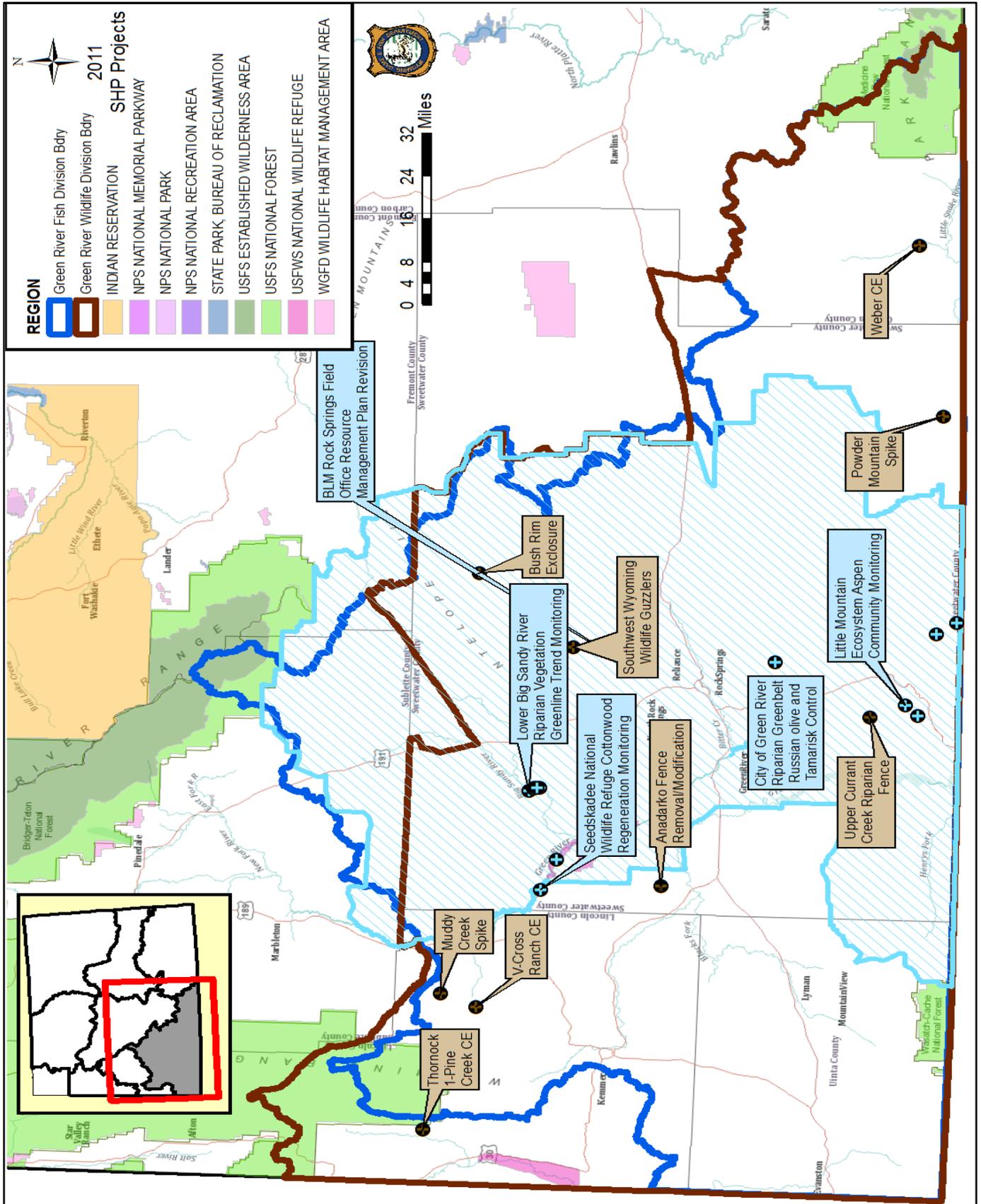


GREEN RIVER REGION



GREEN RIVER REGION HIGHLIGHTS

- Lateral river channel function improved along the lower Green River to benefit habitat for juvenile fish and cottonwood/willow communities
- Surveys were done to evaluate big game browsing effects on young aspen and cottonwood regeneration at nine different locations
- Six surveys showed the condition of riparian habitat along the lower Big Sandy River
- City of Green River finalized plans to control Russian olive and tamarisk along 565 acres of urban riparian greenbelt

