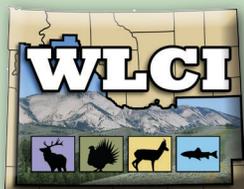


ANNUAL REPORT

2016



**Wyoming Landscape
Conservation Initiative**



“Conserving world-class wildlife resources. Facilitating responsible development.”

2016



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2016

MISSION

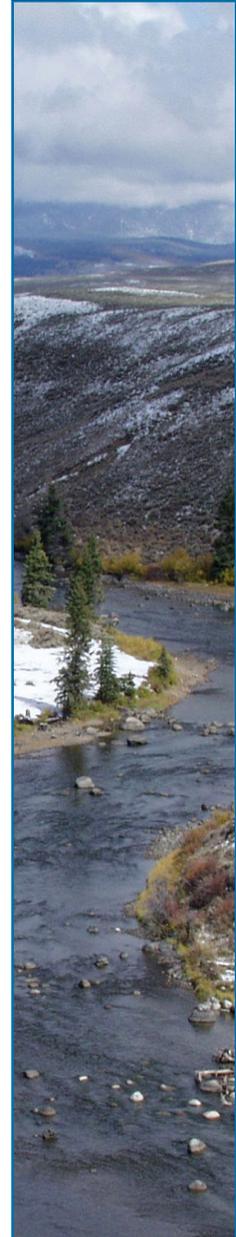
The Wyoming Landscape Conservation Initiative (WLCI) is a long-term, science-based effort to assess and enhance aquatic and terrestrial habitats at a landscape scale in southwest Wyoming, while facilitating responsible development through local collaboration and partnerships.

The WLCI...

- Exchanges information, data and research findings among partners, industry and stakeholders to improve habitat conditions and long-term viability of species at a landscape scale.
- Complements existing habitat reclamation and mitigation efforts.

WLCI Members and Cooperators...

- Conduct efficient science-based species monitoring and habitat enhancement.
- Integrate existing data with new knowledge and technologies to forecast future development of energy resources and assist in conservation planning.
- Conduct restoration and habitat enhancement activities in all habitat types with a special focus on the sagebrush, mountain shrub, aspen, riparian and aquatic communities.
- Ensure management practices support a viable livestock industry and associated open spaces.





ABOUT



The WLCI was established in February 2007 after discussions between the directors of the Bureau of Land Management, the U.S. Geological Survey, the State of Wyoming, the U.S. Fish and Wildlife Service, and the Wyoming Game and Fish Department about the need for a landscape-scale approach to ensure healthy wildlife populations in areas with proposed energy development.

The WLCI program entails inventory and assessment of species and habitat to determine what habitat enhancement projects, such as vegetation treatments, are necessary. The collaborative effort represented by the WLCI is unique as it provides a means to address multiple concerns at a scale that considers all activities on the landscape, incorporates multiple needs in project implementation, and can leverage resources that might not be available for single agency projects.

An Executive Committee composed of government executives and elected officials provides the guidance and decision-making authority for the WLCI. The interagency Coordination Team (CT) manages the daily operations of the Initiative and provides oversight of the Initiative's landscape priorities and conservation implementation.

The CT works with Local Project Development Teams (LPDTs) to identify fish and wildlife habitat issues and cooperatively create projects and set conservation priorities. LPDTs include biologists, range managers, conservation districts, landowners, county commissioners and interested parties, including members of the public. Four geographically based LPDTs meet quarterly:

- Carbon County
- Lincoln/Uinta Counties
- Sublette County
- Sweetwater County



M E M B E R S

Signatories on the WLCI Memorandum of Understanding

Bureau of Land Management (BLM)

The BLM administers approximately 9.3 million of the WLCI's 19 million acres. It implements and monitors on-the-ground actions to enhance habitats.

US Fish and Wildlife Service (FWS)

The FWS develops conservation measures for wildlife, plants and habitats on lands within the National Wildlife Refuge System and Wetland Management District and non-federal lands. It provides assurances for engaging in conservation and expedites environmental reviews to ensure timely project completion.

US Forest Service (FS)

The FS administers 2.8 million acres of WLCI's 19 million acres. It implements and monitors on-the-ground actions to enhance habitats.

US Geological Survey (USGS)

The USGS provides integrated science, methodology, research and monitoring, and advances scientific knowledge and information and provides technical support.

National Park Service (NPS)

The NPS provides technical assistance to the WLCI effort.

Natural Resources Conservation Service (NRCS)

The NRCS provides technical assistance to the WLCI effort.

Wyoming Department of Agriculture (WDA)

The WDA acts as a liaison between the WLCI and the agriculture community for project planning and provides assistance and technical support.

Wyoming Game and Fish Department (WGFD)

The WGFD inventories and monitors over 250 wildlife species to prioritize, plan and implement on-the-ground actions to conserve habitat and improve land management.

Southwest Wyoming County Commissions

The commissions provide local representation and direction to the WLCI.

Southwest Wyoming Conservation Districts

The districts provide local representation to the WLCI and help with technical expertise and project development at the ground level.





FROM THE CHAIR



Dear Members, Cooperators, and Friends,

This past year was another banner year for the Wyoming Landscape Conservation Initiative. Through our partnerships the initiative directly benefitted fish and wildlife habitats through reconnecting wildlife corridors; maintaining the resilience of sagebrush, aspen, and mountain shrub communities, and the control of invasive species. Other large scale accomplishments include: improving aquatic habitat and expanding the distribution of important native fish species, re-established native riparian plant communities, and improved wetland habit in support of trumpeter swan recovery.



The seed money for this success came from Healthy Lands funding and other BLM dollars totaling \$771,800 for projects. An incredible \$4,633,314 came from matching funds and partner contributions, giving a total of over \$5,405,114 that were applied to meet WLCI's conservation objectives.



The partnership will not be taking a break from our 2016 success. WLCI will celebrate its 10-year anniversary in 2017. As part of this unbelievable milestone, we are developing videos and other media resources to share our story on the local, regional, and national levels. We will also do more to emphasize our landscape conservation priorities and objectives. Starting with this report, we have organized our accomplishments by landscape priorities referenced in the WLCI Conservation Action Plan. In doing so, we intend to shift our focus of WLCI conservation activities from the project level to their landscape level impacts. This shift will continue in 2017 with the WLCI web page, news stories, briefing materials, and in our pursuit of building new partnerships and developing external funding opportunities.

We thank the local project development team members, other WLCI teams and committees, and all those partners and advocates that made 2016 so successful. We pledge to continue to grow your confidence in our effectiveness by achieving real on-the-ground results benefiting the natural resources of southwest Wyoming during 2017 and beyond.

Respectfully,

WLCI Coordination Team



2016

INTRODUCTION

The WLCI established ecologically based landscape priorities as part of the development of its Conservation Action Plan. Starting with this annual report, WLCI is organizing its conservation accomplishments by its landscape priorities. These priorities reflect a consensus among WLCI partners developed over WLCI's 10-year history and are based on the conservation issues and actions necessary for long-term sustainability of Wyoming's landscapes. WLCI landscape priorities are rooted in ecological principles, which include habitat and species diversity, habitat integrity, ecosystem resistance and resilience, species connectivity and movement, species interactions, and population dynamics. The WLCI landscape priorities are:

- Maintaining and reconnecting wildlife corridors and passages in southwest Wyoming;
- Improving the resilience and function of priority habitats to address drought, development, and other transforming events;
- Maintaining, enhancing, and restoring sagebrush communities that support sage-grouse and other sagebrush obligate species;
- Improving aquatic habitat and the distribution of Colorado River Cutthroat Trout (*Oncorhynchus clarki pleuriticus*) and other important native fish species;
- Controlling invasive plant species and restoring ecosystem integrity and landscape connectivity;
- Re-establishing native riparian plant communities and developing wetlands in the Upper Green River Basin.

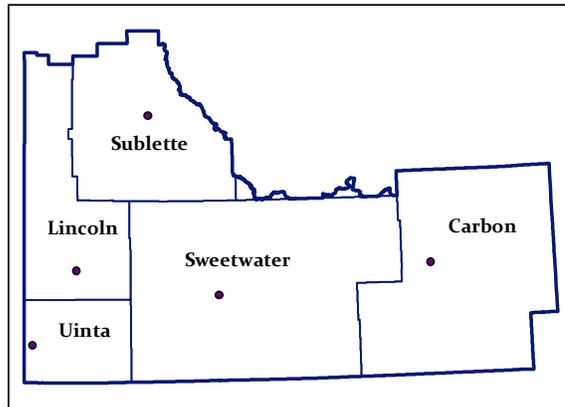
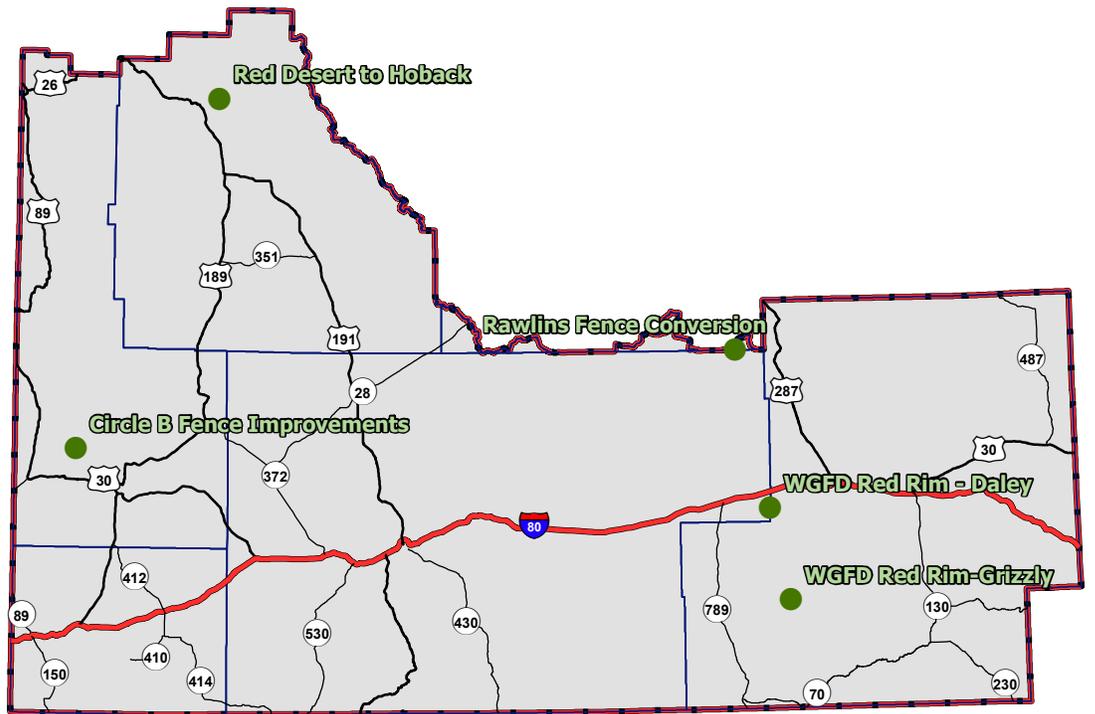




ACCOMPLISHMENTS



Maintaining and Reconnecting Wildlife Corridors and Passages in Southwest Wyoming





ACCOMPLISHMENTS

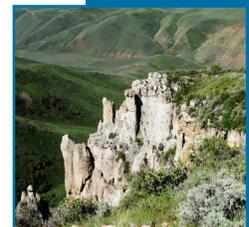
Maintaining and Reconnecting Wildlife Corridors and Passages in Southwest Wyoming

Some of the most spectacular big game migrations in North America take place in the WLCI area. This includes America's longest mule deer (*Odocoileus hemionus*) and pronghorn (*Antilocapra Americana*) migration routes. Wildlife migration routes and corridors are passages that allow movement between seasonal ranges and typically includes stop over sites that provide food and rest during migration. Migration strategies allow animals to maximize access to peak food sources and access to parturition areas. Migration also allows animals to reduce the risks of drought and harsh winter weather by moving to places with better conditions. WLCI is interested in migration routes and passages for all species, but its primary focus for landscape-scale conservation actions is focused on mule deer and pronghorn. The health and maintenance of mule deer and pronghorn herds rely on the effective management of migration corridors and seasonal ranges.

Recent studies from WLCI partners and others have improved our knowledge and understanding of mule deer and pronghorn seasonal movement patterns and long distance migration patterns. These studies also identified numerous impediments that restrict or disrupt seasonal movement patterns and long distance migration. Restrictions or disruptions are often associated with changes in timing, rate, and direction of movement, passageway bottlenecks, and altered or limited stop over periods for rest and food. The most common impediments in southwest Wyoming are related to roads, fences, residential development, and energy development. WLCI supports numerous projects and activities that are designed to reduce issues associated with movement impediments, maintaining and improving seasonal ranges and stopover sites along migration routes, and using easements to ensure future connectivity. Removal of obsolete fences and converting fences to wildlife standards was identified by LPDTs as one of the most effective ways to link big game to migration corridors and crucial seasonal habitats, reduce adverse ecological effects of habitat fragmentation, and reduce wildlife stress, injury, and mortality. Fencing is also used to restrict movement of wildlife. This is usually done to guide big game to use underpasses and overpasses to cross roads. Monitoring of these crossings indicate that they are effectively allowing mule deer, pronghorn and other wildlife to safely cross roadways to access their seasonal ranges.

Summary of 2016 Activities

During 2016, four fence projects and one water development project were initiated to help improve mule deer and pronghorn passage, provide access to important seasonal habitats, and reduce stress, energy loss, injury, and mortality. Two of the ongoing fence





ACCOMPLISHMENTS



projects focused on removing woven wire fences that were barriers to movement by mule deer and pronghorn, and the other fencing project converted fence on private lands. A total of 8.6 miles of fence was reconstructed to meet wildlife standards for deer and pronghorn passage. One project completed 0.8 miles of fence that can be laid down during seasonal big game migrations. Another project worked on a design for a similarly designed fence that would allow passage during season movement. Another project focused on using water developments to limit livestock use on riparian corridors. Existing wells or stock tanks were decommissioned or developed and placed at locations that help distribute livestock away from important riparian corridors.

Detailed Project Activities

Circle B Ranch & Cattle Project – Mayfield Fence Project

Project Objective: The project is designed to provide better management of livestock by controlling their seasonal movements between Bureau of Land Management (BLM), U.S. Forest Service (USFS), and Circle B Cattle Company (Circle B) lands. A fence would be erected that would run for 2.5 miles along the border between public lands managed by the USFS and Circle B's property on the Mayfield Ranch and connect to an existing BLM/USFS fence. The landowner prefers a wildlife-friendly laydown type of fence and intends to work with the BLM and USFS to develop the most appropriate type.

Partners: The project is also supported by the Circle B Ranch, Lincoln County Conservation District, U.S. Forest Service, and the Wyoming Water Development Commission.

2016 WLCI Contribution: WLCI committed \$40,000 to the project pending establishment of a new agreement.

2016 Project Accomplishments: No fencing was installed in 2016; however, other actions were undertaken to facilitate the eventual installation of the fence.

Circle B met with representatives of the USFS and BLM to discuss the location and design of the boundary fence between the USFS and Circle B Mayfield Property. The BLM participated in the meeting in order to facilitate future fencing needs on Circle B's BLM grazing allotments that border the USFS. The BLM and Lincoln County Conservation District are working on an agreement to commit funds towards reimbursement of fencing materials. Circle B has proceeded with clearing the fence line along the USFS/Mayfield boundary and surveyed the Mayfield property boundaries to ensure the fence is installed on private land.



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Grizzly WHMA Fence Conversion

Project Objective: The project aims to allow big game to more easily move and migrate across the WHMA. This project will replace existing woven-wire and 6-strand barbed wire fence to a 4-strand wildlife-friendly fence along the Upper Muddy Creek within the Red Rim Grizzly WHMA (Figure 1).

Partners: Both the BLM Rawlins Field Office and Wyoming Game and Fish Department are partners on this project.

2016 WLCI Contribution: As no WLCI funds were contributed in 2016, the proponents utilized \$46,730.80 of the \$63,917.70 previously administered funds to complete project goals.

2016 Project Accomplishments: The contract was re-bid and awarded on June 10, 2016. In August, five miles of fence conversion was completed.

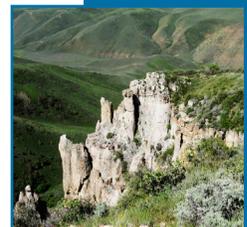


Figure 1. The fence along Deep Gulch Allotment converted to wildlife friendly fencing standards. Photo courtesy of the WGFD.

