ANNUAL REPORT

2017

Wyoming Landscape Conservation Initiative

"Conserving world-class wildlife resources. Facilitating responsible development."

2017

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2017

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.

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ABOUT

The WLCI was established in February 2007 after discussions among the state and regional directors of the Bureau of Land Management, U.S. Geological Survey, 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

MEMBERS

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.

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FROM THE CHAIR

Dear Members, Cooperators, and Friends,

This past year marked the 10-year anniversary of the Wyoming Landscape Conservation Initiative, providing an opportunity to reflect upon, and appreciate, our collective accomplishments over a tremendously successful first decade! Over the past 10 years, WLCI has funded more than 100 multi-faceted projects with direct support of nearly $12,500,000 from the BLM's Healthy Lands Program ($9,590,764) and the BLM Wyoming State Office ($2,881,045). When partner-based leveraged funds are included, these projects have placed over $64,000,000 of collaborative, on-the-ground conservation in southwest Wyoming.

It is truly remarkable - and something for all WLCI partners and participants to ponder with pride - the accomplishments that have accrued since WLCI's inception in 2007. Over 190,000 acres of sagebrush habitat have been treated or protected, including water developments for improved grazing and riparian protection, conservation easements, removal of encroaching conifers, and many other activities. Over 125,000 acres of habitat have been treated to control invasive plants including removal of cheatgrass, salt cedar, leafy spurge, Canada thistle, Dalmatian toadflax, and knapweed in terrestrial habitats across the WLCI area. Nearly 2,000 acres of wetlands were enhanced or developed, and nearly seven miles of riparian habitat enhancements have been completed, including water diversion improvements, willow planting, channel stabilization, and pasture fencing. Over 27,000 acres of other priority habitat enhancements were made, including treatments to enhance aspen stands and improving mule deer movement and migration routes by converting over 300 miles of fence.

While plans to celebrate this incredible milestone were somewhat delayed, the past year has seen a lot of outreach activity by the Coordination Team that highlights WLCI's success. A few examples include: participation in the Green River Basin Landscape Conservation Design Workshop and the Wyoming Mining natural Resource Foundation Invasive Plant Workshop; organizing a field tour regarding collaborative approaches to sediment issues in an important trout fishery; reviewing and providing information used to publish an article on WLCI in Wyoming Wildlife Magazine; and participating in several agency-specific activities in close coordination with USGS, USFWS, WDA and WGFD. Several other activities are in progress to share the message of WLCI's success with leaders of the new Administration, including plans being made for a visit to Capitol Hill.

We look forward to a new year of reaching out and celebrating WLCI's 10-year success story of partner-based, on-the-ground conservation in Wyoming. We appreciate the hard work of the Coordination Team, local project development and other WLCI teams and committees, and the myriad state and local partners without whose support WLCI could not succeed.

Respectfully,

Tyler A. Abbott
WLCI Chair

INTRODUCTION

The WLCI established ecologically-based landscape priorities as part of the development of its Conservation Action Plan. Accomplishments in this report are organized by these landscape priorities, which reflect a consensus among WLCI partners developed for the WLCI Conservation Action Plan and its reflection over WLCI's 10-year history. WLCI landscape priorities are based on the conservation issues and actions necessary for long-term sustainability of Wyoming's landscapes. They are also 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.

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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 and seasonal ranges. Seasonal movement patterns and long distance migration reduces the risks from drought, harsh weather, and fire by moving to ranges 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 maintenance and management of migration corridors and seasonal ranges.

Maintaining migration and seasonal movement corridors are difficult, especially if managers do not have detailed information about the habitats associated with these corridors or specific movement patterns of pronghorn and mule deer. However, 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.

ACCOMPLISHMENTS

Summary of 2017 Activities

During 2017, four ongoing fence projects were continued to help improve mule deer and pronghorn access to seasonal ranges and long distance migration routes. Two of the ongoing fence projects focused on removing woven wire fences that were barriers to movement by mule deer and pronghorn. Over 11 miles of fence were converted to meet wildlife standards on private and public lands. One project completed five miles of fencing with sections that can be laid down during seasonal big game migrations.

