wood post/rail top with three wires underneath and the bottom wire smooth (Figure 21).

Collaborative Colorado River Cutthroat Trout Habitat Improvement in the Little Mountain Ecosystem (Goal 5) – Kevin Spence

Technical support and assistance was provided for four individual Colorado River cutthroat trout habitat improvements led by TU during 2012 located within the Little Mountain Ecosystem. Equipment, manpower, and technical assistance was provide to the Flaming Gorge/Lower Green River Chapter of TU to install a series of conifer streambank revetments and woody debris

structures in Red Creek to improve pools and cover for Colorado River cutthroat trout. A local Boy Scout Troop also planted young aspen trees along the same reach of Red Creek to improve riparian habitat and complement the instream habitat structures. Labor assistance was provided to the TU Green River Project Coordinator and contractor to replace Sweetwater County Road #34 crossing at Gooseberry Creek with a new bottomless arch styled culvert to improve fish passage and maintain hydrologic processes (Figure 22). Assistance was provided to the TU Green River Project Coordinator to cut and haul large timbers to Gooseberry Creek (Figure 23) for use to restore the stream channel at two head-cut reaches while providing upstream fish passage. Continued planning support was also provided to the TU Green River Project Coordinator, who has been working with private landowners since 2011 to rebuild a failed irrigation diversion structure with a fish passage component on Trout Creek. More information about these projects can be found in the 2012 Fish Division Annual Progress Report.



Figure 22. New arch styled bottomless culvert installed by Trout Unlimited on Gooseberry Creek at Sweetwater County Road #34 crossing. The new culvert is expected to improve fish passage and maintain hydrologic processes.



Figure 23. Assisting Trout Unlimited with cutting and hauling large timbers to Gooseberry Creek for use in stream channel restoration activities to provide fish passage.

Raymond Mountain (Goal 2) – WLCI, Jim Wasseen

This project involves removing two aggressive invasive species to improve the forage base for wildlife species in the Raymond Mountain area. This project was designed to be implemented and funded over a five year period. The project is located within the Highland Cooperative Weed Management Area. The primary goal is to control/eradicate Dalmatian toadflax and Dyer's Woad on Raymond Mountain within the Sublette Mountain Range. Lincoln County Weed and Pest (LCWP) treated 150 acres of Dalmatian Toadflax and Dyer's Woad on infested areas near Raymond Canyon and Border Junction. The total area influenced by this spraying was close to 2,000 acres. Along with the treatments, LCWP was able to do a significant amount of monitoring in the helicopter. The monitoring showed a significant decrease in infestations in this area. This has been a highly successful program with the cooperation of the BLM, LCWP, and WLCI.

Green River Region Aspen and Cottonwood L-D Monitoring (Goal 2) – Ben Wise and Jim Wasseen

Six aspen and three cottonwood monitoring sites were resurveyed within the Little Mountain Ecosystem and Seedskaadee NWR during 2012 to evaluate large ungulate browsing effects on woody species regeneration. The locations of the aspen monitoring sites include Aspen Mountain, Miller Mountain, the northwest face of Pine Mountain, south side of Pine Mountain, Dipping

Springs on Little Mountain, and the upper West Fork of Currant Creek on Little Mountain (Figure 24). Cottonwood monitoring sites at Seedskaatee NWR are located at lower Dodge Bottoms, Deer Island, and the Johnson Unit. These aspen trend monitoring sites were selected to better represent the entire landscape encompassing the South Rock Springs Elk Herd Unit, so that browsing trend data can be used to assist with elk population management and harvest strategy decisions. Cottonwood data collected at Seedskaatee NWR will assist with deer and moose population management and identification of harvest strategies that encourage unimpeded vertical growth of cottonwood regeneration along the lower Green River riparian corridor.

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

Results from the 2012 aspen survey revealed negative L-D index values at five sites surveyed, and a positive L-D value at Miller Mountain. The decrease in L-D index values in 83% of the sites monitored could be attributed to the lack of regional precipitation and excessive browse experienced due to the severe drought conditions of 2012. The 2012 L-D index data results indicate a decline in aspen recruitment and growth compared to 2011. 2012 cottonwood survey L-D index values improved at the Dodge Bottoms and Deer Island monitoring site, and declined at the Johnson Unit sites compared to values measured in 2011. The increased growth and recruitment of these sites may be attributed to the record flows of the summer of 2011, depositing nutrients and providing substantially better growing conditions for seedlings.