Fences that are converted are monitored three times a year at a minimum. Initially, they are checked in the spring for maintenance issues following the winter, and again in the summer and fall for and maintenance needs caused by livestock or wildlife. Fences are also checked following construction to ensure they fall within the wildlife friendly specification as designated by Wyoming Game and Fish Department. Photos are taken pre and post conversion and monitored for any wildlife issues.



ACCOMPLISHMENTS



Rawlins BLM Fence Conversion

Project Objective: The project goal is to facilitate the movement of big game across existing allotments, thus ensuring that not only migration corridors are more easily accessed, but also the day-to-day movement of animals seeking food, water, or shelter. The project will convert fences that were once intended to control domestic sheep to wildlife-friendly fencing. The majority of the allotments have been converted from domestic sheep to cattle grazing. Because of this change in use, BLM is able to switch from non-wildlife-friendly fence (e.g., mesh with barb wire or 5-6 strand barbed wire) to those that are wildlife-friendly (e.g., 3-4 strand barbed wire).

Partners: The partners for this project are the BLM Rawlins Field Office, permittees, Rocky Mountain Elk Foundation, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: WLCI supplied \$9,000 to this ongoing effort.

2016 Project Accomplishments: The project converted 1.6 miles of fence to being wildlife-friendly.

The focus of past fence conversion under this project has been working with willing private landowners to the south and west of Rawlins. The focus this year was to work closer with permittees to provide the labor for conversions and complete additional projects primarily in the Bairoil and Baggs area. The awarded contract resulted in reconstruction of about 1.6 miles of fence to mostly wood post and rail-top design with three wires below, including a 1/8-mile stretch of let-down fence coming off Stratton Rim. (Figures 2 and 3) The two grazing permittees will be responsible next year for the remainder of the fence, to reconstruct 3.5 miles to 3-4 wire fence designs.



Figure 2. Lander-Rawlins boundary fence prior to fence conversion, fence primarily a four-wire all barbed fence, with top wire 48-54" high, February 2014. Photo courtesy of the BLM.



ACCOMPLISHMENTS



Figure 3. The fence was converted to a wood post/rail-top design with two barbed and one smooth wire, to improve wildlife movement and hold up to cattle/wild horse pressure, November 2016. Photo courtesy of the BLM.



Red Desert to Hoback Migration Fencing Initiative

Project Objective: This project intends to connect critical big game wildlife habitats through removal or modification of old fences to wildlife compliant fences that allow passage by wildlife. Notable, this will impact the Red Desert to Hoback migration of mule deer. Additionally, this will have a positive impact on the Path of the Pronghorn, a migration of pronghorn antelope between the Green River Basin and Grand Teton National Park. The project is a continuation of work completed in two earlier phases led by the Green River Valley Land Trust and Wyoming Wildlife Foundation.

Partners: Fourteen organizations compose the Red Desert to Hoback Partnership. These include the Greater Yellowstone Coalition, Green River Valley Land Trust, Muley Fanatic Foundation, Pew Charitable Trusts, Rollie Sparrow- private citizen, Sublette County Conservation District, Theodore Roosevelt Conservation Partnership, The Conservation Fund, The Nature Conservancy, The Wilderness Society, Trust for Public Land, Western Landowners Alliance, Wyoming Migration Initiative, Wyoming Outdoor Council, and Wyoming Wildlife Federation.

2016 WLCI Contributions: WLCI contributed \$100,000 to the project in 2016.

2016 Project Accomplishments: The project converted 10,852 feet of fence located on private land.

The project was able to successfully complete three segments of fence conversion on the Rolling Thunder Ranch. Additionally, the project initiated a contract on the Teton



ACCOMPLISHMENTS



Diablo Ranch and began identifying segments in order to start construction in the spring of 2017.

Red Rim-Daley WHMA Infrastructure and Habitat Improvements

Project Objective: The goal of this project is to spread livestock out among the riparian areas along Separation Creek and across the entire Wildlife Habitat Management Area (WHMA). As the livestock move out, wildlife such as pronghorn, mule deer, sage-grouse, and elk will move in due to better forage and cover within these same areas. This project is designed to develop, enhance, and maintain water infrastructure across Separation Creek and the WHMA. Throughout the Red Desert rangeland, access to water is often the limiting factor in the carrying capacity for livestock or wildlife. The Red Rim-Daley WHMA currently has several non-functioning water wells and water is seldom consistent in most of Separation Creek.

Partners: This project is a partnership between the BLM Rawlins Field Office, grazing lessees, and Wyoming Game and Fish Department.

2016 WLCI Contribution: WLCI contributed no additional funds to this project in 2016. However, project proponents were able to utilize \$26,750.00 of the \$147,408.46 previously distributed by WLCI to facilitate ongoing actions.

2016 Project Accomplishments: In total, one well was decommissioned, three wells were upgraded, and one new well was developed under this project in 2016.

After completing the formal bid process, a contract was let for \$13,200 to accomplish three improvements. First, the contract de-commissioned an existing well. Second, the pump and solar array from that well was used to upgrade a non-functioning windmill and construct a tire stock tank. Finally, an existing water well on BLM-administered land was further developed to utilize a solar well system and tire stock tank. The contract was then amended for an additional \$13,550 to add a 400 bbl. storage tank to an existing water well and to upgrade a pump from wind to solar (Figure 4) and add another stock tank and 400 bbl. storage tank (Figure 5) to an additional well.



Figure 4. Well #2 with solar panel installed, stock tank and 400 bbl. storage capacity. Photo courtesy of the WGFD

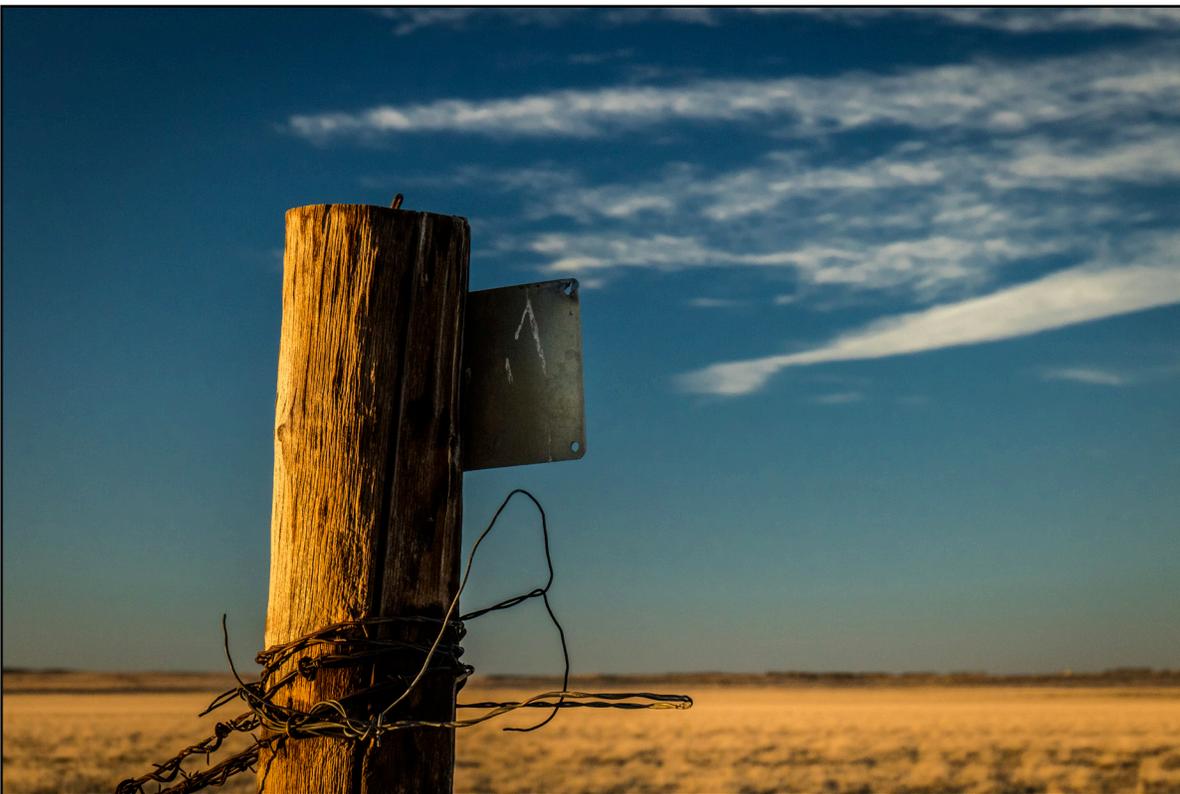


Figure 5. Well #2 windmill was replaced with solar power. Photo courtesy of the WGFD.



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Red Rim-Daley Wildlife Habitat Management Area. Photo courtesy of BLM.

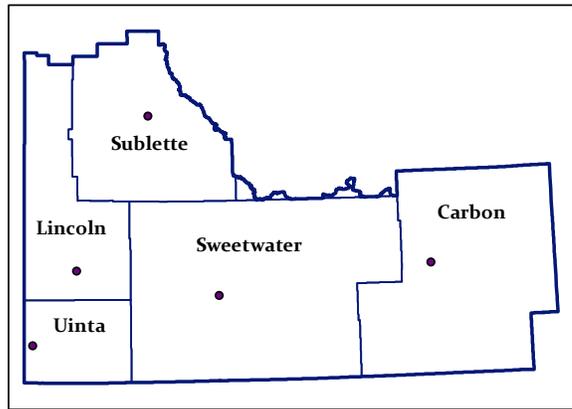
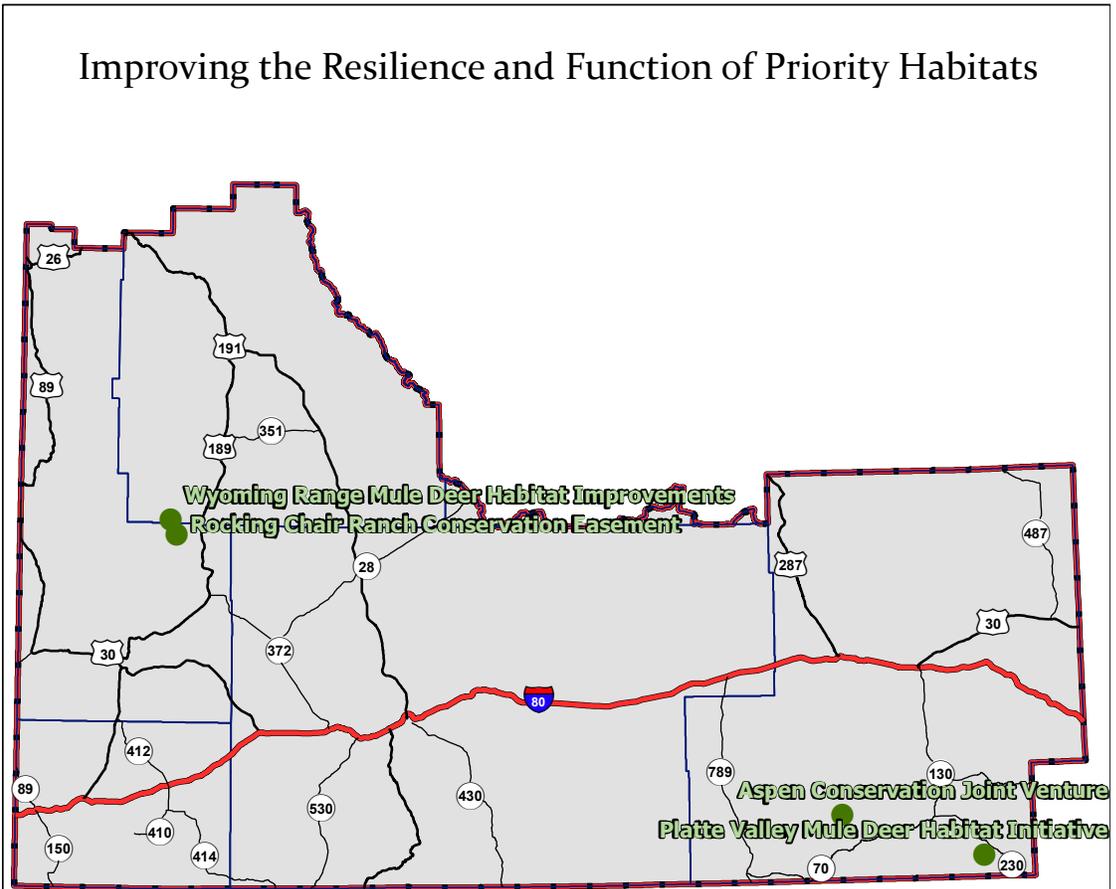
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Improving the Resilience and Function of Priority Habitats





ACCOMPLISHMENTS

Improving the Resilience and Function of Priority Habitats to Address Drought, Development, and Other Transforming Events

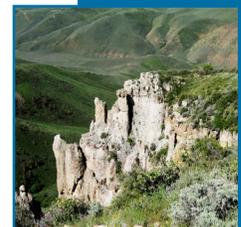
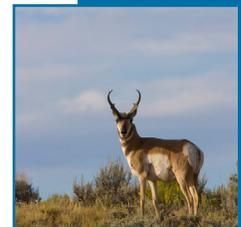
Sagebrush steppe, aspen, and mountain shrub communities are key priority habitat types in the WLCI area. Aspen stands are hotspots of biodiversity, providing shelter and forage for elk, moose and mule deer, stopover habitat for dozens of species of migrating songbirds during spring and fall, and providing cool, moist microclimates that support amphibians, reptiles, and many invertebrates, such as snails. Aspen in the WLCI area are susceptible to sudden aspen decline, a term referring to the fact that some aspen stands are not regenerating, while others are not recovering from natural disturbances such as fire. In other places, there is concern about the levels of fir and spruce encroaching into stands of aspen. Heavy browsing by large ungulates, drought (moisture and heat) related stress, and disruption of the natural fire regimen have all been cited as contributing factors to priority habitat decline.

Mountain shrub communities are transitional areas that lie between sagebrush habitats and conifer forest habitat at higher elevations. Mountain shrub provides parturition cover for mule deer and other large ungulates cover and forage during ungulate seasonal migrations, and early winter browse for these same animals. In addition, mountain shrub habitats support unique bird and small mammal assemblages. Like aspen, mountain shrub habitats are also susceptible to climate changes, energy development, heavy browsing by ungulates, and altered fire regimens.

WLCI partners are working in all three of these habitat types to improve vegetative health and reduce stresses, better-enabling these plant communities to be resilient to impacts from fire, invasive plant species, heavy browsing, and drought conditions.

Summary of 2016 Activities:

In the Platte Valley, fencing is being installed and improved (where it already exists) around aspen stands to exclude elk until aspen seedlings grow tall enough to withstand elk browsing pressure. Multiple partners are involved in this effort, and the local community is highly interested and enthusiastic. Sixteen acres of aspen were protected with steel-jack fence and 4.5 miles of existing fence were converted wildlife-friendly fence. A conservation easement planned for 2,393 acres on the Rocking Chair Ranch (described in detail below) will protect valuable mule deer habitat from future development. Over in the Sierra Madres and the Little Snake River basin, 560 acres of aspen, and 1,600 acres of conifers and junipers were mechanically removed to improve aspen health. These mechanical treatments will improve aquatic and terrestrial habitats. In the Wyoming Range, partners continue to improve vegetation quality on mule deer parturition, migration, and winter range habitats (including aspen, mountain shrub,





ACCOMPLISHMENTS



and sagebrush) by thinning conifers from aspen stands, spraying cheatgrass in shrub habitats, and resting the treated areas from livestock grazing while the vegetative community recovers. Conifer slash was burned on 683 acres of aspen habitat, and cheatgrass removal work was conducted on 3,519 acres.

Detailed Project Activities



Aspen Conservation Joint Venture

Project Objective: The overall objectives of this project are to enhance, maintain, and restore aspen woodland communities in the foothill and montane landscape of the Little Snake River watershed. These objectives will result in: (1) restored aspen woodland communities; (2) enhanced watershed/ecosystem function; (3) improved aquatic and terrestrial wildlife habitat; (4) sustained regional and local economic and asctetic values through vibrant aspen community; (5) restored crucial winter ranges for Mule Deer; (6) reduction in threats of invasive species; and (7) improve sage-grouse habitat.



Partners: This project is supported by the Little Snake River Conservation District, Office of State Lands & Investments, Warren Energy, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contributions: WLCI contributed \$50,000 to this project.

2016 Project Accomplishments: The project mechanically treated 560 acres (440 private, 120 state) of aspen and mixed mountain shrub. Additionally, 1,600 acres of conifers and junipers were removed by mechanical means.