Detailed Project Activities

Circle B Ranch & Cattle Project – Mayfield Fence Project

Project Objective: This project is designed to provide better management of livestock by controlling their seasonal movements between BLM, USFS and Circle B Cattle Company (Circle B) lands. A fence will be erected along 2.5 to 5 miles of 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: Bridger Teton National Forest (BTNF), BLM and WDA.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments: Circle B met with representatives of 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 BLM grazing allotments that border the BTNF. Circle B, BLM and the BTNF agreed to have the fence location 10 to 15 feet off the Forest Service property boundary on Circle B land. Circle B surveyed the Mayfield property boundaries to ensure fencing is installed on private land; and cleared the fence line along the USFS/Mayfield Boundary. The installation of five miles of fence was completed during 2017 (Figure 1).

ACCOMPLISHMENTS

Figure 1. Completed fence along the boundary of the US Forest Service and the Circle B Ranch. Photo credit Ashworth Group.

Rawlins BLM Fence Conversion

Project Objective: The objective of this project is to facilitate the movement of big game across existing allotments, ensuring that migration corridors are more easily accessed, reduce stress and energy loss, injury, and mortality. This project will achieve that day-to-day movement of animals seeking food, water, or shelter is maintained. 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 barbwire or 5-6 strand barbed wire) to those that are wildlife-friendly (e.g., 3-4 strand barbed wire). The focus of past fence conversion projects has been to the south and west of Rawlins, where the majority of fences have been converted in conjunction with willing private landowners. During 2017, we worked with permittees to provide additional labor to address lower funding levels from WLCI. This resulted in more, but smaller projects, primarily in the Bairoil and Ferris Mountain area, including areas where permittees have asked for help with fencing due to damage from elk and wild horses. In 2017, $10,000 was provided to hire a Montana Conservation Corps (MCC) crew for two weeks to assist BLM staff with fence conversions on Ferris Mountain. The boundary fence between Rawlins and Lander BLM Field Offices located north of Bairoil, was modified by permittees and BLM staff.

ACCOMPLISHMENTS

Partners: BLM, WGFD, Wyoming Wildlife and Natural Resources Trust, Sweetwater Conservancy, Private Landowners and Permittees.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments: Fence materials were purchased and organized, and coordination and project scheduling with MCC, permittees and other BLM staff was initiated. One half-mile of wire fence was replaced with wood post, rail-top, and three wire fence on the west end of Ferris Mountain, using an MCC crew and BLM staff (Figure 2). There was 2.25 miles of fence converted to BLM four wire standard design north of Bairoil, using help from three different grazing permittees and BLM staff in May.

Project Monitoring: Photos were taken before and after construction. Grants from Wyoming Wildlife Natural Resource Trust will be used to reimburse BLM costs for all fence materials, except for $300 worth of wood rails provided by WGFD due to elk damage to the fences and being converted to a rail-top design.

Figure 2. Montana Conservation Corps crew modifying old barbed and mesh wire fence to wood post, rail-top and wire fence on Ferris Mountain. Photo credit BLM.

2017

ACCOMPLISHMENTS

Red Desert to Hoback Migration Fencing Initiative

Project Objective: This project intends to connect critical big game wildlife habitats through the removal or modification of old fences to wildlife compliant fences designed to allow passage by mule deer and pronghorn. In 2014, the longest mule deer migration ever recorded in the lower 48 states was documented; connecting the Red Desert (Sweetwater County) with meadows in the Hoback basin area of Sublette County, Wyoming. Sustaining these herds' seasonal migration pathways from low-elevation winter ranges to higher-elevation summer ranges is critical. This project continues efforts by many partners to identify, inventory and modify fencing within the critical narrow passage or bottleneck lying east of the Green River on the western flank of the Wind River Range. Over 4,000 mule deer use this passageway, which coincides with a large portion of the "Path of the Pronghorn," a migration route used by pronghorn to travel between the upper Green River Basin and Grand Teton National Park for over 6,000 years. Older fences within this critical migration area were not designed for safe passage and restricted movement, a contributing factor in big game mortality, injury, and stress. In its original proposal in 2015, the Red Desert to Hoback migration collaborative identified three project priorities, and is proceeding with these, as well as others, as landowner interest and funding allows. 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 make up the Red Desert to Hoback Partnership: Greater Yellowstone Coalition, Green River Valley Land Trust, Muley Fanatics, 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.