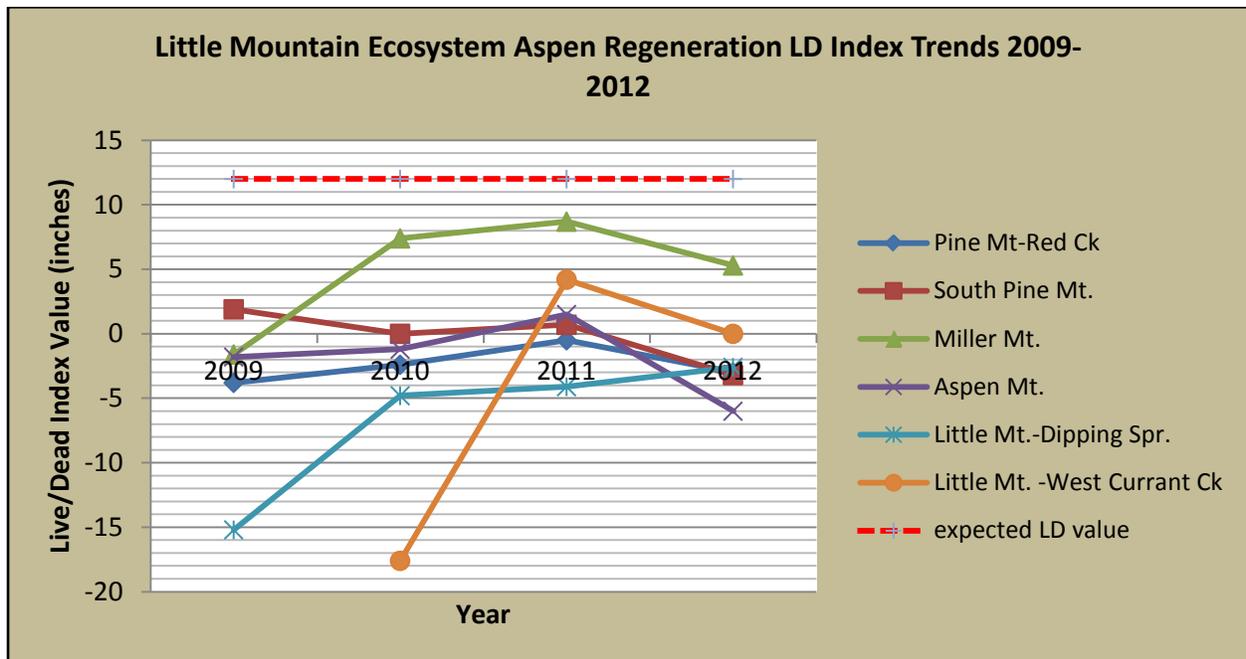


Figure 24. Graph of L-D Index Values (in inches) monitored in the Little Mountain Ecosystem (LME). Expected L-D Value derived from protected aspen regeneration in the LME with 9-14” of vertical annual growth.

Red Rim Daley WHMA Woven Wire Fence Conversion (Goal 2) – WLCI, Jim Wasseen
 This project includes the conversion of existing woven wire fences to wildlife friendly four

strand wire fences in mapped mule deer migration routes. The grant will pay for fence materials and private sector contract labor for removal of woven wire and reconstruction of four strand wildlife friendly fences. In 2012, four and a half miles of fence was converted on the Daley WHMA. Additional fence materials will be purchased in 2013 and additional fence conversion work will be bid and completed in 2013.

Phase II Russian Olive/Tamarisk Assessment Along the Lower Green River Riparian Corridor (Goal 5) – Kevin Spence and Jim Wasseen

TSS was contracted by the WGFD to inventory and determine the existing distribution of invading Russian olive and tamarisk plants within the lower Green River riparian corridor between the southern boundary of Seedskafee NWR and Interstate 80, and that portion of the Flaming Gorge National Recreation Area between Scott’s Bottom and Davis Bottom. Funding for the Phase II inventory was granted to the WGFD from the WLCI program.