Project activities completed this year have improved age class and diversity in treated aspen / mixed mountain shrub communities, reduced the threat of catastrophic wild fire, improved wildlife habitat and watershed function. Accomplishments include improving crucial mule deer winter range and reduce threats to sage-grouse through the removal of invasive juniper. NEPA is being conducted on three BLM parcel with treatments being scheduled for 2017. Monitoring is partially completed with retakes of established photo points. Coordination meeting have occurred between landowners, land management agencies, wildlife and conservation agencies and organization on project activities



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Platte Valley Mule Deer Habitat Improvement

Project Objective: This project is designed to implement large-scale mule deer aspen habitat improvements within high-use, seasonal ranges throughout the Platte Valley. This will be accomplished through both erecting steel-jack fencing and converting existing fences to wildlife-friendly designs. Steel-jack fencing will improve the functioning condition of the aspen stands by excluding the larger herbivores, such as elk, that over-browse younger trees. Converting existing fences to wildlife-friendly designs will aid in the movement of big-game wildlife throughout the landscape. A secondary gain has been realized through increased interest and participation in the Platte Valley Habitat Partnership (PVHP) which is now attracting future funding partners and thus creating the opportunity for further landscape-level conservation efforts throughout the Platte Valley.

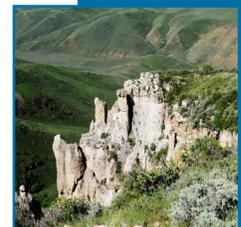
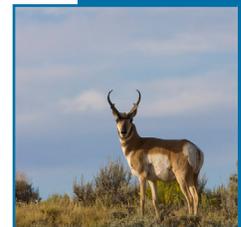
Partners: The project is a partnership between the BLM Rawlins Field Office, Mule Deer Foundation, private landowners (including the Big Creek Ranch and ZN Ranch), Saratoga, Encampment, Rawlins Conservation District, U.S. Forest Service, Wyoming Game and Fish Department Platte Valley Habitat Partnership, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: No funds were contributed by WLCI to this project in 2016; however, all \$52,690 previously distributed were utilized this year by the project.

2016 Project Accomplishments: The project enhanced 16 acres of aspen through the installation of steel-jack fencing and converting 4.5 miles of existing fencing to a wildlife-friendly design.

WLCI funds were used to leverage other partner money allowing us to accomplish many project goals in the 2015 field season. The aspen have responded well to this treatment; however, herbivory from wildlife has become a hindrance to the successful regeneration and recruitment of new aspen. In order to keep the elk out of the aspen until the new growth has reached a height above browse level, steel jack fencing will be utilized.

The steel jack fencing for the ZN Ranch was constructed in June of 2016 during the annual Platte Valley Volunteer Fence Day. This fencing project protected six acres of recovering vegetation (Figure 6). The Big Creek Ranch fencing was assembled in August 2016 by Game and Fish personnel and other volunteers, and was used to enclose and protect ten acres of vegetation. Pre- and post-treatment monitoring have been done for the aspen treatments and will continue to be done long-term to monitor stems per acre, browse pressure, and when regeneration has passed browse height so we can remove the fencing and use it on other projects.





ACCOMPLISHMENTS



Additionally, the project funded contractors to complete the Barcus Peak fence conversion. This converted 4.5 miles of fence to a wildlife-friendly design. The Barcus Peak fence will be maintained by the landowner and checked annually for signs of deer (and other wildlife) mortality to ensure of its success.



Rocking Chair Ranch Conservation Easement

Project Objective: The goal of the project is to obtain a conservation easement across approximately 2,393 acres of private lands on the Rocking Chair Ranch. The conservation easement will retain the property's agricultural character while conserving a high-value wildlife habitat by prohibiting future surface development. The easement will be held by Wyoming Game and Fish Department who already holds two other easements related to this landscape.



The primary benefit to the landscape will be realized through the permanent conservation of an area comprised principally of wetland and riparian areas associated with LaBarge Creek, xeric forest, desert shrubland, and sagebrush shrubland habitat types. The riparian zones provide important connective areas for surrounding upland sagebrush and forest habitat types. The Rocking Chair Ranch is considered sage-grouse habitat. The property also provides important habitat for a variety waterfowl, songbirds, and raptors including bald and golden eagles. Fontenelle Creek, which bisects the property, provides habitat for numerous fish and amphibian species including tiger salamander (*Ambystoma tigrinum*), Colorado River cutthroat trout, brook trout (*Salvelinus fontinalus*), brown trout (*Salmo trutta*), mountain whitefish (*Prosopium williamsoni*), speckled dace (*Rhinichthys osculus*) and others. The area supports crucial winter ranges, crucial summer year-long range, and parturition areas in various respects for moose, elk, mule deer, and pronghorn. A secondary benefit will occur from the protection of mule deer migration corridors from future development.

Partners: This project is a partnership between the North American Wetlands Conservation Act grant program, Rocky Mountain Elk Foundation, Wyoming Governor's Big Game License Coalition, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: In 2016, WLCI contributed \$50,000 to the project.



Figure 6. Post-treatment monitoring of aspen after the Big Creek aspen ripping and steel jack fence construction. Photo courtesy of the WGFD.



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2016 Project Accomplishments: The conservation easement itself is still in the process of being obtained. The contracting process is ongoing while awaiting completion of the easement appraisal.

Wyoming Range Mule Deer Habitat Project

Project Objective: The purpose for the project is to improve overall vegetation health in crucial mule deer winter, transition and parturition ranges. The project will benefit the landscape by increasing sagebrush vigor, seed production, and regeneration. Forb diversity and percent composition will also increase. Additionally, there will either be an increase in grass diversity and percent composition, a release of younger sagebrush, or an increase in aspen regeneration.

Partners: Partners on this project are the BLM Pinedale Field Office, Denbury Energy, Exxon/Mobile, Mule Deer Foundation, Muley Fanatics Foundation, Rocky Mountain Elk Foundation, Wyoming Game and Fish Department, Wyoming Governor's Big Game License Coalition, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: WLCI contributed \$75,000 to the project in 2016.

2016 Project Accomplishments: Approximately 3,348 acres of sagebrush were treated as well as 976 acres of conifer-encroached aspen, both by mechanical means.

Conifer slash piles from 2014 were burnt across 683 acres for the benefit of aspen (Figure 7). Approximately 3,519 acres of cheatgrass were treated with 2,519 acres of this being hand-picked by a grubbing crew. Additionally, three range riders were hired to assist with resting the previously treated areas from livestock use. Pre-monitoring of the vegetation was conducted in representative sites for the treatments implemented this year. Post treatment monitoring was also conducted on last year's treatments (Figures 8 and 9).

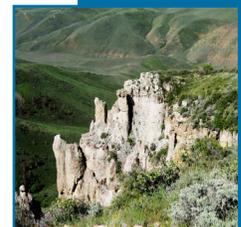
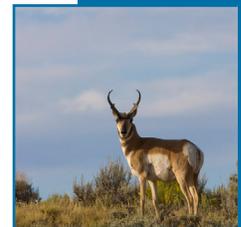


Figure 7. Dutch George Creek Prescribed Fire. Photo courtesy of the WGFD.



Figure 8. Pre-monitoring of sagebrush mowing. Photo courtesy of the WGFD.



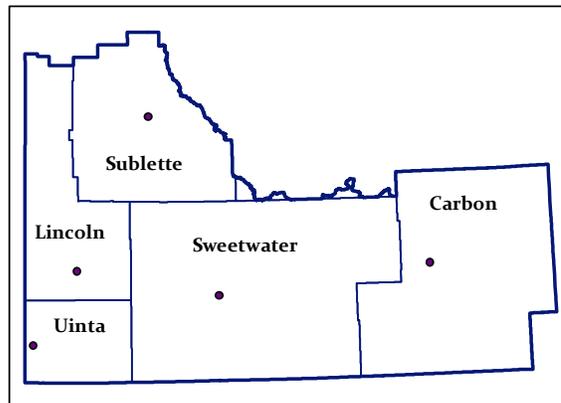
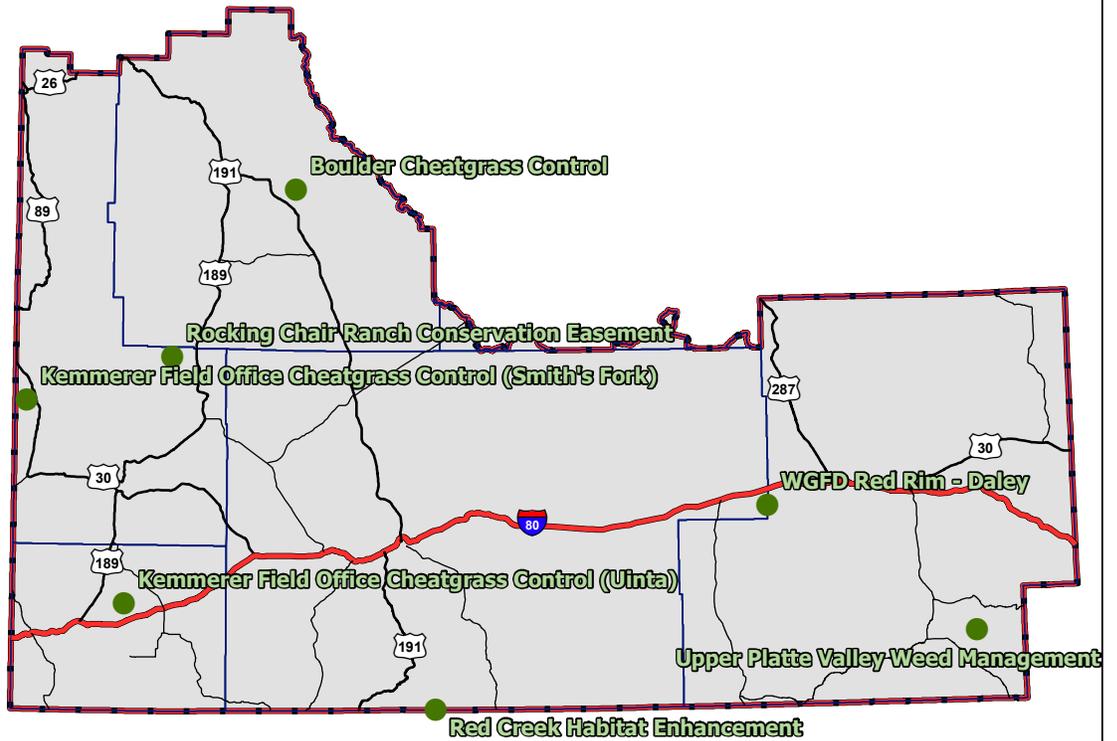
Figure 9. Post-monitoring of sagebrush mowing. Photo courtesy of the WGFD.



ACCOMPLISHMENTS



Maintaining, Enhancing, and Restoring Sagebrush Communities





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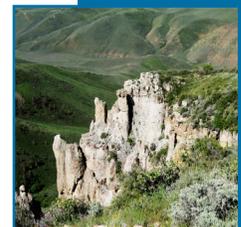
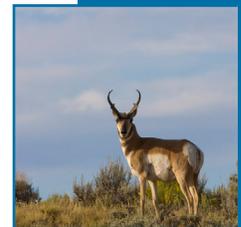
Maintaining, Enhancing, and Restoring Sagebrush Communities that Support Sage-Grouse and Other Sagebrush Obligate Species in Southwest Wyoming

Sagebrush habitats in southwest Wyoming support a wide variety of sagebrush – obligate wildlife. Perhaps best-known sagebrush obligate is the sage-grouse, which was successfully kept off of the Endangered Species list after coordinated efforts by state and federal resource management agencies to conserve sage-grouse habitat in all states where it occurs. Other Species of Greatest Conservation Need (SGCN) that inhabit sagebrush in the WLCI area include Wyoming pocket gopher (*Thomomys clusius*), sagebrush (formerly sage) sparrow (*Artemisiospiza nevadensis*), Great Basin spadefoot toad (*Scaphiopus Intermontanus*), and northern sagebrush lizard (*Sceloporus graciosus graciosus*), to name just a few. Each of these species either spends their entire life or at least one critical season (e.g., breeding, winter) in sagebrush habitats.

Within WLCI, the Wyoming Game and Fish Department designated priority areas of sagebrush habitat based on the occurrence of these and other SGCN. Many of these and other areas are affected by competing resource-use activities, invasive plant species, and changing precipitation and temperature patterns, all of which may impact SGCN and other wildlife. Maintaining, enhancing, and restoring these areas requires a suite of management activities, many of which require substantial commitment of resources. The WLCI Coordination Team prioritizes work in crucial sagebrush habitats through solicitation of work proposals from Local Project Development Teams, then evaluates each proposal based on merit in the form of acres treated and direct benefit to the target resource or species.

Summary of 2016 Activities:

Ongoing projects that will maintain or improve the quality of sagebrush habitat include dispersing livestock grazing pressure away from a riparian corridor at the Red Rim-Daley WHMA. This involved decommissioning an existing well, upgrading a damaged windmill, and adding solar power capacity to an existing BLM well. Also, a conservation easement protecting 2,393 acres from future development is in progress on the Rocking Chair Ranch, cheatgrass and other noxious plant were aerially sprayed on 3,942 acres of land near Boulder. Additional invasive plant species were controlled in the BLM Kemmerer Field Office area (3,519 acres in the Wyoming Range) and the upper Platte River Valley. The Red Creek Habitat Enhancement project will remove conifer within the sagebrush biome. Collectively, these projects will directly benefit native plant communities, sage-grouse, large ungulate game species, and SGCN amphibians, small mammals, reptiles, song birds, waterfowl, and raptors.





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Detailed Project Activities

Boulder Cheatgrass

Project Objective: The project is intended to control cheatgrass found throughout crucial elk, mule deer, pronghorn, and sage-grouse habitat. Additionally, livestock will benefit as cheatgrass also has an adverse effect on the agricultural industry. Herbicide treatments will be administered during the spring and fall.



Partners: Partners on this project also include the BLM Pinedale Field Office (including JIO/PAPO), Natural Resource Conservation Service, Sublette County Weed and Pest District, U.S. Forest Service, Upper Green River Basin Sage-Grouse Local Work Group, Wyoming Game and Fish Department, and Wyoming Range Mule Deer Project.



2016 WLCI Contributions: WLCI contributed \$39,300 in 2016.

2016 Project Accomplishments: The project was able to aerially treat a total of 3,942 acres of cheatgrass.

The project is monitored annually on permanent transects and photo points via a collaborative effort of the Wyoming Game and Fish Department and the Sublette County Weed and Pest.

KFO Cheatgrass

Project Objective: Cheatgrass throughout the KFO threatens winter ranges, impacts grazing, and increases the chance for a wildfire. The project has three main objectives. First, is to identify and map cheatgrass areas within the Kemmerer Field office. Second, to prioritize areas of cheatgrass for treatment. Third, the cheatgrass will be aggressively treated. Small areas will be treated by the KFO staff while larger ones will be treated aerially.

Partners: Other partners include the BLM Kemmerer Field Office, Lincoln County Weed and Pest District, Natural Resource Conservation Service, National Fire Plans Operating System, private landowners, and Uinta County Weed and Pest District.

2016 WLCI Contribution: WLCI did not contribute any funds to this project in 2016. However, of the \$90,000 that WLCI had contributed in the past, \$40,000 of this was used towards treatment projects in 2016.



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2016 Project Accomplishments: The project treated a total of 2,453 acres of cheatgrass in 2016.

The BLM continued to work with cooperators to map, prioritize, and determine treatment areas regardless of ownership within the Kemmerer Field Office. The project aerielly treated 523 acres of cheatgrass in the Bear River project area, aerielly treated 893 acres of cheatgrass in the Uinta project area, aerial treated 1,037 acres in the sagebrush focal area (SFA) project area.

Red Creek Habitat Enhancement Project

Project Objective: The project objective is to protect, maintain, and enhance the ecosystem within the Little Mountain and Pine Mountain areas. The project utilizes multiple management methods (mechanical and prescribed fire) to set back the successional stage within the sagebrush biome; by targeting and removing conifer expansion within the landscape.

Exclusion of fire taking its natural role within the ecosystem has allowed conifer to expand into the landscape. This expansion of conifers alters the vegetative characteristics and composition within the landscape, which provides critical habitat (terrestrial and aquatic) that many species depend on. This shift of vegetative composition can result in, erosion, reduced seasonal stream flows, reduction of forage, loss of habitat, habitat cover, introduction of invasive species, and increased risk of uncharacteristic fire behavior.