2017 WLCI Contributions: $100,000.

2017 Project Accomplishments: All segments of Rolling Thunder ranch were successfully completed. During 2017, 7.25 miles of fence were modified for a total of 9.3 miles modified on this property.

Project Monitoring: Partners will work with WGFD to provide on the ground assessment of fence modification. However, a youth science fair project is looking at big game passage at a small-scale on Rolling Thunder ranch.

ACCOMPLISHMENTS

Red Rim Grizzly WHMA Fence Conversion

Project Objective: This project is designed to allow big game to easily move and migrate across the Red Rim Grizzly Wildlife Habitat Management Area (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.

Partners: WGFD

2017 WLCI Contribution: $8,800.

2017 Project Accomplishments: Three miles of wildlife compliant fence material was bid out and awarded to the Feed Store in Laramie. Approximately 1.5 miles of wildlife friendly fence was built during 2017.

Project Monitoring: Newly constructed fences are monitored following construction to ensure they meet wildlife friendly WGFD design specifications. Converted fences are monitored in the spring for maintenance issues following the winter, and again in summer and fall for potential damage caused by livestock or wildlife. Photos were taken before and after fence were converted and monitored for any wildlife issues. The fence that was constructed in 2016 functioned properly during 2017.

2017

ACCOMPLISHMENTS

Improving the Resilience and Function of Priority Habitats

Sagebrush steppe, aspen, and mountain shrub communities are focal habitats 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, making these plant communities more resilient to impacts from fire, invasive plant species, heavy browsing and drought conditions.

Summary of 2017 Activities:

Habitat improvements on the Wyoming Range Mule Deer Project included treatments appropriate for enhancing habitat condition in 1,115 acres of sagebrush and 1,437 acres of conifer-encroached aspen stands. Prescriptive burns were also applied to 457 acres that were slashed in 2015. Ten thousand acres of cheatgrass were treated with herbicides, and 2,519 acres of cheatgrass were handpicked by field crews.

In the Platte Valley, juniper removal treatments were implemented on 136 acres with one additional acre of juniper thinning completed. Seed collection and propagation work was initiated in the Ferris Mountain burn project area, with additional work scheduled for the coming year. In the Sierra Madres and the Little Snake River basin, 23 acres of aspen were treated by shallow soil ripping with a D8 Caterpillar bulldozer. This technique stimulates the roots to sprout stems. Six hundred and seventy one acres of juniper were mechanically masticated or cut down on mule deer winter range and 72

acres of mixed mountain shrub communities mechanically treated to stimulate shrub growth and to improve shrub structure.

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 aesthetic values of aspen communities; (5) restored crucial winter ranges for mule deer; (6) reduction in threats from invasive plant species; and (7) improved wet meadow habitats for sage-grouse.

Partners: Little Snake River Conservation District, Baggs Mule Deer Working Group and BLM.

2017 WLCI Contributions: $24,000.

2017 Project Accomplishments: Project Planning included (1) meeting with Baggs Mule Deer Working Group to coordinate habitat treatments and priorities consistent with Baggs Mule Deer Habitat Plan; (2) conducting field tour with the BLM Juniper treatment ID team to review proposed juniper treatment locations and a scope of work on BLM lands; and (3) leading project development and coordination with partnering organization for the pilot project to address sagebrush and wet meadow habitat management for sage-grouse and other sage-wet meadow dependent species. During 2017, 23 acres of aspen by shallow soil ripping with a D8 Caterpillar bulldozer. Mechanical mastication and cutting was employed on 671 acres of juniper on mule deer winter range (Figures 3 and 4); and mechanical mastication occurred on 72 acres of decadent mixed mountain shrub communities.