The inventory focused on a half mile wide belt of riparian floodplain adjacent to, and along, approximately 28 miles of river totaling 8,658 acres of the riparian habitat corridor (Figure 25). Locations of Russian olive and tamarisk plants were documented. Additional associated data collected included photos, age class, height class, stand size, stem density, general stand descriptions, associated native vegetation, locations of young cottonwood regeneration, and descriptions and locations of any other non-native vegetation encountered. Moreover, each Russian olive and tamarisk site encountered was identified as high, medium, or low priority for treatment, and access routes or limitations were described. The effort identified 115 stands of Russian olive and 93 stands of tamarisk located on those lands participating with the inventory. A written report was completed, and all the inventory data were compiled into a GIS geo-database and made available to interested landowners and agency partners in the project area.

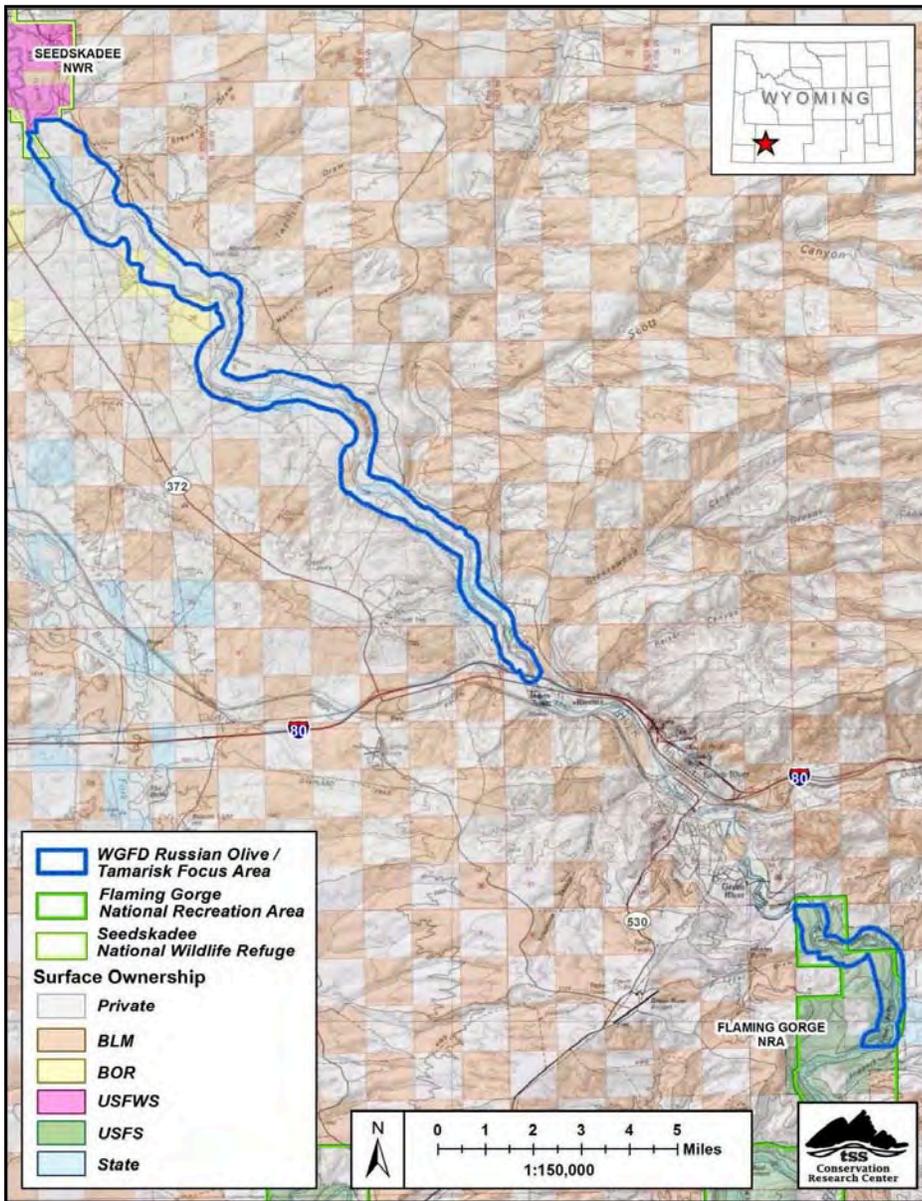


Figure 25. A map depicting the phase II Russian olive/tamarisk inventory focus area along the lower Green River riparian corridor (courtesy of Teton Science School).