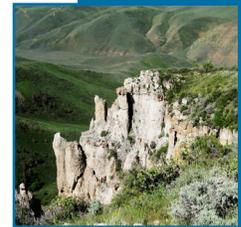
Partners: This project is a collaboration of the BLM Rock Springs Field Office, Muley Fanatic Foundation, Rocky Mountain Elk Foundation, Wyoming Game and Fish Department, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: WLCI funded \$50,000 to this project in 2016.

2016 Project Accomplishments: The project is currently awaiting completion of NEPA before it can move forward. This is expected to be completed early 2017, at which point implementation will begin.

Red Rim-Daley WHMA Infrastructure and Habitat Improvements

Project Objective: The goal of this project is to spread livestock out among the riparian areas along Separation Creek and across the entire Wildlife Habitat Management Area (WHMA). As the livestock move out, wildlife such as pronghorn, mule deer, sage-





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grouse, and elk will move in due to better forage and cover within these same areas. This project is designed to develop, enhance, and maintain water infrastructure across Separation Creek and the WHMA. Throughout the Red Desert rangeland, access to water is often the limiting factor in the carrying capacity for livestock or wildlife. The Red Rim-Daley WHMA currently has several non-functioning water wells and water is seldom consistent in most of Separation Creek.



Partners: This project is a partnership between the BLM Rawlins Field Office, grazing lessees, and Wyoming Game and Fish Department.

2016 WLCI Contribution: WLCI contributed no additional funds to this project in 2016. However, project proponents were able to utilize \$26,750.00 of the \$147,408.46 previously distributed by WLCI to facilitate ongoing actions.



2016 Project Accomplishments: In total, one well was decommissioned, three wells were upgraded, and one new well was developed under this project in 2016.

After completing the formal bid process, a contract was let for \$13,200 to accomplish three improvements. First, the contract de-commissioned an existing well. Second, the pump and solar array from that well was used to upgrade a non-functioning windmill and construct a tire stock tank. Finally, an existing water well on BLM-administered land was further developed to utilize a solar well system and tire stock tank. The contract was then amended for an additional \$13,550 to add a 400 bbl. storage tank to an existing water well and to upgrade a pump from wind to solar and add another stock tank and 400 bbl. storage tank to an additional well.

Rocking Chair Ranch Conservation Easement

Project Objective: The goal of the project is to obtain a conservation easement across approximately 2,393 acres of private lands on the Rocking Chair Ranch. The conservation easement will retain the property's agricultural character while conserving a high-value wildlife habitat by prohibiting future surface development. The easement will be held by Wyoming Game and Fish Department who already holds two other easements related to this landscape.

The primary benefit to the landscape will be realized through the permanent conservation of an area comprised principally of wetland and riparian areas associated with LaBarge Creek, xeric forest, desert shrubland, and sagebrush shrubland habitat types. The riparian zones provide important connective areas for surrounding upland sagebrush and forest habitat types. The Rocking Chair Ranch is considered sage-grouse habitat. The property also provides important habitat for a variety waterfowl,



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songbirds, and raptors including bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*). Fontenelle Creek, which bisects the property, provides habitat for numerous fish and amphibian species including tiger salamander, Colorado River cutthroat trout, brook trout, brown trout, mountain whitefish, speckled dace and others. The area supports crucial winter ranges, crucial summer year-long range, and parturition areas in various respects for moose, elk, mule deer, and pronghorn. A secondary benefit will occur from the protection of mule deer migration corridors from future development.

Partners: This project is a partnership between the North American Wetlands Conservation Act grant program, Rocky Mountain Elk Foundation, Wyoming Governor's Big Game License Coalition, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: In 2016, WLCI contributed \$50,000 to the project.

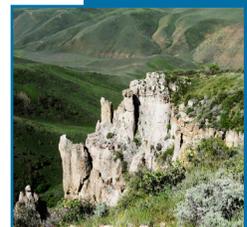
2016 Project Accomplishments: The conservation easement itself is still in the process of being obtained. The contracting process is ongoing while awaiting completion of the easement appraisal.

Upper Platte Valley Weed Management Area

Project Objective: The Upper Platte Valley Weed Management Area project entails inventory, monitoring, and treatment for noxious weeds, including leafy spurge, musk thistle, Canada thistle, and spotted knapweed. Treatment consists of herbicide application and manual treatments to control weeds. One of the main goals is to prevent weed encroachment onto the adjacent Forest Service and private lands and contain weed infestations to the currently affected areas. A secondary goal is to remove or contain other noxious weeds where possible to prevent further degradation of and to improve wildlife habitat quality and livestock forage. The Upper Platte Valley area provides crucial winter and seasonal habitats for elk, deer, pronghorn, and bighorn sheep (*Ovis Canadensis*). The majority of this area falls within core habitat for the sage-grouse, is used for livestock grazing, and is heavily used for recreation and hunting.

Partners: This project is an informal partnership between the BLM Rawlins Field Office, Carbon County Weed & Pest District, and multiple land owners.

2016 WLCI Contributions: WLCI did not contribute any funds to this project in 2016. However, of the \$132,500 that WLCI had contributed in the past, \$31,535 of this was used towards treatment projects in 2016.



2016



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2016 Project Accomplishments: The project treated and monitored 500 acres – or, half of the known infestations on BLM land.



More than half of the 234 sites treated and monitored in 2016 were reported as clean. Only three new infestations were identified: two leafy spurge infestations in the Bennett Peak area, and a houndstongue infestation found in the Encampment River Campground. Most of the 500 acres treated were in the Bennett Peak area which continues to have the greatest concentration of weed infestations.



Chemical treatments, inventory, and monitoring were carried out on state, federal, and private lands in June, July, September and October of 2016. Regularly treating this area in the past has thinned infestations to the point that aerial treatments are no longer necessary. In order to continue to reduce infestation density, on the ground infestation maintenance must continue. Treatments were also completed by the ranch owners and Carbon County Weed & Pest.



2016



Encampment River. Photo courtesy of BLM.

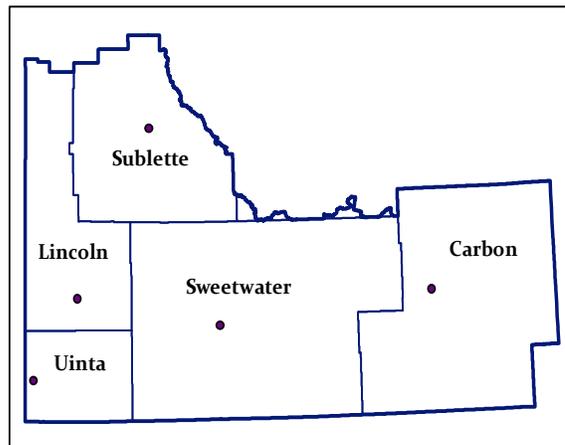
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Improving Aquatic Habitat and Improving the Distribution of Native Fish Assemblages





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Improving Aquatic Habitat and Improving the Distribution of Native Fish Assemblages within the Bear, Green River, and Platte Basins

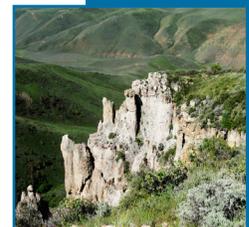
Numerous rivers and streams in the WLCI area support sensitive fish populations. The primary conservation objectives being addressed by LPDTs is to ensure sensitive fish species have access to as much suitable habitat as possible for seasonal and reproductive needs. This is primarily being accomplished through the removal of pilings, removing or replacing diversion structures, reducing bank erosion, increasing the number and quality of pools, balancing pool to riffle ratios, and reducing the temperature of water at select locations. Other activities are directed at increasing juvenile fish habitat, preventing hybridization between sucker species, and increasing water quantity and fish use in transitional areas (between cool water and warm water fish zones). LPDTs have prioritized fish species identified by WLCI partners as species of greatest conservation need. These include bluehead sucker (*Catostomus discobolus*), flannelmouth sucker (*Catostomus latipinnis*), roundtail chub (*Gila robusta*), Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*), Bonneville cutthroat trout (*Oncorhynchus clarkii utah*), and northern leatherside chub (*Snyderichthys copei*).

Treatment approaches and treatment areas largely address WGFD Basin Management Plans and issues and needs identified for Aquatic Priority Areas. Project locations have been identified by the BLM, USFS, County Conservation Districts, Trout Unlimited, and USFWS Partners Program.

Proposed treatment objectives include: removing barriers and impediments to fish movement; creating or maintaining fish barriers where beneficial to specific species, protecting genetics; developing rock sills to improve hydrologic function and increase water flow to side channels; increasing fish population numbers and maintaining their diversity; removing or treating unwanted invasive fish species; reducing impacts from sedimentation resulting from erosion; reducing salinity and environmental contamination; and increasing the resilience of aquatic habitats to buffer against prolonged droughts and climate change.

Summary of 2016 Activities

During 2016, WLCI focused on projects that replaced old or degraded irrigation structures, replace the aging stands of narrow leaf cottonwoods, developed several rock vane structures, developed or improved passages for fish, used fencing to protect restoration of riparian improvements, narrowed and deepened channels, and increased the distribution of pools. The net ecological benefits from these activities means





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that over 4,300 feet of river channel was improved or restored to proper functioning condition, Colorado cutthroat trout and other sportfish fish have access to previously disconnected habitats, reduced bank sediment and reduced down cutting of stream channels, increased distribution of woody structure and pool/riffle ratios all of which benefit important fish species. In addition, at several locations, new structures will reduce the possibility of hybridization between native and introduced fish species. Some of the new structures were also designed to capture excessive stream sediment and improve irrigation access. These projects included private landowners, non-governmental organizations and local, state, and federal partners.

Detailed Project Activities

Beaver Creek Diversion Improvement

Project Objective: The primary objectives of this project are to advance the connectivity between genetically-pure Colorado River cutthroat trout throughout Beaver Creek and the Henry's Fork River and for the overall improvement of the aquatic habitat. A secondary objective is the upgrading of agriculture infrastructure. In order to accomplish this, an existing push-up irrigation diversion will be removed (Figure 10) and converted to a low-maintenance, fish passable rock vane structure with a headgate (Figure 11). The existing push-up diversion not only inhibits fish passage and diminishes the hydrologic function of the stream, but it also creates more work for the landowner as it requires constant maintenance and the use of heavy equipment instream.



Figure 10. Rock Push-up irrigation diversion. Photo courtesy of TU.



Figure 11. New headgate and rock vane installed to improve agricultural practices and fish passage. Photo courtesy of TU.



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Partners: The project also includes the Lone Tree Ranch, Natural Resource Conservation Service, Trout Unlimited, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: WLCI contributed \$11,000 in 2016.

2016 Project Accomplishments: Construction by the proponent of the new diversion structure was completed in 2016 as well as monitoring of six miles of stream.

Through the Adopt-A-Trout program that has been ongoing at the McKinnon Elementary School, Trout Unlimited (TU) will track fish movement and document if any tagged fish move upstream past the diversion at low flows. TU will focus future fish tagging efforts above and below the diversion to document if fish can navigate the new structure year-round.

Bitter Creek Headcut Stabilization

Landscape Objective: The project intends to alleviate a major headcut and restore the hydrologic functionality to this portion of Bitter Creek. A secondary objective is the improvement of an existing agricultural diversion. The channel of the stream will be re-routed around the headcut and reinforced to prevent future issues, and a new diversion structure will be installed.

Partners: Partners include Anadarko Petroleum, the BLM Rock Springs Field Office, Folks family-landowner, Sweetwater County Board of County Commissioners, Sweetwater County Conservation District, and Wyoming Game and Fish Department.

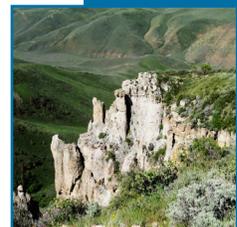


Figure 12. Contractor preparing new stream channel prior to sheet piling installation and rock riprap. Photo courtesy of the BLM.



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2016 WLCI Contribution: In 2016, WLCI contributed \$200,000 to this project.

2016 Project Accomplishments: The project is expected to be completed in 2017.

The Contractor has started mobilization, demolition, and storm water control. The contractor has established subgrade at this point and the next step is placement of sheet piling and rip rap (Figure 12). The contractor was delayed from the original time line schedule that was submitted due to high runoff events.



Coal Creek Stabilization and Sediment Reduction Project

Project Objective: This project intends to improve the water quality for Colorado River cutthroat trout and other important fish species. This project is designed to reduce sediments entering Coal Creek by improving or replacing bridge and culvert crossings, engaging in road and stream realignment, stabilizing bank slopes and toe slopes along the road, and reestablishing vegetation throughout these areas.



Partners: Other partners include the U.S. Forest Service, Wyoming Game and Fish Department, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: No money was distributed by WLCI to this project in 2016.

2016 Project Accomplishments: The WLCI agreement with the Wyoming Game and Fish Department expired September 15, 2016, which has delayed funding towards the project. Additionally, the project manager for the Wyoming Game and Fish has since retired, further delaying project implementation. Once these issues have been resolved, work can begin on this project.

Little Mountain Riparian and Fish Habitat Project

Project Objective: The project intends to improve stream function, increase woody material availability near the streams, and enhance fish passage. The project will benefit the landscape by improving fish and wildlife habitat throughout Sage Creek, Currant Creek, and Red Creek which all fall within the WLCI Little Mountain Priority Area. The project will be accomplished through the utilization of fencing, the planting of willows and trees, and by addressing existing fish passage issues.

Partners: This project also includes a partnership with the BLM Rock Springs Field Office, Currant Creek Ranch, Questar Gas Company, Trout Unlimited, Wyoming Game and Fish Department, and Wyoming Wildlife and Natural Resource Trust.



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2016 WLCI Contributions: WLCI contributed \$65,000 to this project in 2016.

2016 Project Accomplishments: The project completed one acre of riparian fencing and two fish habitat improvements along Red Creek.

Trout Unlimited (TU) is working with the Wyoming Office of State Lands and Investments to complete the necessary permits required to accomplish the remaining riparian fence projects. TU is working with the Currant Creek Ranch to come up with designs to improve fish passage on the ranch.

On August 27, 2016, the Red Creek Riparian Fence Project was completed. Volunteers from the local TU chapter and Boy Scout troop put up the steel jack fence that was delivered to the site in July (Figure 13). In September volunteers from TU, BLM, and WLCI constructed two rock vanes in Red Creek within the riparian fence to help improve trout habitat. A local high school student and TU chapter member is in charge of the Red Creek project. She has set up a monitoring plan and will start monitoring next year.

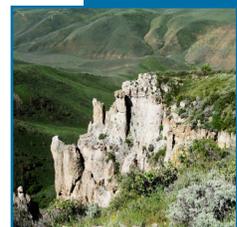


Figure 13. Completed steel-jack fence to protect riparian vegetation along Red Creek. Photo courtesy of TU



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Lower Encampment River Restoration and Fish Passage



Project Objective: The project intends to improve the overall river channel, create better habitat, insure the continuation of irrigation, and improve public safety. This will directly benefit aquatic and terrestrial animals that utilize these areas. The land itself will also benefit through the implementation of measures that control erosion of the riparian areas. The project will be accomplished by engaging in actions that stabilize and improve the river course and streambank, allow for the enhancement of riparian vegetation, and assure water is available for irrigation.

Partners: Partners include the BLM Rawlins Field Office, Natural Resource Conservation Service, private landowners, Saratoga, Encampment, Rawlins Conservation District, Trout Unlimited, U.S. Fish and Wildlife Service, Wyoming Game and Fish Department, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contribution: WLCI contributed \$80,000 in 2016.

2016 Project Accomplishments: In 2016, the project accomplished 4,300 feet of river restoration, three different bedload measurements, and the monitoring of five individual projects.

Three projects were implemented on the Lower Encampment in 2016:

First, the 2013 Boykin project required maintenance. Excessive erosion at the downstream end of the project was impacting the next project reach downstream. The repairs focused on the lower 1,100 feet of the project and provided a better transition between the two projects, enhanced riparian plantings, and adjusted several grade control structures.

Next, Encampment River – Oddfellows Campground Fish Habitat Enhancement Project improved wild trout habitat through 1,600 linear feet of the river adjacent to the BLM Encampment River Campground. Improvements consisted of narrowing and deepening the low flow channel, creating more pool habitat, utilizing woody debris in pools, and installing rock vane structures.

Finally, Encampment River – Cherokee/Wagoner Diversion Improvement focused on replacing two cobble push-up irrigation structures with large rock grade control structures (Figure 14). The new structures allow for fish passage and improve sediment transport through the 1,600 feet reach (Figure 15).