Project Monitoring: Established and initiated project photo-points.

Bradley Peak Sage-Grouse Nesting Habitat Improvement

Project Objective: We removed encroached conifers from identified mountain big sagebrush communities, south and east of Bradley Peak, that are considered suitable for grouse nesting habitat. However, the project area may not actually be suitable for nesting grouse, due to the abundance of junipers that now extend into the sagebrush

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Figure 3. Photo depicts the mechanical mastication of junipers. Photo courtesy of Little Snake River Conservation District.

Figure 4. The mechanical mastication of the junipers leaves a layer of mulch to impede unwanted herbaceous vegetation, and help retain moisture for desirable shrub communities. Photo courtesy of Little Snake River Conservation District.

habitat. Recent scientific studies suggest sage-grouse avoid these juniper-converted habitats during all life stages. This project proposes to remove encroached junipers from sage grouse nesting habitat within a 1,542 acre project area. The project is designed to improve Greater Sage-grouse nesting habitat and to decrease predatory bird species perching areas. The proposed project would include the removal of confers with the use of chainsaws. Identified trees would be cut down and any standing biomass (i.e. limbs) reduced to a height similar to that of the surrounding shrub community.

Partners: BLM, Saratoga Encampment Rawlins Conservation District and WGFD.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments & Implementation: Due to unforeseen contracting issues, work was delayed until 2018.

Ferris Mountain Prescribed Burn

Project Objective: The Ferris Mountain project area consists of mainly timbered slopes, interspersed with upland areas dominated by sagebrush, grass, and mountain shrub communities. Timber stands within the project unit consist of Douglas fir, subalpine fir, spruce, lodgepole pine, limber pine and aspen, in addition to scattered locations of Rocky Mountain juniper. Long-term suppression of wildfires has promoted the encroachment of conifers into shrublands, aspen stands, and drainages supporting aspen, water birch, and willows, to the point where many of these communities are not functioning appropriately. Disease is commonly observed in terms of mistletoe, blister rust and bleeding rust, and pine beetles have killed many of the older trees, particularly the pines. Aspen health was a focus of recent watershed assessments, since it now occupies less than 10% of the habitat compared to the early 1900's.

This project is designed to be compatible with future reintroductions of bighorn sheep, help achieve population objectives for mule deer, improve streamflows and trout fisheries on and away from the mountain, and improve habitat diversity benefiting all wildlife species. A secondary benefit would be increased forage production and increased availability of water.
The original Environmental Assessment described the eastern third of the mountain as the Phase I area with an objective to burn 40-70 percent of the 42,000-acre project area (i.e., the entire Ferris Mountain). A managed wildfire in 2011 and a wildfire in 2012 resulted in 10,000 acres burned on the eastern and southeastern portions of the mountain. Monitoring has shown good recovery of understory vegetation following these burn events, which has led to the development of the Phase II prescribed

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burn. The burn objective is to effectively burn 3,400 to 6,200 acres of the 9,000-acre perimeter of the project area.

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.

2017 WLCI Contribution: Grants totaling $150,000 were awarded by five different groups in support of the prescribed burn and post-burn weed treatments if needed. The BLM Rawlins Field Office (RFO) forester is working with the Rocky Mountain Experiment Station and a University of Minnesota professor who are interested in limber pine and the Ferris Mountain project in general. WLCI funds were used to fund two activities. The first activity ($10,000) is to collect limber pine seeds and the second activity ($40,000) covers the germination and growing of seedlings at a government tree nursery in Idaho. These seedling trees will be replanted on Ferris Mountain as part of the mitigation strategy for conducting prescribed burns on the mountain, since limber pine is identified as a State Sensitive species.