BLM Rock Springs Field Office Resource Management Plan Revision (Goal 1) – Kevin Spence

The Rock Springs BLM Field Office began revising their RMP during 2011. Once completed, the RMP will serve as the framework to guide resource management and land uses on approximately 3.6 million acres of public land during the next 10 years, including some of the more important aquatic and terrestrial wildlife habitats in southwest Wyoming. Department representatives initially provided scoping comments to the BLM identifying wildlife and habitat related resource management issues and later participated in a series of cooperating agency meetings with the BLM during 2011. Cooperating agencies consisted of agency representation from state and county governments and were intended to function as a collaborative group in providing BLM recommendations for formulating management goals and a range of management alternatives. The BLM RMP revision process and cooperating agency meetings are expected to continue into 2012.

Regional Conservation Easements Proposed (Goal 1) – Ben Wise

Initial information for pursuing a conservation easement on 1,907 acres of land that supports elk and mule deer winter range, as well as 543 acres of critical moose winter range, sage grouse nesting and brood rearing habitat and ensures no new development in a critical large ungulate migration corridor, one of the main routes used by a large segment of the Wyoming Range mule deer herd during fall and spring migrations. TNC will likely hold the easement and funding for the project is being sought from the private landowner, NRCS, RMEF, WWNRT and the WGFD Lands Acquisition Fund.

Initial information for pursuing a conservation easement purchase on 4,166 deeded acres to provide unimpeded access for a vital big game mule deer migration corridor and preserve mule deer winter range, native fisheries habitat and sage-grouse nesting and brood rearing habitat. TNC will likely be the holder of the easement and funding for the project is being sought from the private landowner, NRCS, MDF, WGBGLC, WWNRT and the WGFD Lands Acquisition Fund.

V-Cross Ranch Conservation Easement (Goal 1) – Ben Wise, Ron Lockwood, Kerry Olsen

Negotiations continued on a conservation easement on the V-Cross Ranch consisting of approximately 2,128 acres in the Fontenelle Creek drainage. The conservation easement is expected to be finalized in early 2012. The ranch supports high-value habitats for moose, elk, mule deer, pronghorn, sage-grouse and several trout species including brown, rainbow and cutthroat. This easement has secured perpetual protection of these lands from subdivision and ensures a viable livestock operation and wildlife habitat for generations. Wildlife friendly grazing practices and habitat improvements are currently being developed with the landowners and the BLM throughout both the private and public lands associated with this easement.

As part of the terms of the conservation easement, the landowners have agreed to allow public hunting access on a portion of the conserved lands and have also agreed to allow vehicle travel through a previously closed road. This road access is highly valued by the communities of Kemmerer and LaBarge. The easement reconnects a major north-south historic travel corridor between the Pomeroy Basin and LaBarge Creek.

Organizations that made this conservation easement possible include NRCS, WWNRT, WGBGLC, and the RMEF. Additional funding for the easement was provided by the WGFD Habitat Trust Fund and the WGFD Access Yes Program.

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

This project focuses on restoring the functionality of the Double Sill site on the Green River through Seedskadee National Wildlife Refuge, Sweetwater County, WY. A pair of rock structures was installed in the early 1990s and spans the channel perpendicularly a couple hundred feet apart. The lower sill provides grade control and the upstream rock sill structure (Figure 1) sends flows down a natural side channel to the east and down a southeast-flowing ditch that supplies water to a constructed wetland. It is clear the structure is incapable of passing sediment and is therefore aggrading, limiting its ability to either inundate wetlands or natural side channel habitat. Design work has been completed for a structure that will maintain water in both the main channel, as well as the ditch that feeds the wetlands, while reconnecting the natural side channel upstream of the ditch and on the opposite (eastern) side of the main channel. Reconnecting this eastern channel will make approximately 0.5 miles of side channel habitat available and raise the water table sufficiently to maintain existing riparian cottonwoods. Side channel habitat is used by trout for nursery and juvenile rearing habitat. Apart from side channel and mainstem habitat improvements, this project will directly affect approximately 100 acres of created wetlands, habitat for a host of wildlife, namely waterfowl, through improved irrigation ditch functionality.