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Figure 14. Wagoner Diversion on the Lower Encampment River before the diversion was replaced. Photo courtesy of the SERCD.



Figure 15. The Wagoner Diversion after construction was completed. Photo courtesy of the SERCD.



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Narrow Leaf Cottonwood Stand Replacement

Project Objective: This project will help to replace the aging stands of narrow leaf cottonwoods throughout the riparian habitat along the Green River that flows through Seedskaadee National Wildlife Refuge (NWR). The combination of a down cutting channel and reduced frequency and extent of out of bank flooding events has limited opportunities for natural regeneration and replacement of the stands of narrow leaf cottonwood, native willows, and other riparian vegetation. This stretch of the Green River is a major migratory route for many bird species including warblers, swallows and swifts, and raptors. A number of birds also nest here including bald eagles and the recently federally listed threatened distinct western population segment of yellow-billed cuckoo (*Coccyzus americanus*). Additionally, the riparian area supports big game such as moose (*Alces alces*), mule deer, and pronghorn.



Partners: Partner funding for the project includes Trout Unlimited, U.S. Fish & Wildlife Service, and the Wyoming Game and Fish Department.



2016 WLCI Contribution: WLCI committed \$40,000 to the project, pending the establishment of a new agreement.

2016 Project Accomplishments: The contract for the project is currently being put together for solicitation of bids. Once awarded, the project is planned for initiation as soon as weather permits.



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Encampment River. Photo courtesy of BLM.

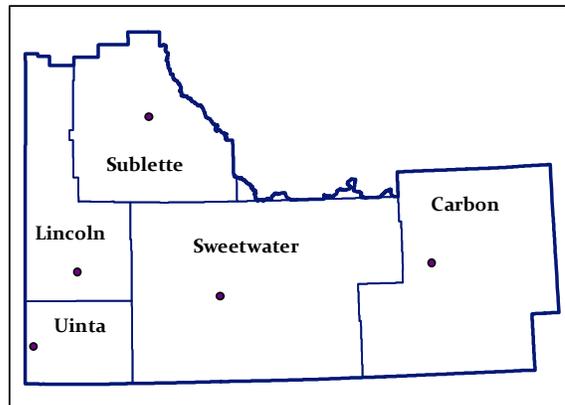
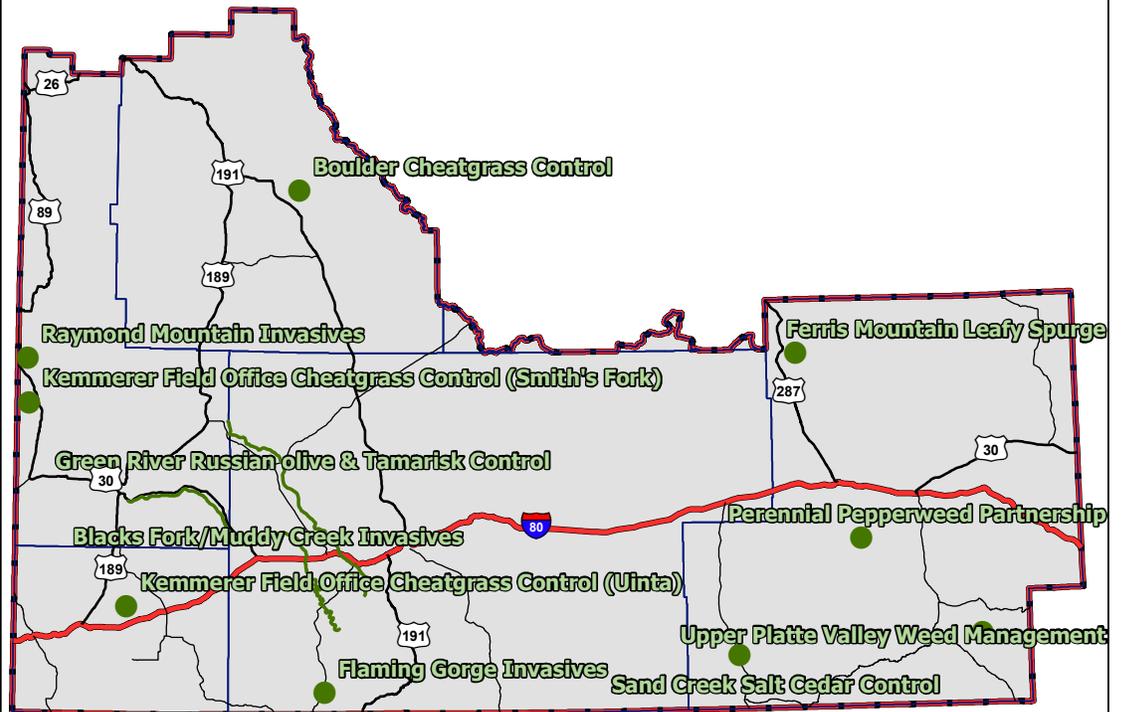
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Controlling Invasive Plant Species and Restoring Ecosystem Integrity and Landscape Connectivity





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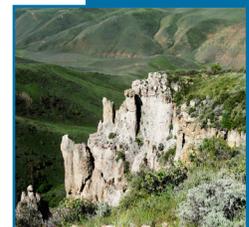
Controlling Invasive Plant Species and Restoring Ecosystem Integrity and Landscape Connectivity

Addressing invasive plant species is typically a major component of many of the proposed conservation actions with WLCI partners. WLCI LPDTs are focused on the most aggressive or threatening invasive plants, which include cheatgrass (*Bromus tectorum*), toadflax (*Linaria spp.*), leafy spurge (*Euphorbia esula*), salt cedar (*Tamarisk spp.*), and perennial pepperweed (*Lepidium latifolium*). Particular attention is given to invasive plants in sensitive areas, such as crucial winter habitats, migration transition areas, riparian corridors, and areas adjacent to rare and endemic plant species. Invasive plants near wilderness areas and important locations, such as Areas of Critical Environmental Concern, are also a priority. Invasive plant species just entering the WLCI area are also targeted if they pose a risk. Species such as salt cedar, cheatgrass, and knapweeds are becoming more densely populated and expanding their distribution. There have been numerous recent studies emphasizing the importance of controlling these species as an effective approach to address prolonged droughts and climate change.

A focus group was formed by LPDT members to develop strategies to evaluate salt cedar distribution and treatment needs from Seedskahee NWR to Flaming Gorge. This effort aims to strategically inventory, prioritize, plan, implement, rehabilitate, and monitor multiple phased control projects. WLCI monitoring indicates that this approach is successfully controlling salt cedar and Russian olive while promoting sustainable native riparian tree and shrub communities along stream and river corridors. Since 2008, WLCI has funded numerous projects designed to control or remove salt cedar in the WLCI area. These have predominantly been associated with larger lower elevation streams and rivers in Lincoln, Sweetwater, and Carbon counties. Geographic areas to control salt cedar and Russian olive are based on assessments and surveys by WLCI partners and resource specialists. In another WLCI area, an invasive species task force was organized to address cheatgrass at landscape scales. Cheatgrass has become the most widespread problematic invasive plant affecting sage-grouse core habitats and crucial habitats for elk (*Cervus canadensis*), mule deer, pronghorn and numerous other non-game species. This task force is assessing the distribution of cheatgrass, prioritizing treatment locations, and actively engaged with its partners to control cheatgrass. Post-treatment monitoring information is being used to identify the most effective methods to control cheatgrass.

Summary of 2016 Activities

Cheatgrass, salt cedar, perennial pepperweed, leafy spurge, Canada thistle, Dalmatian toadflax (*Linaria dalmatica*), Dyer's woad (*Isatis tinctoria*), and knapweed were the





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primary species that were treated, inventoried, and monitored during 2016. Treatments occurred primarily on crucial sagebrush habitats and riparian habitats associated with the Green River and its tributaries, and wetlands supporting. Controlling these invasive species on these crucial habitats is designed to benefit sage-grouse, mule deer, pronghorn, and numerous songbirds and other wildlife. During 2016, approximately 7400 acres of cheatgrass was treated across the WLCI area. Monitoring and mapping activities conducted during 2016 will be used to prioritize treatment locations during 2017. In addition to cheatgrass, another widespread invasive species WLCI is trying to control is salt cedar. Over 1,300 acres of salt cedar was treated along streams, rivers, and reservoirs during 2016. More than 15 miles of riparian habitat was inventoried for new infestations and monitored for possible re-sprouting. Monitoring indicates over a 90% reduction of salt cedar since 2008 at some locations. Other invasive plants that were treated, inventoried, and monitored during 2016 included perennial pepperweed, leafy spurge, Canada thistle (*Cirsium arvense*), Dalmatian toadflax, Dyer's woad, knapweeds and other noxious weeds. Approximately 4,940 acres were treated, 1695 acres inventoried, and 2753 acres monitored. Monitoring indicates fewer new infestations of leafy spurge where WLCI has been retreating and monitoring. Private land owners, County weed and pest districts, conservation districts, non-government organizations, state, and federal agencies participated in 2016 activities.

Detailed Project Activities

Blacks Fork/Muddy Creek Invasives

Project Objective: This is a long term management project to minimize salt cedar from encroaching on the stream banks, preserving existing riparian habitat and improving native vegetation capacities. A large portion of the Blacks Fork River watershed is located in Uinta County Wyoming. The project area includes multi-drainages with several small tributaries that feed into the Blacks Fork River, which is a headwater of the Colorado River. This project involves decreasing invasive species along the drainage to protect and preserve the native vegetation and ecosystem.

Partners: Partners also include the BLM Kemmerer Field Office, private landowners, Sweetwater County Weed & Pest District, Uinta County Conservation District, and Uinta County Weed & Pest District.

2016 WLCI Contributions: WLCI contributed \$20,000 to this project in 2016.

2016 Project Accomplishments: In total, 29.5 acres of salt cedar and 80.25 acres of noxious weeds were treated, and 1,347 acres of salt cedar and 234 acres of noxious weeds were inventoried.



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Field Services is contracted to work on the Blacks Fork from I-80 into Sweetwater County. The contractor worked on invasive species and salt cedar. The contractor started work mid-September and completed it September 26. Uinta County Weed and Pest crews continued to do work on the Muddy, Cottonwood Creek, and other Blacks Fork Drainages through November.

Invasive species and salt cedar treatment continued on the Blacks Fork River Drainage. Salt cedar treatment has decreased by approximately 90 percent compared to initial treatment at the start of the project in 2008. Maintenance is necessary to ensure that the habitat does not return to intermittent dense stands of salt cedar. Invasive weeds will also be treated as crews are covering the area for salt cedar. The work will be a multi-county project extending into Sweetwater County where more dense stands exist (Figure 16).



Boulder/Jonah Cheatgrass

Project Objective: The project is intended to control cheatgrass found throughout crucial elk, mule deer, pronghorn, and sage-grouse habitat. Additionally, livestock will benefit as cheatgrass also has an adverse effect on the agricultural industry. Herbicide treatments will be administered during the spring and fall.

Partners: Partners on this project also include the BLM Pinedale Field Office (including JIO/PAPO), Natural Resource Conservation Service, Sublette County Weed and Pest District, U.S. Forest Service, Upper Green River Basin Sage-Grouse Local Working Group, Wyoming Game and Fish Department, and Wyoming Range Mule Deer Project.

2016 WLCI Contributions: WLCI contributed \$39,300 in 2016.

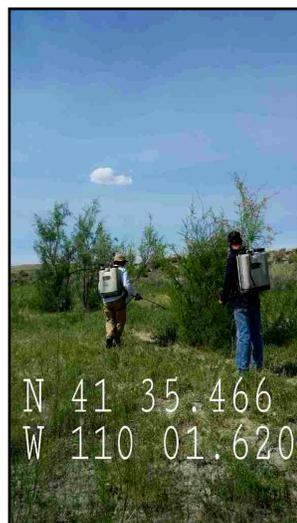


Figure 16. Salt cedar treatment in Sweetwater County. Backpack treatment is the primary way to access the trees due to the terrain of the area. Photo by Field Services Sept 2016.

2016 Project Accomplishments: The project was able to aerially treat a total of 3,942 acres of cheatgrass.

The project is monitored annually on permanent transects and photo points via a collaborative effort of the Wyoming Game and Fish Department and the Sublette County Weed and Pest.



ACCOMPLISHMENTS



Ferris Mountain WSA Leafy Spurge

Project Objective: This project entails inventory, monitoring, and treating the Wilderness Study Area and the adjacent hogback ridges for invasive weeds; mainly leafy spurge, whitetop (*Lepidium draba*), and Russian knapweed (*Rhaponticum repens*). Treatment consists of the application of herbicide to control weeds in this extremely rugged area. The main goal is to restrict weed infestations to the currently affected landscape. A secondary goal is to remove or contain other noxious weeds where possible to prevent further degradation and improve the quality of wildlife habitat and livestock forage.

Partners: This project also involves a partnership between the BLM Rawlins Field Office, Carbon County Weed & Pest District, and the owners of the 47 Ranch and Ferris Mountain Ranch.

2016 WLCI Contribution: In 2016, WLCI contributed \$20,000 to the project.

2016 Project Accomplishments: The project completed 500 acres of chemical treatments, 160 acres of inventory, and 400 acres of monitoring (Figure 17).

Previous treatments in this area have thinned infestations to the point that aerial treatments may not be necessary in the future. In order to continue to reduce infestation density on the ground infestation maintenance must carry on. Treatments were also implemented by the ranch owners.

Previously treated sites are monitored and photographed by treatment crews and noted on their application records. This is an ocular method, which works well for tracking density and extent of patches from year to year. Many sites are also ocularly inventoried and monitored by BLM staff prior to treatment to avoid sending crews into an area that does not need treatment. Some additional monitoring was conducted by ranch owners.



Figure 17. Before and after pictures of herbicide treatments to control Leafy Spurge. Note, Leafy spurge is the yellow flowered plant in the left photo. Photos Courtesy of the Carbon County Weed and Pest District.



ACCOMPLISHMENTS

Flaming Gorge Invasives

Project Objective: The project's goal is the control of noxious weeds within the Flaming Gorge National Recreation Area (FGNRA). Control is being accomplished by using highly specialized watercraft capable of accessing shallow water areas of the FGNRA which are inaccessible by conventional transportation (i.e., ATVs, UTVs, and other OHVs). This watercraft is utilized to map and treat noxious weed infestations on the Flaming Gorge Reservoir and other tributaries such as the Black's Fork River and Green River. Plants of emphasis include perennial pepperweed, black henbane, thistles, knapweeds, common reed, Russian olive, and salt cedar.

Project monitoring for sites infested by noxious weeds is accomplished with camera points. These camera points are established through each field season utilizing GPS technology; existing camera points are re-visited each year and re-photographed to quantify long-term efficacy of herbicide treatments. Comparisons of photographic images indicate the year-to-year efficacy of herbicide treatments is good to excellent.

Partners: The project is undertaken with a partnership between the U.S. Forest Service and Sweetwater County Weed & Pest.

2016 WLCI Contribution: WLCI did not contribute any funds to this project in 2016. However, of the \$70,000 that WLCI had contributed in the past, \$15,000 of this was used towards treatment projects in 2016.

2016 Project Accomplishments: Areas of noxious weeds infestations were revisited and treated along with new sites in 2016 for a total of 1,071 acres being treated.

The efficiencies of 2016 treatments are estimated to be at > 90%. Noxious weeds of highest abundance include perennial pepperweed, black henbane (*Hyoscyamus niger*), thistles, and salt cedar.

The FGNRA was treated by land with ATV/UTV/pickup/backpack sprayer units as well as treatments via Forest Service weeds jet boat on the Flaming Gorge Reservoir, Black's Fork River, Green River, and other tributaries. Forest Service weeds crew also treated many areas via land from Brinegar's to the state line. Sweetwater County Weed and Pest treated many areas (30+ sites) of the FGNRA via land with backpack sprayers, ATV, UTV, and/or pickup truck sprayer units, and via water with the Forest Service weed boat.





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Green River Russian Olive and Tamarisk Control

Project Objective: This project intends to control Russian olive and tamarisk along the Green River from Fontenelle Dam to the confluence of the Flaming Gorge. If left unchecked, these non-native invasive plants may out-compete native tree and shrub species along the Green River riparian corridor.



Partners: Project partners also include the Bureau of Reclamation, Sweetwater County Weed & Pest District, Teton Science School, U.S. Fish and Wildlife Service Seedskadee National Wildlife Refuge, and Wyoming Game & Fish Department.