Sand Creek Saltcedar Control (Goal 2) – WLCI, Jim Wasseen

The Sand Creek Saltcedar control project entails treating approximately thirty (30) miles of stream bottom in the Colorado River Watershed for saltcedar invasion. Treatment consists of aerial and ground application of herbicide to remove saltcedar from the area. In 2012, 75 acres were treated, 200 acres monitored, and 20,000 acres were inventoried.

Upper Currant Creek Riparian Pasture Fence (Big Ridge Fence) (Goal 2) – Ben Wise

The construction of a riparian pasture fence on Upper Currant Creek, within the Sugarloaf Mountain Grazing Allotment, is essential to addressing watershed health concerns within the allotment (Figure 26). This portion of Currant Creek is a BLM designated Area of Critical Environmental Concern and has been the focus of watershed scale habitat restoration projects over the last 20+ years. Work in the watershed has involved significant contributions of wildlife conservation dollars from numerous entities, including WGFD. The proposed fence will consist of approximately 4.9 miles of three-wire stock fence. Two existing fences will be connected and will result in the protection of 8.25 miles of riparian pasture along upper Currant Creek. The WGFD granted money to the Rock Springs BLM Field Office to purchase fence materials. WLCI and RMEF are funding fence construction, with completion scheduled early spring of 2013.