Planning dollars were used to hire a consultant for survey and design work necessary for reconstruction. Surveys were completed in 2011 and design alternatives are currently being assessed. Construction of the new structure is planned for late summer 2012.

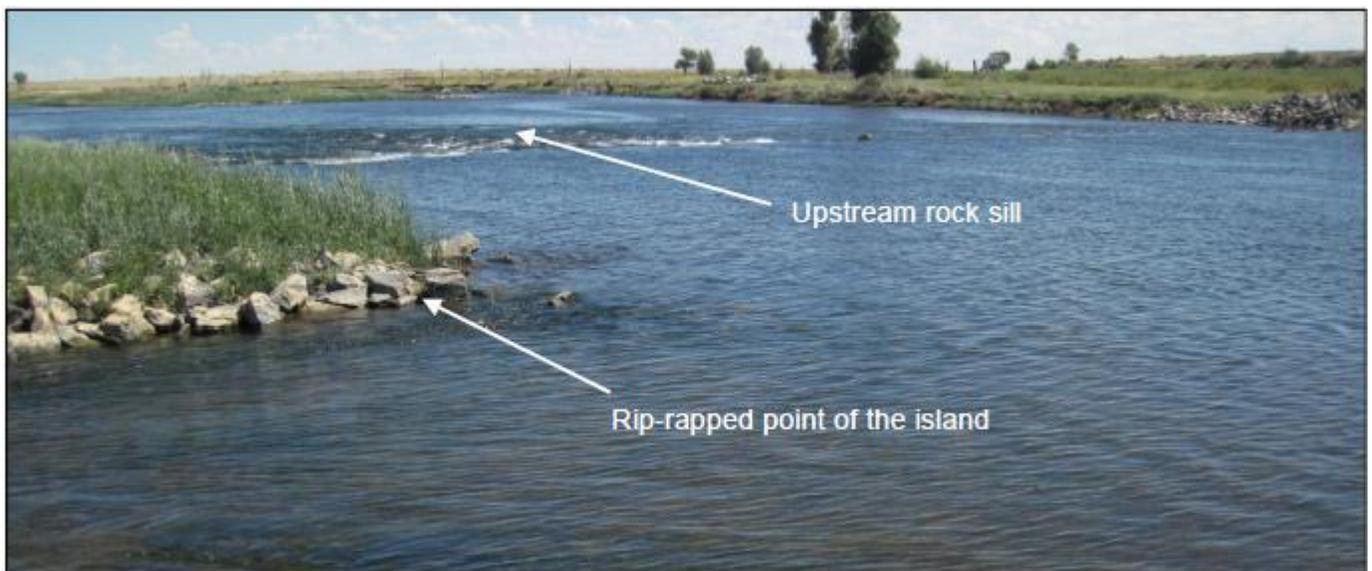


Figure 1. Looking downstream from side channel inlet on the left bank to existing upstream rock sill. The ditch (not shown) runs parallel to the river along the right bank. Photo by Confluence, Inc.

Little Mountain Ecosystem Aspen Community Monitoring (Goal 2) – Kevin Spence

Six aspen monitoring sites were resurveyed within the Little Mountain Ecosystem during 2011 to further evaluate elk browsing effects on aspen regeneration. The 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. 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.

The Live-Dead (LD) Index was used for the trend surveys. The LD 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 killed as a result of browsing. A positive LD 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 LD value near zero indicates browsing is suppressing growth of young aspen and a negative LD value is an indicator of significant aspen decline and possible death of young trees. Results from the 2011 survey revealed positive LD index values at four sites surveyed, an LD value of 0 at the survey site on south Pine Mountain and a negative LD value at Dipping Springs on Little Mountain. The 2011 LD index data results are an improvement over the 2010 data results where four of the six survey sites exhibited negative LD values. Please refer to the 2011 Fish Division Progress Report and the 2011 Wildlife Division Big Game Herd Unit Report for detailed survey results and discussions.