2016 WLCI Contributions: No WLCI funds were distributed in 2016.



2016 Project Accomplishments: The Wyoming Game and Fish Department had a contractual agreement with the Sweetwater County Weed and Pest District that expired December 31, 2015. The WLCI agreement with the Wyoming Game and Fish Department expired in September 2016. The Wyoming Game and Fish Department is waiting for a new agreement between WLCI and the department, before initiating a new agreement with the Sweetwater Weed and Pest District. No major planning efforts have occurred without the agreements in place.

No action was taken this year due to expiration of agreements.

Kemmerer Field Office Cheatgrass

Project Objective: Cheatgrass throughout the KFO threatens winter ranges, impacts grazing, and increases the chance for a wildfire. The project has three main objectives. The first objective is to identify and map cheatgrass areas within the Kemmerer Field Office. The second objective is to prioritize areas of cheatgrass for treatment. And the third objective is to aggressively treat cheatgrass. Small areas will be treated by the KFO staff while larger ones will be treated aerially.

Partners: Other partners include the BLM Kemmerer Field Office, Lincoln County Weed and Pest District, Natural Resource Conservation Service, National Fire Plans Operating System, private landowners, and Uinta County Weed and Pest District.

2016 WLCI Contribution: WLCI did not contribute any funds to this project in 2016. However, of the \$90,000 that WLCI had contributed in the past, \$40,000 of this was used towards treatment projects in 2016.

2016 Project Accomplishments: The project treated a total of 2,453 acres of cheatgrass in 2016.



2016

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The BLM continued to work with cooperators to map, prioritize, and determine treatment areas regardless of ownership within the Kemmerer Field Office. The project aerially treated 523 acres of cheatgrass in the Bear River project area, aerially treated 893 acres of cheatgrass in the Uinta project area, aerial treated 1,037 acres in the sagebrush focal area (SFA) project area.

Perennial Pepperweed Partnership

Project Objective: The Perennial Pepperweed Partnership project intends to reduce noxious weeds within the checkerboard ownership pattern that encompasses the majority of the Overland Trail Ranch. The project area contains general sage-grouse habitat as well as year-round habitat for pronghorn and mule deer, and winter range for elk.

Partners: The project partners are the BLM Rawlins Field Office, Carbon County Weed and Pest District, and the Overland Trail Ranch.

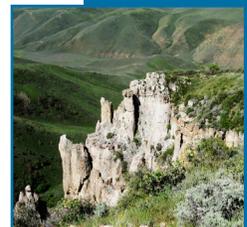
2016 WLCI Contributions: WLCI did not contribute any funds to this project in 2016. However, of the \$117,500 that WLCI had contributed in the past, \$7,500 of this was used towards treatment projects in 2016.

2016 Project Accomplishments: In 2016, the project completed 150 acres of inventory, 300 acres of monitoring, and 300 acres of treatment.

Monitoring and treatment on the western third of the ranch was completed in late July through the first week of August. The ranch did not allow access to conduct treatments on the remainder of the project this year. It is unknown whether the ranch conducted its own treatments. A buffer outside the ranch was treated to contain and prevent any infestation from spreading off the ranch. Previously treated sites are monitored by the treatment crews and noted on their application records. This is an ocular method, but works well for tracking density and extent of infestations from year to year.

Raymond Mountain Invasives

Project Objective: The primary goal of this project is to control and/or eradicate Dalmatian toadflax and Dyer's woad to improve native forage for wildlife and livestock on private lands. Herbicide application will be accomplished primarily through the use of a helicopter equipped to apply herbicide in these rugged mountain, canyon and steep inclined lands. Other applications that may be utilized will include ATV,





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backpack, and horse packs where possible on private lands. GPS information will be collected where possible, due to topography considerations, to inform mapping of weed infestations other than those being treated in this project.

Partners: This project includes the BLM Kemmerer Field Office and Lincoln County Weed & Pest District.



2016 WLCI Contributions: WLCI contributed \$10,000 to the project in 2016.

2016 Project Accomplishments: The project treated 887 acres (25 private, 862 public) in 2016.



Project planning for 2016 began in June of this year by use of on-the-ground and aerial identification of weed infestations. Spraying took place over a course of three days. Monitoring of past treatments was accomplished from the ground (25%) and by air. A drastic decrease has been noted in Dalmatian toadflax in these areas previously treated.

Sand Creek Salt Cedar Control

Project Objective: The Sand Creek Salt Cedar Control Project includes approximately 65 miles of stream bottom, and all infested reservoirs/sites within the BLM checkerboard portion of the Colorado River watershed. The primary infestation is salt cedar. Treatment consists of cutting and spraying herbicide to reduce and eliminate salt cedar plants. This area is home to wild horses, deer, elk, pronghorn, sage-grouse and many other wildlife species. Sand Creek encompasses the headwaters for many sensitive fish species. This salt cedar project directly reduces water wastage, erosion, and sedimentation, and salt loading into the Little Snake River; a tributary of the Colorado River.

Partners: Project partners are BLM Rawlins Field Office, grazing permittees, and Sweetwater County Weed & Pest District.

2016 WLCI Contributions: WLCI funded \$20,000 towards this project in 2016.

2016 Project Accomplishments: In 2016, 1,500 acres were inventoried, 482 acres were monitored, and 220 acres were treated.

Treatment and monitoring included 15 miles of Muddy Creek and its tributaries. Inventory was carried out along Muddy Creek, its tributaries, and nearby reservoirs throughout the project area. A total of 81 sites were treated and/or monitored. Of these, 24 were reported as clean. One new salt cedar infestation was reported.



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Treatments from last year continued through mid-October 2015. Chemical treatments and monitoring resumed in August 2016 and continued through mid-October (Figure 18). Treatments this year focused on the reservoirs that needed re-checking from the inventory in 2012 and 2013, and along Muddy Creek. Overall, treatment effectiveness success is high.



Figure 18. Salt cedar infestation at a reclaimed well pad; 2012 (top) and 2016 (bottom). Note skeleton of large salt cedar in the bottom photo. Photo by Carbon County Weed and Pest District.

Upper Platte Valley Weed Management Area

Project Objective: The Upper Platte Valley Weed Management Area project entails inventory, monitoring, and treatment for noxious weeds, including leafy spurge, musk thistle, Canada thistle, and spotted knapweed. Treatment consists of herbicide application and manual treatments to control weeds. One of the main goals is to prevent weed encroachment onto the adjacent Forest Service and private lands and contain weed infestations to the currently affected areas. A secondary goal is to remove or contain other noxious weeds where possible to prevent further degradation of and to improve wildlife habitat quality and livestock forage. The Upper Platte Valley area provides crucial winter and seasonal habitats for elk, deer, pronghorn, and bighorn sheep. The majority of this area falls within core habitat for the sage-grouse, is used for livestock grazing, and is heavily used for recreation and hunting.

Partners: This project is an informal partnership between the BLM Rawlins Field Office, Carbon County Weed & Pest District, and multiple land owners.

2016 WLCI Contributions: WLCI did not contribute any funds to this project in 2016. However, of the \$132,500 that WLCI had contributed in the past, \$31,535 of this was used towards treatment projects in 2016.

2016 Project Accomplishments: The project treated and monitored 500 acres – or, half of the known infestations on BLM land.

More than half of the 234 sites treated and monitored in 2016 were reported as clean. Only 3 new infestations were identified: two leafy spurge infestations in the Bennett Peak area and a houndstongue infestation found in the Encampment River Campground. Most of the 500 acres treated were in the Bennett Peak area, which



2016



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continues to have the greatest concentration of weed infestations.

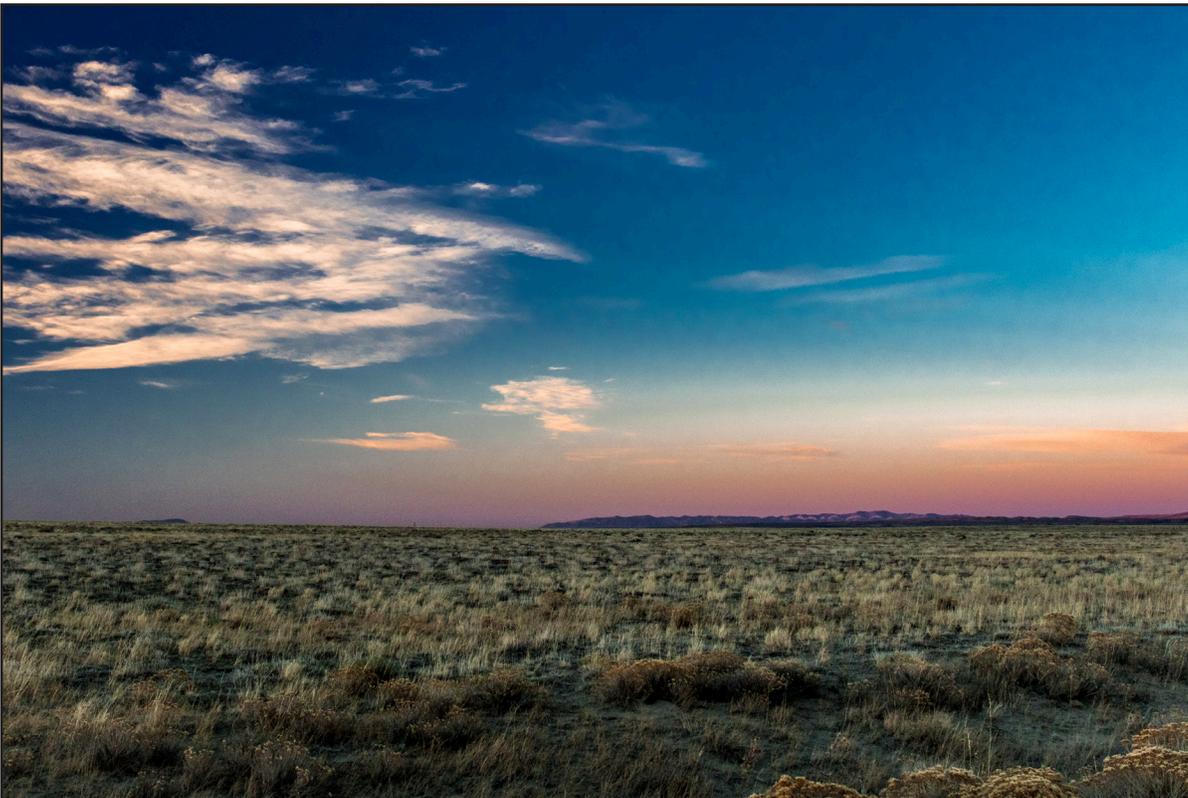
Chemical treatments, inventory, and monitoring were carried out on state, federal, and private lands in June, July, September, and October of 2016. Regularly treating this area in the past has thinned infestations to the point that aerial treatments are no longer necessary. In order to continue to reduce infestation density, on the ground infestation maintenance must continue. Treatments were also completed by the ranch owners and Carbon County Weed & Pest.





2016

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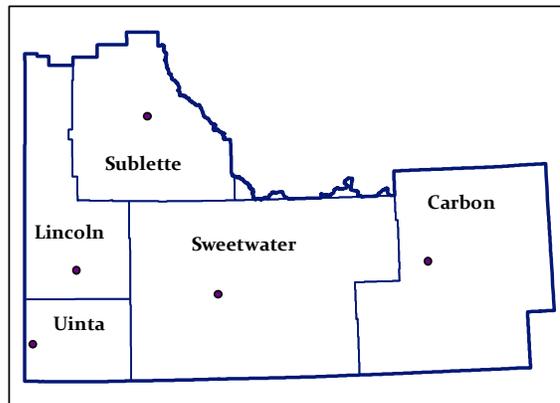
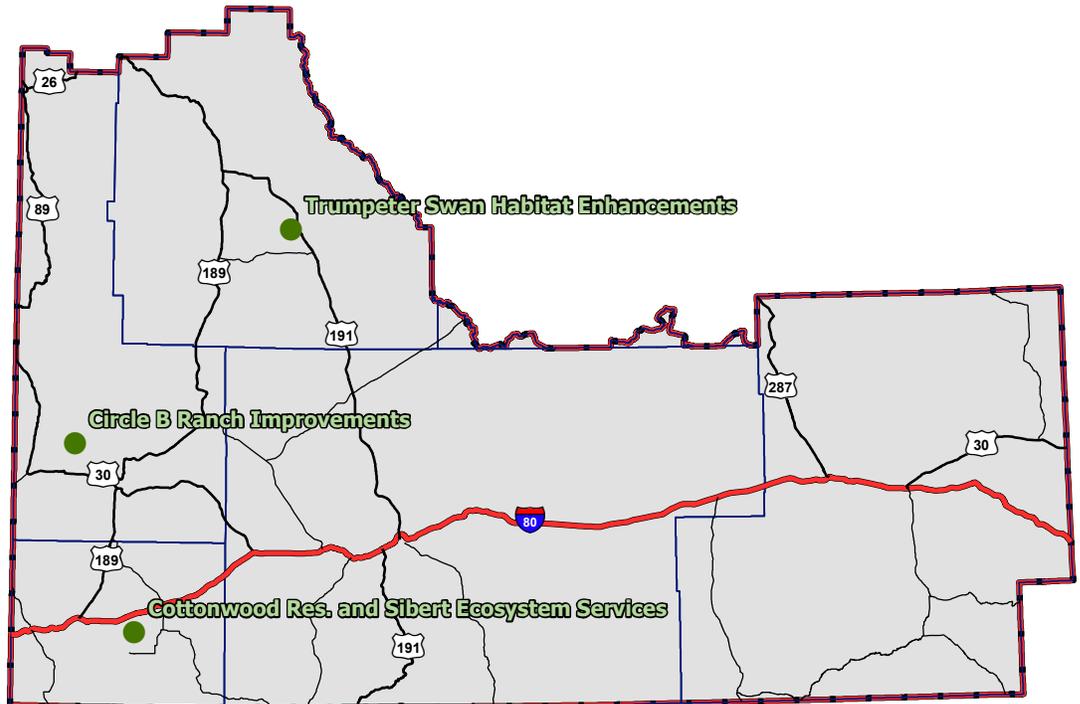
Red Rim-Daley Wildlife Habitat Management Area. Photo courtesy of BLM.



ACCOMPLISHMENTS



Re-establishing Native Riparian Plant Communities and Developing Wetlands





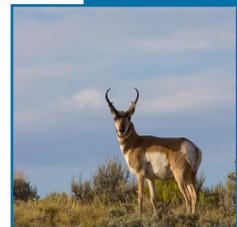
ACCOMPLISHMENTS

Re-establishing Native Riparian Plant Communities and Developing Wetlands

Riparian areas provide important functions across their entire watershed. While riparian habitats make up only a small proportion of the land, they support many invertebrate and wildlife species with food, cover, reproductive and other life stages, and support the ability to move across the landscape. Proper functioning riparian zones help control water temperature, reduce erosion and stream sedimentation, controls flooding, and recharge ground water, which in turn recharges stream flows that support many aquatic and wildlife species during dry periods. Degraded riparian areas typically have less vegetation to protect and stabilize stream banks. This results in lowered water tables reducing summer stream flows and green zones. This in turn reduces more riparian vegetation for wildlife and livestock.

The priority issues related to riparian function identified by LPDT members are: loss of vegetation and loss of connectivity of corridors; increased invasive species such as salt cedar and perennial pepperweed; increased bank erosion and stream down cutting; increased sediments; loss or degraded adjacent wetland habitats; and reduced in-stream water flows. The selection of geographic areas to address these issues were driven in part by WGF D aquatic enhancement and/or crucial priority areas identified in their strategic habitat plan. These include areas where riparian obligate species occur where species of greatest conservation needs are located. Other criteria used to select these areas include locations where issues could be comprehensively addressed at watershed scales and where there is a strong conservation need and an interest by private landowners to be involved with conservation activities or strategic locations that would benefit from habitat leasing and conservation easements. Priority treatments are designed to promote a diverse and healthy riparian vegetation community by planting native tree and shrubs, and reducing and controlling invasive plant species. These activities will connect important riparian areas with other important habitats and improve movement corridors.

While wetland habitats are somewhat limited in southwest Wyoming, they also support many species of wildlife. Many of these species are designated as wetland obligates and are often regarded as sensitive or listed as species of concern. This includes many residential and migratory bird species and amphibians. WLCI LPDT members have been implementing wetland projects to increase trumpeter swan (*Cygnus buccinator*) population numbers and habitat; enhancing and maintaining wetland water quantity and woody vegetation; improving wetland function associated with fish and riparian projects; using fencing to protect wetland vegetation, and controlling salt cedar and other invasive plant species.