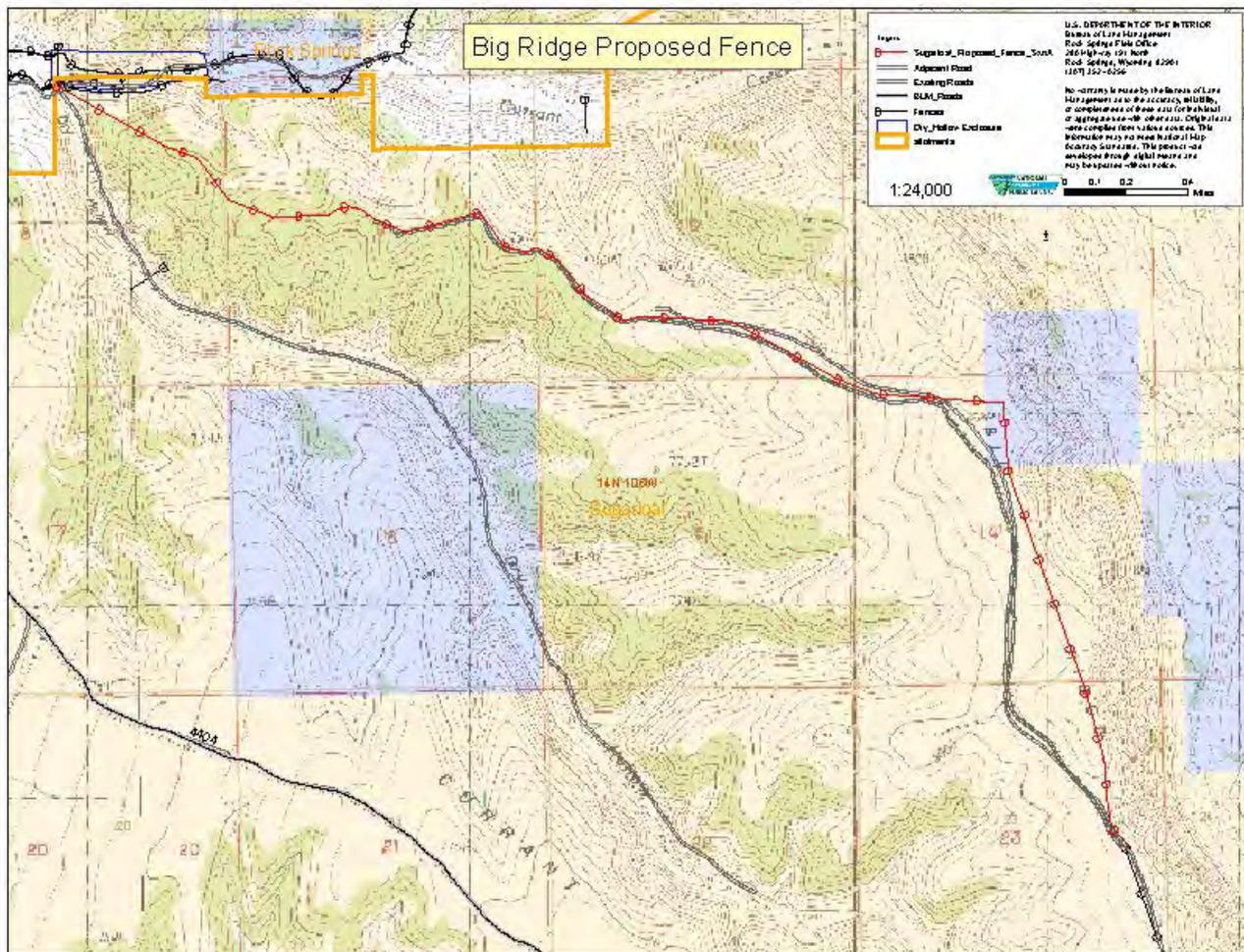


Figure 26. Proposed riparian pasture fence in the Sugarloaf Grazing Allotment. Construction of the 4.9 mile fence will afford protection of 8.25 miles along upper Currant Creek.

Uinta County Weed and Pest Tamarisk Treatment, Blacks Fork River Drainage (Goal 2) – WLCI, Jim Wasseen

Approximately 22 acres of tamarisk was sprayed on BLM, state and private lands, and 87 miles of stream bank was surveyed. The areas treated were in Uinta County and Lincoln County to approximately one mile from the Sweetwater County line. Drainages treated were Muddy Creek, Little Muddy, Blacks Fork River, Smiths Fork River, Dry Creek, Levitt Creek, and Cottonwood Creek. Over 3,400 acres were protected with this treatment. Retreatment areas were minimal due to an 85% mortality rate of salt cedar the first year of treatment. However, there were areas of first year plants found in sand bars and along the Black's Fork. The UCWP planted 210 seedling trees, 20 one-gallon buffaloberry plants, 14 five-gallon Cottonwood seedlings, and 12 five -gallon sandbark willows along the Smiths Fork and Blacks Fork River to rehabilitate riparian habitat this year. The area was on private land. Fencing was erected to protect the trees. UCWP crews watered newly planted trees weekly.

Upper Colorado Erosion Control (Goal 2) – WLCI, Jim Wasseen

The goal of this effort is to reduce erosion from roads in the Colorado River watershed by adding culverts, wing-ditches, moving a road, and other actions to improve drainage along or across roads. The current focus is on the BLM road along Muddy Creek in the Grizzly grazing allotment and the Carbon county road on either side of McKinney Creek. Planned roadwork was not accomplished due to drought conditions, which caused concern that disturbance might have created loose dirt that would end up in the creeks. In addition, there was higher priority to complete projects in other locations. However, in 2012 funding was used to purchase culverts for use in 2014, and used on re-routing the BLM Wild Horse Road to benefit wildlife, primarily mule deer migration corridors. Engineering and hydrology consultation and planning will take place in 2013; roadwork is planned for 2014 by the BLM force account crew. No additional funding will be sought in 2013.

Green River Regional Information and Education Efforts (Goal 4) – Lucy Diggins-Wold

In the Green River Region, I&E Specialist Lucy Diggins-Wold covered habitat issues through various media and educational presentations. These included 4 news releases, 18 radio programs, 11 workshops/training, 2 brochures and taught 570 students/adults. Examples include:

- An Interview for the Lander Region on KTAK/KVOW “Chit Chat” program about Christmas trees for fish habitat projects.
- Pre-recorded radio programs on the Wyoming Range Mule Deer Herd collaborative meeting results.
- Worked with the state forester on riparian habitat projects in the eradication of the Russian olive and tamarisk along the Green River being worked on by Kevin Spence and the city.
- Worked with SeedsKadee NWR personnel to conduct multiple environmental education programs at the refuge.
- Coordinated with an I&E group assigned to come up with messages and strategies for the mule deer initiative, new big game population modeling and impacts to wildlife from energy development.
- Handed out hundreds of mule deer flyers at game check stations that included information on drought and poor habitat conditions for the Wyoming Range Mule Deer Herd.