Anadarko Fence Removal/Modification (Goal 2) – Ben Wise

The Granger Lease Grazing Allotment fence has been identified as a migration barrier for pronghorn in the Sublette herd as they attempt to move between seasonal ranges. With the help of Anadarko Land Corp., Uinta Development Company and the WGFD, ability of these pronghorn to move freely from summer ranges to winter ranges will be enhanced. Permission has been granted and funding is being sought to convert approximately 27 miles of net-wire fencing to BLM wildlife friendly specification fencing along the eastern border of this allotment. The migration route and subsequent barriers were identified in a University of Wyoming/WGFD cooperative study (Sheldon, 2005), with the Granger Lease allotment fence found to be a major obstacle for pronghorn migration in Area 93 (Figure 2). Once funding is

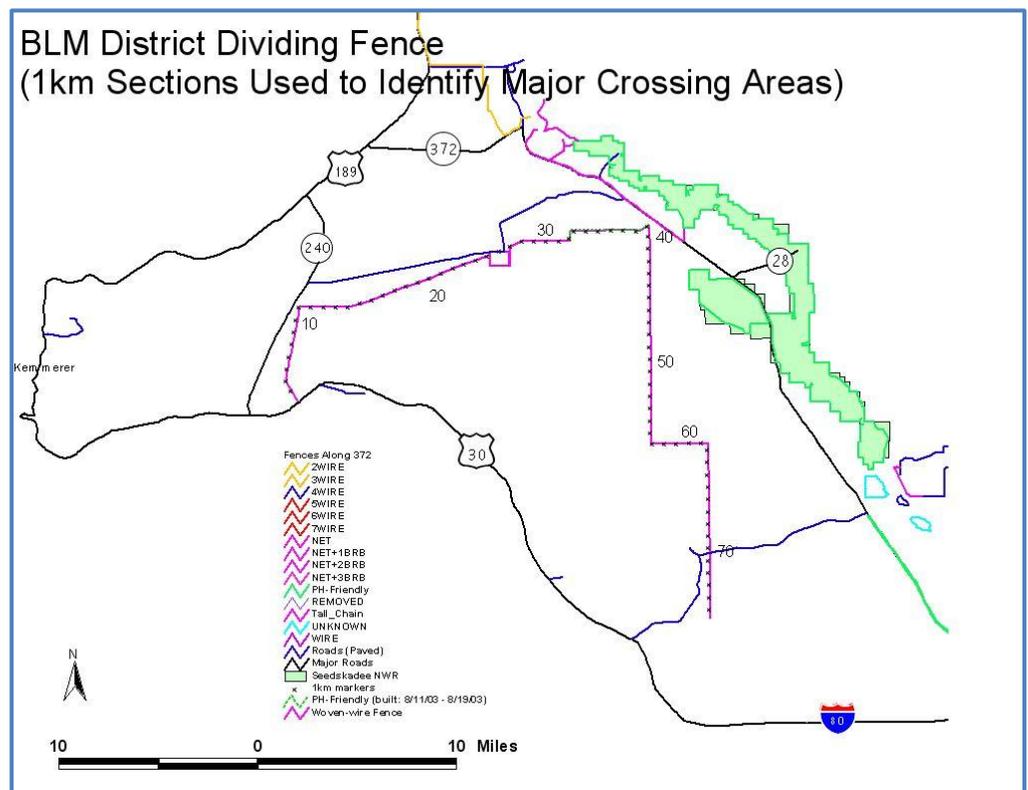


Figure 2. Area 93 pronghorn migration barriers. Note bottleneck created by Granger Lease fence and Wyoming HWY 372 in upper right corner of figure.

secured, the conversion of the boundary fence will begin in early spring of 2012 and is expected to be completed during the summer. The northern leg of the project (~8 miles) was modified in 2010.