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Summary of 2016 Activities



During 2016, riparian and wetland work was focused on three geographic areas. These were the Circle B Ranch Mayfield Spring Developments, Cottonwood Creek reservoir project and the Sibert Ranch in the Lincoln/Uinta LPDT area, and trumpeter swan project area, which occurs on numerous ranches in the Sublette LPDT area. Project activities included the removal of Canada thistle and other invasive plants along a creek and on several wetlands; pasture fencing to protect riparian habitats and to manage livestock; planting of willows on stream banks; repairing reservoir dykes and installation of water control structures; and monitoring of wetland vegetation and trumpeter swan use and nesting. Fencing was completed on 1448 acres. The Sibert ranch also left 75 acres (estimated to be 105 tons of extra forage) of cut and uncut sainfoin crop (similar to alfalfa) for mule deer and other wildlife using nearby wetlands in winter. Another project on private land helped construct three spring developments and three water troughs that are designed to improve habitat around springs and riparian areas. These areas were fenced to provide access to wildlife while restricting livestock to newly developed troughs.

Detailed Project Activities

Circle B Ranch and Cattle Project – Mayfield Spring Development

Project Objective: This project will benefit the landscape by allowing for the recovery of spring and riparian areas while still allowing livestock and wildlife access to water. The project will design and install catch basins, pipelines, and water troughs for livestock and wildlife. Meanwhile, fencing will be installed around the Old Cow Camp, Mayfield Cabins, and Waterhouse Canyon springs and associated riparian areas to exclude larger animals. This fencing will protect these areas from further degradation, thus allowing for their restoration.

Partners: The project is supported by the Circle B Ranch, Lincoln County Conservation District, and the Wyoming Water Development Commission.

2016 WLCI Contributions: WLCI provided \$40,000 to the project, pending the establishment of a new agreement.

2016 Project Accomplishments: Three spring developments, three water troughs, and fencing were completed.

Circle B contracted with Sunrise Engineering in September 2015 to provide engineering design for the Old Cow Camp, Mayfield Cabin and Waterhouse Canyon



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springs. The engineering design was completed in September 2016. Circle B applied for and received water rights for the Old Cow Camp, Mayfield Cabins and Waterhouse Canyon springs. Circle B and the Lincoln County Conservation District (LCCD) reviewed the bids and awarded the bid to Brett Price Excavation. Construction on the Mayfield Springs started on September 21, 2016 and completed on October 28, 2016. Inspection of the construction project was completed by Brenda Ashworth representing Circle B and Dave Kennington, Project Engineer, from Sunrise Engineering on November 11, 2016. Spring rehabilitation, trough construction, and fencing were completed as designed and detailed on the Sunrise Engineering drawings. Due to the freezing weather conditions at the time of construction, the troughs were not filled.



Cottonwood Creek Wetlands

Project Objective: This project will increase wetland habitat and improve existing wetland habitat for a variety of wetland-dependent wildlife and terrestrial game and nongame wildlife species by constructing and repairing dikes, water control structures, and a reservoir on flood-irrigated land (Figure 19).



Figure 19. Monitoring the functionality of the wetland at site 6. Photo by U.S. Fish and Wildlife Service.

Partners: Project partners include the BLM Kemmerer Field Office, Ducks Unlimited, Natural Resource Conservation Service, private landowners, U.S. Fish and Wildlife Service Partners for Fish and Wildlife, Wyoming Game and Fish Department, Wyoming Water

Development Commission, Wyoming Wildlife and Natural Resource Trust, and Uinta County Conservation District.

2016 WLCI Contributions: WLCI contributed no funds to this project in 2016.

2016 Project Accomplishments: No additional acres were completed this year as the project is still in the administrative phase.

The contractor bids were received and will be reviewed and awarded prior to construction. Work was continued on design and soliciting contractor bids for the Cottonwood Reservoir repair, which is the last part of this project. The majority of efforts were spent fulfilling Wyoming State Dam Safety requirements and requirements



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for the Wyoming Water Development Commission, who is one of the funding sources. Another significant task was securing BLM permission to construct due to an isolated 40 acre BLM inholding that will be impacted by the project.

Sibert Ecosystems Services



Project Objective: This project intends to improve native vegetation, riparian, and wetland conditions on over 1,400 acres of private lands for the benefit of southwestern Wyoming's wildlife populations. These objectives will be accomplished by engaging in cooperative monitoring, integrating the data and lessons learned into WLCI's information structure, and developing and implementing an adjustable grazing strategy that meets NRCS and WLCI desired outcomes for ecological improvements along with the property owners needs to manage a sustainable livestock operation.



Partners: Project partners also include the Natural Resource Conservation Service, private landowners, U.S. Fish and Wildlife Service Partners for Fish and Wildlife, Wyoming Department of Agriculture, and Uinta County Conservation District.

2016 WLCI Contributions: WLCI provided \$15,000 in 2016.

2016 Project Accomplishments: New fencing was installed throughout the 1,448-acre project area to facilitate the project's objective.

Invasive weed control occurred through both the application of herbicide and hand picking of invasive plants. This activity is 100% complete for 2016. Over the course of the project, invasive species have been dramatically reduced within the project area. Thistle was very abundant along the banks of the reservoir, roads, and under the pivot. During the summer of 2016, it took some effort to locate any thistle. The landowner has left 75 acres (15 acres uncut and 60 acres of regrowth) of Sainfoin (an introduced non-bloat causing legume) for mule deer and other wildlife. This breaks down to 30 tons of uncut Sainfoin, and 75 tons of (one cut) crop regrowth left in the field for wildlife use.

Improvements to all classes of vegetation (riparian, shrub, and grasses) have been achieved through the landowner's willingness to reduce his cattle herd below the recommended NRCS stocking rate. Not only has the landowner been stocking the project area with lower numbers of livestock than defined in the NRCS grazing plan, he has been doing so for shorter periods of time than what was endorsed. The landowner also has planted willow clippings along the banks of Three Mile Creek, and installed new fencing to create pastures within the 1,448 acre project area and moving/rotating livestock regularly. Spring monitoring for WLCI was completed, NRCS and employees



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from the USFWS Partners Program regularly conduct seasonal monitoring on the project area.

Swift/Sullivan Trumpeter Swan Habitat Enhancement Project

Project Objective: The objective of this project is to construct and restore shallow water wetland habitat on private lands in the Green River Basin to increase high quality summer habitat for a resident population of trumpeter swans and other waterbirds and wildlife. Shallow, open water wetland habitat is one of the rarest habitat types in southwestern Wyoming. Wetland ponds are being created that provide summer habitat and potential nesting habitat for trumpeter swan, the largest waterfowl in North America.

Partners: Partners on the project are the private landowners (Rimfire Ranch, Circle Nine Ranch, and Lazy River Ranch), U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program, Wyoming Game and Fish Department, and Wyoming Wildlife and Natural Resource Trust.

2016 WLCI Contributions: WLCI contributed no funds to this project in 2016.

2016 Project Accomplishments: The project completed 111 acres of monitoring across one wetland (20 acres), two ponds (six and 12 acres), and one reservoir (73 acres).

At the Rimfire Ranch pond location, proponents conducted three site visits and discussions with the landowner about the work needed to make the necessary repairs to have the pond function correctly. The landowner purchased a new control structure for the trumpeter swan pond which was installed late October. Additional work completed includes fortifying the dike in a few places where slumping has occurred. In fall 2016, work was completed on building up the dike at the north end of the ponds. The landowner inspected the work and is pleased with the result.

Proponent visited the Lazy River Ranch site in July to inspect the first constructed pond with the landowner and Dave Kimble of FWS Partners program, to discuss ongoing challenges with low water inflow and water retention. This year, record low flows in the New Fork River resulted in a lack of inflow to the pond mid-summer. Additional survey work was completed in August and planning is ongoing to address problems with water inflow and water retention.

Monitoring of project ponds and all existing swan nest sites in the Green River basin occurred from the air three times in early June, July and September. The WLCI wetland sites monitored from the air included: Rimfire Ranch, Lazy River Ranch (Figure 20)



2016



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and the Circle Nine Ranch ponds. Also, on September 7, ground surveys of four ponds on the Rimfire Ranch and photos at pre-established photo points were conducted.



Figure 20. Monitoring the functionality of the Homestead Pond at the Lazy River Ranch. Photo courtesy of the WGFD.



WLCI Budget for FY 2016 by Theme

Project Name	Lead Agency	Partner's Contributions 2016	BLM Funds Requested FY16	BLM FY16 Funding
Maintaining and Reconnecting Wildlife Corridors and Passages				
Circle B Ranch & Cattle Project*	LCCD	\$128,500.00	\$47,500.00	\$40,000.00
Grizzly WHMA Fence Conversion	WGFD	\$50,000.00	\$0.00	\$0.00
Rawlins Fence Conversion	BLM	\$35,000.00	\$15,000.00	\$9,000.00
Red Desert to Hoback Migration Fencing Initiative	SCCD	\$126,500.00	\$25,000.00	\$100,000.00
Red Rim-Daley WHMA Improvements*	WGFD	\$60,000.00	\$0.00	\$0.00
TOTALS		\$400,000.00	\$87,500.00	\$149,000.00

Leveraged \$2.68

Improving the Resilience and Function of Priority Habitats				
Aspen Conservation Joint Venture	LSCD	\$88,000.00	\$15,000.00	\$50,000.00
Platte Valley Mule Deer Habitat Improvement	WGFD	\$308,074.00	\$25,000.00	\$25,000.00
Rocking Chair Ranch Conservation Easement*	WGFD	\$950,000.00	\$50,000.00	\$50,000.00
Shirley Basin Sage-Grouse Habitat	MBCD	\$0.00	\$6,000.00	\$0.00
Wyoming Range Mule Deer Habitat	BLM/WGFD	\$299,080.00	\$250,000.00	\$75,000.00
TOTALS		\$1,557,154.00	\$331,000.00	\$150,000.00

Leveraged \$10.38

Maintaining, Enhancing, and Restoring Sagebrush Communities				
Bradley Peak Sage-Grouse Nesting Habitat Improvement	BLM	\$0.00	\$10,000.00	\$0.00
Boulder/Jonah Cheatgrass*	SCWPD	\$15,000.00	\$45,000.00	\$39,300.00
KFO Cheatgrass*	BLM	\$1,150,000.00	\$25,000.00	\$0.00
Red Creek Habitat Enhancement Project	BLM	\$281,200.00	\$56,000.00	\$50,000.00
Red Rim-Daley WHMA Improvements*	WGFD	\$60,000.00	\$0.00	\$0.00



Rocking Chair Ranch Conservation Easement*	WGFD	\$950,000.00	\$50,000.00	\$50,000.00
Upper Platte Valley Weed Management Area*	BLM	\$59,000.00	\$25,000.00	\$25,000.00
TOTALS		\$2,515,200.00	\$201,000.00	\$164,300.00

Leveraged \$15.31

Improving Aquatic Habitat and Distribution of Important Fish Species

Beaver Creek Diversion Improvement	TU	\$3,128.00	\$10,480.00	\$11,000.00
Bitter Creek Restoration	SWCCD	\$41,374.00	\$0.00	\$0.00
Coal Creek Stabilization	WGFD	\$119,880.00	\$0.00	\$0.00
Little Mountain Riparian & Fish Habitat Project	TU	\$143,000.00	\$65,000.00	\$65,000.00
Lower Encampment River Restoration	SERCD	\$0.00	\$0.00	\$80,000.00
TOTALS		\$307,382.00	\$75,480.00	\$156,000.00

Leveraged \$1.97

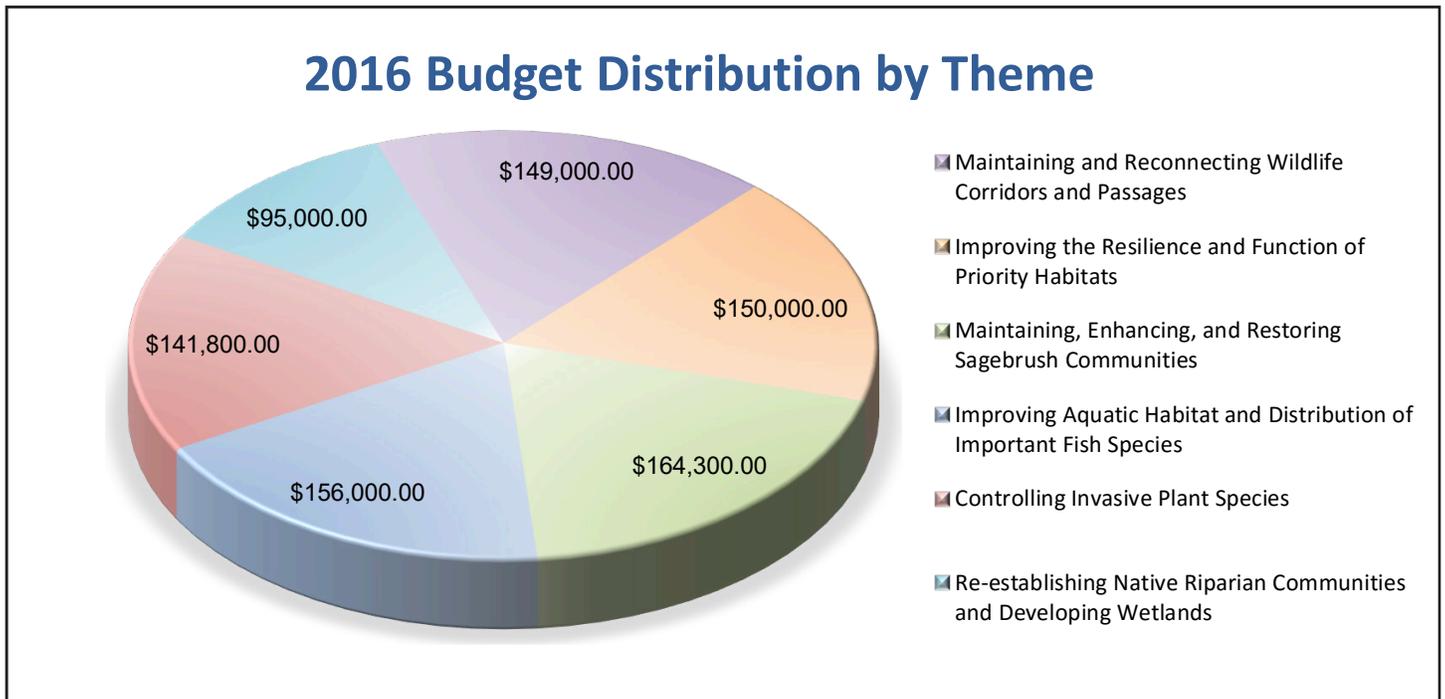
Controlling Invasive Plant Species

Blacks Fork/Muddy Creek Invasives	UCWPD	\$13,500.00	\$40,000.00	\$20,000.00
Boulder Jonah Cheatgrass*	SCWPD	\$15,000.00	\$45,000.00	\$39,300.00
Green River Russian Olive & Tamarisk Control	WGFD	\$125,000.00	\$0.00	\$0.00
Greys River Weeds	USFS	\$77,500.00	\$0.00	\$0.00
Ferris Mountain WSA Leafy Spurge Treatment	BLM	\$45,520.00	\$20,000.00	\$20,000.00
Flaming Gorge Invasives	USFS	\$6,000.00	\$0.00	\$0.00
KFO Cheatgrass*	BLM	\$1,150,000.00	\$25,000.00	\$0.00
Lincoln/Uinta Co. Noxious Weed Management	BLM	\$84,000.00	\$25,000.00	\$20,000.00
Perennial Pepperweed Partnership	BLM	\$16,500.00	\$20,000.00	\$7,500.00
Raymond Mountain Invasives	LCWPD	\$97,000.00	\$15,000.00	\$10,000.00
Sand Creek Salt Cedar Control	BLM	\$5,000.00	\$20,000.00	\$20,000.00
Upper Platte Valley Weed Management Area*	BLM	\$59,000.00	\$25,000.00	\$25,000.00
TOTALS		\$1,680,520.00	\$195,000.00	\$141,800.00

Leveraged \$11.85



Re-establishing Native Riparian Communities and Developing Wetlands				
Buckhorn Flowing Well	WLCI	\$19,000.00	\$0.00	\$0.00
Circle B Ranch & Cattle Project*	LCCD	\$128,500.00	\$47,500.00	\$40,000.00
Cottonwood Creek	USFWS	\$74,058.00	\$0.00	\$0.00
Narrow Leaf Cottonwood Stand Replacement	USFWS	\$110,000.00	\$40,000.00	\$40,000.00
Sibert Ecosystem Services	WLCI	\$15,000.00	\$10,000.00	\$15,000.00
Swift/Sullivan Trumpeter Habitat Enhancement Project	WGFD	\$107,000.00	\$0.00	\$0.00
TOTALS		\$434,558.00	\$97,500.00	\$95,000.00
Leveraged		\$4.57		