In conjunction with the modification of the Granger Lease boundary fence, an additional 18 miles of fences were mapped and deemed as nonessential for livestock management and were approved for removal by Uinta Development Company and Anadarko Land Corp. These fences consist of internal cross fencing, some of which were illegally erected by previous permittees and generally fall on landownership lines (BLM – private checkerboard) within the allotments. The Bigelow and Spring Creek allotments were the first Uinta Development Company managed allotments to be analyzed for fence removal. Both of these allotments are adjacent to the Leroy Crucial Mule Deer Winter Range (Uinta mule deer herd unit), an area well documented for very high numbers of wintering ungulates. By removing 18 miles of movement barriers from these allotments, wildlife stress and mortality due to fence navigation will be decreased. Funding assistance for this series of projects has been requested from the RMEF, the Muley Fanatics Foundation of Wyoming, the MDF, WGBGLC and the WGFD Habitat Trust Fund.

Southwest Wyoming Wildlife Guzzlers- (Goal 2) – Ben Wise

After a request from a contributing contractor (Water for Wildlife) concerning the condition of previous wildlife water developments in the Red Desert, an inventory of location, condition and possible maintenance needs was undertaken. This inventory located and assessed conditions on 26 of 28 guzzlers located in the Rock Springs BLM Field Office Area (Figure 3). Currently, funds and volunteer sportsmen labor are being sought to repair and return all known guzzlers to proper operating function (Figure 4). Further locating and documentation of guzzlers will be conducted as weather conditions allow this spring.



Figure 3. Example of a wildlife guzzler located near Steamboat Rim in need of attention to function properly.



Figure 4. Example of a wildlife guzzler recently repaired and in good working order.

Trut Creek Irrigation Diversion Improvement (Goal 2) – Kevin Spence

Support was provided to the TU Green River Project Manager, who has been coordinating with private landowners and the NRCS to rebuild a failed irrigation diversion structure with a fish passage component on Trout Creek in the Little Mountain Ecosystem. The irrigation structure was failed during a high flow event and, in subsequent years, the stream channel developed an unstable head-cut incision. Trout Creek supports Colorado River cutthroat trout and, if the unstable head-cut is left unchecked, it threatens to migrate upstream and degrade some of the best stream habitat available in the drainage. Initial plans are to seek funding in 2012 to install gradient control structures in the

stream at the head-cut site to encourage stabilization of the stream reach and continue to work with the landowners to develop a fish friendly irrigation diversion solution.

Seedskafee National Wildlife Refuge Cottonwood Regeneration Monitoring (Goal 2) – Kevin Spence

Three LD Index survey transects were reread at Seedskafee National Wildlife Refuge (NWR) to evaluate big game browsing effects on young cottonwood regeneration. The LD Index surveys were conducted cooperatively between USFWS personnel from Seedskafee NWR and Green River Region biologists. Data 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. Monitoring sites were located in cottonwood stands at lower Dodge Bottoms, Deer Island and the Johnson Unit on refuge lands. The 2011 LD index values improved at the Dodge Bottoms monitoring site, but declined significantly at the Deer Island and Johnson Unit sites compared to values measured in 2010. This suggests big game browsing continued to limit vertical growth and health of cottonwood regeneration at two of the three sites surveyed at Seedskafee NWR in 2011. Please refer to the 2011 Fish Division Progress Report and the 2011 Wildlife Division Big Game Herd Unit Report for detailed survey results and discussions.

Bush Rim Spring Enclosure- (Goal 2) – Ben Wise

A steel jack fence enclosure was proposed on a large flowing spring and adjacent wetland on Bush Rim near the Jack Morrow Hills. This area has seen increased human use and degradation of the spring and sub-irrigated riparian areas has been documented. To prevent further degradation of the area, WGFD personnel have proposed the construction of a steel jack fence enclosure encompassing approximately 5.6 acres. We are currently awaiting BLM approval and promise of permitting application prior to seeking funding.

Upper Currant Creek Riparian Pasture Fence (Goal 2) – Ben Wise, Kevin Spence, Ron Lockwood

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. 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. The project will connect two previously existing fences and will result in the protection of 8.25 miles of riparian pasture in Upper Currant Creek. The WGFD Habitat Trust Fund has granted the Rock Springs BLM Field Office the funding to purchase the materials for the fence. The WLCI and the RMEF are funding the construction of the fence, with completion scheduled during the summer of 2012.

Baggs Fence Conversion (Goal 2) – WLCI

Fences in crucial winter range west of Baggs are being converted to wildlife friendly standards. Six miles of fence were completed in the Powder Rim area. The fences are north-south six-wire barbed wire and will be converted to BLM wildlife friendly fencing. Partners include permittees, the BLM and WWNRT.

Seedskaadee National Wildlife Refuge Aquatic Habitat Improvements 2011 (Goal 3) – Kevin Spence

Two existing river-wide instream rock sill structures located on the Green River at Seedskaadee NWR were reconstructed to improve their function and hydrologic integrity in September 2011. Each structure was originally built in the early 1990s and served to provide both pool habitat for fish and elevate the upstream level of the river to reconnect flows into a lateral river side channel at each site. One sill structure was located near McCullen Bluff and included about one mile of lateral river side channel and the other structure supported a ¼ mile side channel and was located east of the Seedskaadee NWR headquarters buildings. Over time, these structures accumulated sediment immediately upstream, which impeded water flow into the lateral side channels except during periods of higher river discharge and river flows eventually moved rocks and disarranged the configuration of each structure thereby reducing their function (Figure 5).



Figure 5. A Green River rock sill near the Seedskaadee NWR headquarters displaying disarranged configuration and reduced function.



Figure 6. The new rock sill structure near the Seedskaadee Headquarters exhibiting an upstream u-shape and elevated structure arms for improved function and hydrological integrity.

The Statewide Habitat Access and Maintenance and Seedskaadee NWR Maintenance crews utilized two-track hoes and other heavy equipment to place several additional tons of rock to reconfigure each structure into an upstream u-shape and increase the height of each structure arm. The BOR reduced the river discharge from Fontenelle Dam from about 1,100 cfs down to 500 cfs during construction so the track hoes and other equipment could work safely in the river. The new upstream u-shape and elevated structure arms now serve to lift more river water into each lateral side channel at lower discharge regimes, while passing more sediment through the center thalweg notch of each structure and reducing sediment accumulation at the mouth of side channels (Figure 6). 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. The re-watered side channels will also promote elevated water tables required for restoring and maintaining healthy cottonwood and willow communities needed for many terrestrial wildlife species.

Powder Mountain Spike (Goal 3) – Ben Wise, Ron Lockwood

This habitat treatment, located in crucial mule deer winter range west of Baggs, was a cooperative effort between the Rawlins BLM, livestock grazing permittees and the WGFD. The Powder Mountain Spike Treatment area is proposed within the approximately 8,550 acres in the Powder Mountain Grazing Allotment. The application of the herbicide will be done by the BLM in late 2011 or early 2012, with the total treated area encompassing approximately 3,300 acres. The objective of the treatment is to achieve a 30-50% reduction in mature sagebrush to release mixed mountain shrub communities and improve overall health of the grass and forb understory. Four pre-treatment monitoring transects were established in July 2011. The treatment area is designated as crucial winter, transitional and year-long range for mule deer, elk and pronghorn and also includes sage-grouse brood rearing habitat. This allotment has been deferred from livestock use by the permittee and the BLM for the past five years and will continue to be deferred to lightly stocked for another five years in an effort to improve the overall health of the vegetative communities.

Muddy Creek Spike (Goal 3) – Ben Wise, Jill Randall, Ron Lockwood

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. These treatments will involve the use of an herbicide (Spike) to thin canopy cover of Wyoming big sagebrush at a rate of 30-50%, allowing increased vigor of understory mountain shrubs (primarily antelope bitterbrush) and increase herbaceous production. This will result in an overall improvement of rangeland diversity, health and watershed function. Along with the six shrub belts and one macroplot previously established in the project boundary, an additional macroplot and shrub belt were installed in the summer of 2011 in an additional treatment polygon. Application of the herbicide is tentatively scheduled for the spring of 2012. Funding is provided by WWNRT and WGBGLC. Pending success and monitoring information, future projects in the area are being actively evaluated.