Carbon County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	BLM Funding Allocation
Aspen Conservation Joint Venture	Little Snake Conservation District	\$88,000.00	\$16,000.00	\$50,000.00
Bradley Peak Sage-Grouse Nesting Habitat Improvement	BLM	\$0.00	\$10,000.00	\$0.00
Ferris Mountain WSA Leafy Spurge Treatment	BLM	\$45,520.00	\$20,000.00	\$20,000.00
Grizzly WHMA Fence Conversion	WGFD	\$50,000.00	\$0.00	\$0.00
Lower Encampment River Restoration	Saratoga Encempment Rawlins Conservation District	\$0.00	\$0.00	\$80,000.00
Perennial Pepperweed Partnership	BLM	\$16,500.00	\$20,000.00	\$7,500.00
Platte Valley Mule Deer Habitat Improvement	WGFD	\$308,074.00	\$25,000.00	\$25,000.00
Rawlins Fence Conversion	BLM	\$35,000.00	\$15,000.00	\$9,000.00
Red Rim-Daley WHMA Improvements	WGFD	\$60,000.00	\$0.00	\$0.00
Sand Creek Salt Cedar Control	BLM	\$5,000.00	\$20,000.00	\$20,000.00
Shirley Basin Sage-Grouse Habitat	Medicine Bow Conservation District	\$0.00	\$6,000.00	\$0.00
Upper Platte Valley Weed Management Area	BLM	\$59,000.00	\$25,000.00	\$25,000.00
TOTALS		\$667,094.00	\$156,000.00	\$236,500.00



Lincoln/Uinta County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Beaver Creek Diversion Improvement	TU	\$3,128.00	\$10,480.00	\$11,000.00
Blacks Fork/Muddy Creek Invasives	Uinta County Weed & Pest District	\$0.00	\$40,000.00	\$20,000.00
Circle B Ranch and Cattle Project	LCCD	\$128,500.00	\$47,500.00	\$40,000.00
Coal Creek Stabilization	WGFD	\$119,880.00	\$0.00	\$0.00
Cottonwood Creek	USFWS	\$74,058.00	\$0.00	\$0.00
Greys River Weeds	USFS	\$77,500.00	\$0.00	\$0.00
KFO Cheatgrass	BLM	\$1,150,000.00	\$25,000.00	\$0.00
Lincoln/Uinta Co. Noxious Weed Management	BLM	\$84,000.00	\$25,000.00	\$20,000.00
Raymond Mountain Invasives	Lincoln County Weed & Pest District	\$97,000.00	\$15,000.00	\$10,000.00
Rocking Chair Ranch Conservation Easement	WGFD	\$950,000.00	\$50,000.00	\$50,000.00
Sibert Ecosystem Services	WLCI	\$75,000.00	\$75,000.00	\$15,000.00
TOTALS		\$2,699,066.00	\$222,980.00	\$166,000.00

Sublette County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Boulder/Jonah Cheatgrass	Sublette County Weed & Pest District	\$15,000.00	\$45,000.00	\$39,300.00
Red Desert to Hoback Migration Fencing Initiative	WGFD	\$126,500.00	\$25,000.00	\$100,000.00
Swift/Sullivan Trumpeter Habitat Enhancement Project	WGFD	\$107,000.00	\$0.00	\$0.00
Wyoming Range Mule Deer Habitat	BLM/WGFD	\$299,080.00	\$250,000.00	\$75,000.00
TOTALS		\$547,580.00	\$320,000.00	\$214,300.00



2016

Sweetwater County LPDT

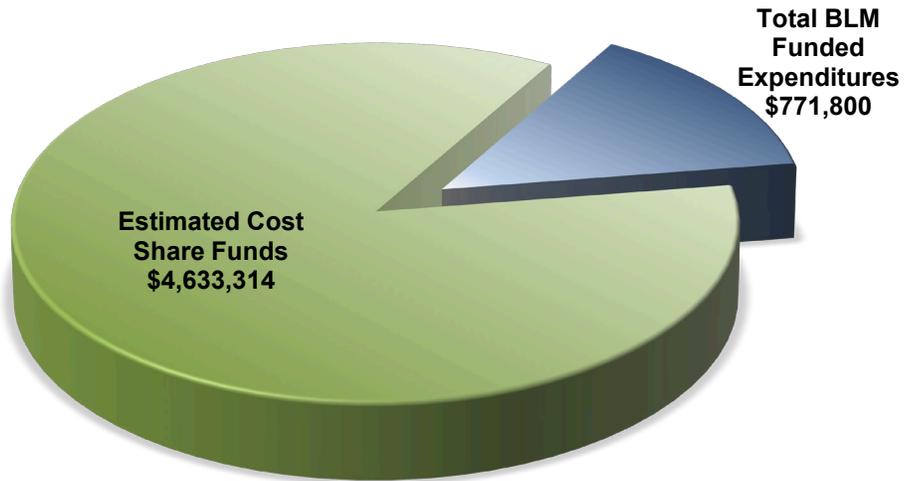
Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Bitter Creek Restoration	Sweetwater County Conservation District	\$41,374.00	\$0.00	\$0.00
Buckhorn Flowing Well	WLCI	\$19,000.00	\$0.00	\$0.00
Green River Russian Olive Treatment	WGFD	\$125,000.00	\$0.00	\$0.00
Little Mountain Riparian & Fish Habitat Project	TU	\$143,000.00	\$65,000.00	\$65,000.00
Narrow Leaf Cottonwood Stand Replacement	USFWS	\$110,000.00	\$40,000.00	\$40,000.00
Red Creek Habitat Enhancement Project	BLM	\$281,200.00	\$56,000.00	\$50,000.00
TOTALS		\$719,574.00	\$161,000.00	\$155,000.00

LPDT Totals

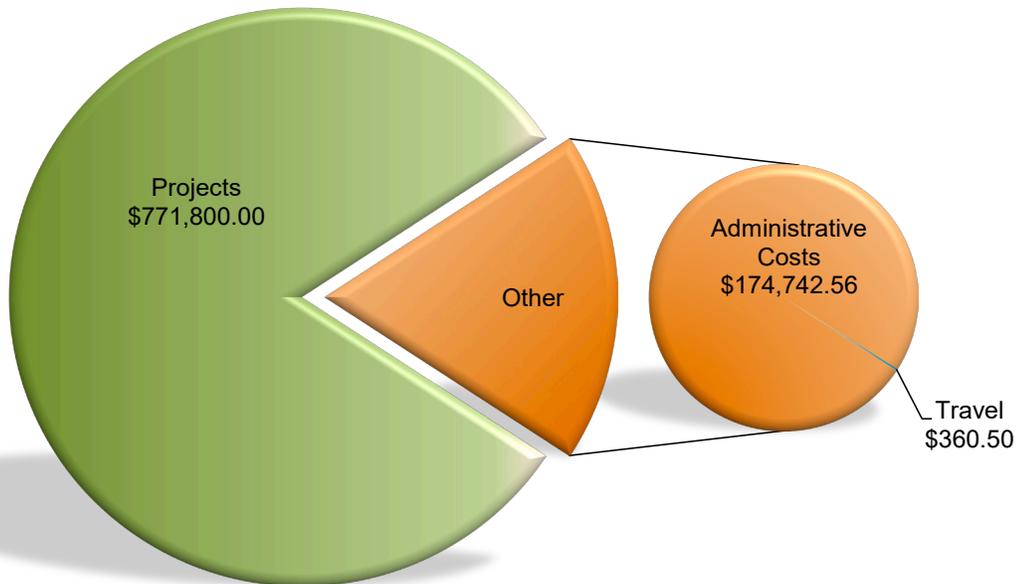
Local Project Development Teams	Leverage	Partner's Contributions 2015	Funding Request	Funding Allocation
Carbon	\$2.82	\$408,135.38	\$305,825.00	\$315,855.00
Lincoln – Uinta	\$16.26	\$150,965.53	\$170,000.00	\$110,000.00
Sublette	\$2.56	\$651,152.84	\$931,500.00	\$212,428.00
Sweetwater	\$4.64	\$2,024,870.75	\$295,000.00	\$34,000.00
Totals	\$6.00	\$4,633,314.00	\$859,980.00	\$771,800.00



\$5,901,114 - Total 2016 WLCI Project Expenditures



\$946,542.56 - Total 2016 BLM WLCI Budget





PROJECT COOPERATORS



Big Creek Ranch
 Bureau of Land Management
 Carbon County Weed and Pest District
 Circle B Ranch
 Circle Nine Ranch
 The Conservation Fund
 Currant Creek Ranch
 Denbury Energy
 Ducks Unlimited
 Exxon/Mobile
 Ferris Mountain Ranch
 Grazing Lessees and Permittees
 Greater Yellowstone Coalition
 Great Northern Landscape Conservation
 Cooperative
 Green River Valley Land Trust
 Lazy River Ranch
 Lincoln County Conservation District
 Lincoln County Weed and Pest District
 Little Snake River Conservation District
 Lone Tree Ranch
 Medicine Bow Conservation District
 Mule Deer Foundation
 Muley Fanatic Foundation
 National Fire Plans Operating Service
 Natural Resource Conservation Service
 The Nature Conservancy
 North American Wetlands Conservation Act
 Grant Program
 Office of State Lands & Investments
 Overland Trail Ranch
 Pew Charitable Trusts
 Platte Valley Habitat Partnership
 Private Landowners
 Questar Gas Company
 R & M Welding
 Rim Fire Ranch
 Rocky Mountain Elk Foundation
 Saratoga, Encampment, and Rawlins Conser-
 vation District
 Seedskadee National Wildlife Refuge
 Southern Rockies, LCC
 Sublette County Conservation District
 Sublette County Weed and Pest Dis-
 trict
 Sweetwater County Conservation
 District
 Sweetwater County Weed and Pest
 District
 Teton Science School
 Theodore Roosevelt Conservation
 Partnership
 Trout Unlimited
 Trust for Public Lands
 Uinta County Conservation District
 Uinta County Weed and Pest District
 Upper Green River Basin Sage-Grouse
 Local Working Group
 U.S. Fish and Wildlife Service – Part-
 ners for Fish and Wildlife Program
 U.S. Forest Service
 U.S. Geological Survey
 Warren Energy
 The Wilderness Society
 Western Landowners Alliance
 Wyoming Department of Agriculture
 Wyoming Game and Fish Department
 Wyoming Governor's Big Game Li-
 cense Coalition
 Wyoming Migration Initiative
 Wyoming Outdoor Council
 Wyoming Water Development Com-
 mission
 Wyoming Wildlife Federation
 Wyoming Wildlife – The Foundation
 Wyoming Wildlife and Natural Re-
 source Trust
 ZN Ranch
 47 Ranch



2016

SCIENCE SUMMARY

The U.S. Geological Survey (USGS) continued its science and web-development projects in 2016 to help WLCI partners address management questions and support conservation planning. The USGS also continued to advance the understanding of how energy development, invasive plant species, and other change agents affect wildlife populations and agricultural lands in the WLCI region. During 2016, the USGS continued or initiated work on 20 science and web-development projects and maintained the WLCI web page. Projects included efforts to inventory, monitor, and assess the historical, current, and potential future status of the region's resources in order to understand specific mechanisms that drive wildlife responses to energy development and other human activities.

The USGS initiated several new activities during 2016. The first included working with the WLCI Science and Technical Advisory Committee (STAC) to identify and prioritize new science needs. USGS will use the outcome of this exercise to guide future science studies over the next several years. USGS investigators also began a study designed to improve the understanding of how sagebrush ecosystems recover after fire. In 2016, field crews visited 24 post-fire locations documented by WLCI partners with half of the locations receiving post-fire treatments, and the other half recovering naturally.

Another effort during 2016 included the reorganization of science information on the WLCI web page. This effort will improve web page navigation and help visitors more easily access science information and science stories. Frank D'Erchia, one of the original USGS managers involved in WLCI, released a report in 2016 that documents the establishment and history of WLCI and discusses the path to WLCI's success. This report also provides insights and details that may be useful to others interested in developing similar partnerships in other locations. Finally, Steve Germaine (USGS) joined BLM in a detail position to provide additional support to the WLCI Coordination Team (CT). Steve worked with Rox Hicks (USFWS) to develop a database of external funding sources and helped the CT to develop new external funding strategies.



2016



SCIENCE SUMMARY

During 2017, WLCI will celebrate 10 years of success. In acknowledgement of this milestone, the USGS will develop new products that highlight the vast work accomplished over 10 years. The first activity will include the development of a document and briefing materials to showcase select USGS science activities and findings. The second activity involves the synthesis of existing science information conducted by the USGS and others to address select issues and questions important to WLCI partners.





TEAMS

Executive Committee (EC)

Provides guidance and decision-making authority

Scott Smith, WGFD (Chair)
Tyler Abbot, USFWS (Vice-Chair)
Astrid Martinez, NRCS
Chris Wichmann, WDA
Doug Miyamoto, WDA
John Keck, NPS
John Kilpatrick, USGS
Kent Connelly, County Commissions
Mary Jo Rugwell, BLM
Mary Thoman, Conservation Districts
Clayton Schmitz, NRCS
Dave Whittekiend, USFS
Scott Talbott, WGFD
Shaun Sims, Conservation District
Zach Bowen, USGS
Jessica Crowder, Governor's Liaison (adjunct)

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Coordination Team (CT)

Coordinates all WLCI activities and manages daily and fiscal operations

Phillip Blundell, BLM
Patrick Anderson, USGS
Justin Caudill, WDA
Rox Hicks, USFWS
Brad Rogers, USFWS
Jim Wasseen, WGFD
Doug Keinath, USFWS
Stephen Germaine, USGS

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Communications Team (CommT)

Conducts outreach about the WLCI and its work

Rebecca (Becky) Uribe, USGS
Cynthia Melcher, USGS
Anthony Brown, BLM

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agbrown@blm.gov





TEAMS

Science and Technical Advisory Committee (STAC)

Provides science and technical advice and support to WLCI teams and committees

Peter Godfrey, BLM Chair)	pgodfrey@blm.gov (Current
Bob Lanka, WGFD Chair)	bob.lanka@wyo.gov (Former
Pam Benjamin, NPS Joe Budd, WDA	pamela_benjamin@nps.gov joe.budd@wyo.gov
Jill Frankforter, USGS Rox Hicks, USFWS	jdfrankf@usgs.gov rox_rogers@fws.gov

Interagency Monitoring Team (IAMT)

Provides technical information on monitoring activities by WLCI partners

Steve Garman, USGS	slgarman@usgs.gov (Co-chair)
Dan Manier, USGS	manierd@usgs.gov (Co-chair)
Mark Goertel, BLM	mgoertel@blm.gov
Rox Hicks, FWS	rox_rogers@fws.gov
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Jim Wasseen, WGFD	jim.wasseen@wyo.gov
Joe Budd, WDA	joe.budd@wyo.gov

Support Team (ST)

Provides information and support to the CT and LPDTs to facilitate conservation actions

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Patrick Anderson, USGS	andersonpj@usgs.gov





TEAMS

USGS Science Team

Provides science information, expertise and integration of science to support WLCI decision making

Zack Bowen (Chair)
Cameron Aldridge
Patrick Anderson
Timothy Assal
Anna Chalfoun
Geneva Chong
Jill Frankforter
Steven Garman
Stephen Germaine
Sarah Hawkins
Collin Homer
Matthew Kauffman
Daniel Manier
Cynthia Melcher
Cheryl Miller
Annika Walters
Anna Wilson

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awilson@usgs.gov

Ruby Pipeline Focus Group

Focuses on conservation actions associated with the Ruby Mitigation Fund

Focuses on conservation actions associate with the Ruby Mitigation Fund

Justin Caudill, WDA
Pat Anderson, USGS
Phillip Blundell, BLM
Ted Huss, Anadarko
Erik Norelius, BLM
Robert Peternal, Lincoln CD
Charles Rex, Permittee
Shaun Sims, Uinta CD
Mark Zornes, WGFD

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**Bureau of Land Management • Fish and Wildlife Service • Forest Service
US Geological Survey • National Park Service • Natural Resources Conservation Service
Wyoming Department of Agriculture • Wyoming Game and Fish Department
Wyoming County Commissioner Association • Southwest Wyoming Conservation Districts**