Hams Fork Vegetation Restoration Project (Goal 3) – Ben Wise, Floyd Roadifer

The Pinedale aquatic habitat biologist and Green River terrestrial habitat biologist took lead roles in Department efforts to analyze a forest health and restoration plan by the USFS, Bridger-Teton National Forest, Kemmerer Ranger District. The project involves the Ham's Fork watershed. Personnel participated in collaborative meetings and provided comments and feedback to the Kemmerer Ranger District in an effort to ensure the needs of wildlife are considered during treatments, to optimize potential benefits to wildlife and fisheries and minimize potential negative impacts. Comments were provided at public meetings and on tours of the project area, as well as through the formal WGFD wildlife environmental review process. This project is being promoted primarily by Lincoln County Commissioners 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 and restore declining aspen stands. However, restrictions and limitations associated with management of potential lynx and other sensitive species habitats have reduced the size and scale of potential treatment areas.

City of Green River Riparian Greenbelt Russian olive and Tamarisk Control (Goal 5) – Kevin Spence

The city of Green River Parks and Recreation Department received funding from multiple sources to conduct mechanical control of Russian olive/tamarisk and plant native trees along the Green River

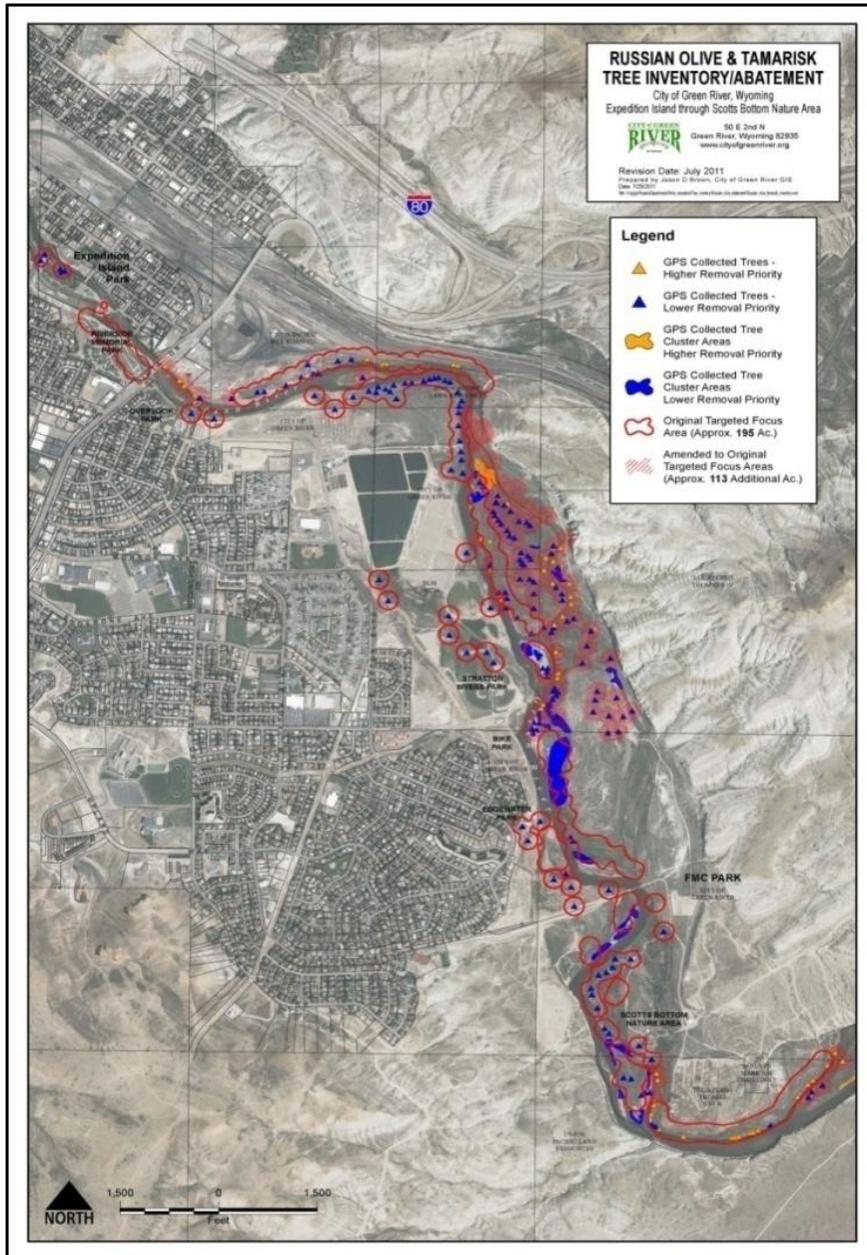


Figure 7. Prioritized locations of invasive Russian olive and tamarisk for mechanical control along the city of Green River greenbelt riparian zone. Map Courtesy of Jason Brown, city of Green River GIS Specialist.

scheduled for implementation during the fall of 2011, however delays in funding agreement approval, land agency paleontology survey clearances, and eventual frozen ground postponed implementation until April or May 2012.

Lower Big Sandy River Riparian Vegetation Greenline Trend Monitoring (Goal 5) – Kevin Spence

Six riparian vegetation greenline trend transects were surveyed during 2011 at permanent sites along the lower Big Sandy River between Farson and the Green River confluence. The greenline monitoring

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. Assistance was provided to the Green River Parks and Recreation Department in identifying the GPS locations of Russian olive and tamarisk plants growing on city administered property and participating private lands along the greenbelt corridor. GPS locations were used by the city's GIS specialist to develop a map of priority Russian olive and tamarisk locations to facilitate contractor logistics of locating specific trees and accessing sites with equipment (Figure 7).

Time and assistance was also provided to the city for a WVNRT Board tour of the greenbelt area to demonstrate the need for funding, attending Green River City Council meetings for project support, coordinating and assisting a USFWS archeological survey of the focus riparian zone, facilitating funding agreements and agency approval for implementation, local student involvement with monitoring, and meetings with private landowners.

The actual mechanical control of Russian olive/tamarisk was originally

transects were originally established in 1993 at the request of Lower Flaming Gorge/Green River Chapter of Trout Unlimited to evaluate riparian vegetation response to elevated water tables created by instream rock sill structures installed in the river. The greenline transects were surveyed again in 2000. The Big Sandy Working Group, which consists of the BLM, livestock grazing permittees, Sweetwater County Conservation District, Seedskaadee NWR and the WGFD, became interested in the greenline trend data to evaluate the effectiveness of grazing management strategies in restoring healthy riparian plant communities along the lower Big Sandy River. Data from these greenline surveys are used to evaluate the existing riparian plant community species composition compared to the ecological potential for each site (ecological status rating). Species composition data also determines the ability of the existing riparian plant community to stabilize and maintain intact stream banks based on each species' root mass characteristics and capability to buffer against the forces of moving water (streambank stability rating).

Greenline trend data between 2000 and 2011 showed positive improvement in both the ecological status and streambank stability rating based on riparian vegetation species composition at both survey Sites #4 and #5. Survey Sites #8, #12 and Control #2 all improved slightly in the streambank stability rating between 2000 and 2011, but the ecological status rating at all three sites remained unchanged. The ecological status and streambank stability ratings declined at Control Site #1 between 2000 and 2011. Observations noted during the survey suggests there may have been a localized flow related event at Control Site #1 since 2000 that caused vertical stream channel adjustment and vegetation disturbance along the greenline, which may have contributed to the declining vegetative trend. Overall, the most significant riparian habitat improvement between 2000 and 2011 occurring at most of the survey sites was an increase in immediate streambank zone vegetation and subsequent decrease in the amount of bare depositional sediment bars and eroded banks. Although vegetative species composition lacked strong representation of deep-rooted riparian species, all established plants including upland species began stabilizing and improving riparian function (Figures 8 and 9). Please refer to the 2011 Fish Division Progress Report for detailed survey results and discussions.



Figure 8. The lower Big Sandy River riparian greenline survey Site #4 during June 2000 displaying eroded banks, non-vegetated sediment deposition areas and a wide/shallow river channel.

Figure 9. Improved riparian habitat at the lower Big Sandy River greenline survey Site #4 in August 2011 showing established vegetation along the immediate streambank, trapping of silt to build and stabilize streambanks and a narrowing/deepening of the river channel.