2017 Project Accomplishments & Implementation: Two field tours with the BLM Rawlins field manager and fire staff were completed to discuss prescription and control issues, as well as the values of Greater Sage-grouse, limber pine and the Ferris Mountain Wilderness Study Area. Field visits also occurred with other BLM field staff and a forester with the State of Wyoming. Agreements that allow prescribed burning of private and state lands within the project boundary were also completed. The Environmental Assessment was initiated and should be completed during the 2017-18 winter season. Due to the difficulty in compliance with the BLM state limber pine policy, WLCI funding was placed towards seed collection and growing seedlings at a nursery to replant limber pine on Ferris Mountain in 2-3 years. There was no line preparation or initiation of burning this year.

Project Monitoring: Several weeks were spent by BLM staff to monitor the vegetation recovery of the 2011 and 2012 wildfires. In addition, the forestry, range and wildlife staff spent 1-2 months putting new monitoring in place for the Phase II project.

Platte Valley Conifer Encroachment

Project Objective: The project will improve big game habitat by treating vegetation on critical habitats. A lack of disturbance to the vegetation on the subject area from aggressive fire suppression has led to significant portions of the habitat being in post-mature conditions. These conditions are typified by large amounts of dead shrubs,

limited regeneration of sagebrush species, reduced understory herbaceous vegetation, remnant and dying aspen clones, and significant conifer encroachment into shrub and aspen stands and riparian areas. The proposed project will provide disturbance that mimics natural fire by removing encroaching conifer species from upland mixed mountain shrub stands, aspen stands and riparian corridors. The project area is utilized by big game (bighorn sheep, mule deer, elk, moose) for extremely important transitional habitat and migration corridors from summer to crucial winter ranges. Additionally, much of the riparian and aspen habitat in the project area serves as important big game parturition areas and core habitat for Greater Sage-grouse, which limits the type of treatments that are practical (e.g., prescribed fire).

Partners: Saratoga Encampment Rawlins Conservation District, Carbon County Weed and Pest District, Platte Valley Mule Deer Initiative and WGFD.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments & Implementation: This is part of a BLM multi-year project, which implements or compliments projects in the overall area. It has been active for over 10 years and includes plans that will likely continue for another decade. The BLM contracted with the MCC's for a third season to lop and scatter 136 acres of juniper encroached lands and completed an acre of thinning and an acre of piling. The more labor intensive thin/pile labor has been completed by BLM fuels and engine crews when they were not committed to fires. The noxious/invasive weed treatments were completed by Carbon County Weed and Pest and were concentrated on areas previously treated by cut/pile/pile-burns, in order to address noxious species that were already present on the units and increased by these activities.

Platte Valley Mule Deer Habitat Initiative

Project Objective: This project is designed to implement large-scale mule deer habitat improvements within high-use, seasonal ranges throughout the Platte Valley. This will be accomplished through fencing, spring developments, sagebrush mowing, herbicide treatments and a whole host of other activities to improve habitats for mule deer, livestock, and other wildlife species. 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: BLM Rawlins Field Office, Mule Deer Foundation, private landowners (including the Big Creek Ranch and ZN Ranch), Saratoga Encampment River Conservation District, USFS, WGFD, Platte Valley Habitat Partnership and Wyoming

ACCOMPLISHMENTS

Wildlife and Natural Resource Trust.

2017 WLCI Contribution: $0

2017 Project Accomplishments & Implementation: Spring developments were to occur in 2017, on the Big Creek Ranch. However, the requirements for a funding request were delayed. The Big Creek Springs project has been pushed back until next spring. The project consists of three spring developments and a well. The developments will allow for the protection of a natural spring and the associated riparian area that has become over-utilized by cattle. By diverting some of the water to more upland habitats and protecting the spring at the source, livestock use will be more evenly distributed throughout the pasture and benefit wildlife with a healthier riparian system.

Wyoming Range Mule Deer Habitat Improvements

Project Objective: The purpose of this 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 and stand structure, seed production and regeneration. Forb diversity and biomass is also expected to increase, as well as grass diversity and percent composition, and aspen regeneration. This project supports the Pinedale RMP objective to maintain and enhance big game habitats. In particular, this project addresses declining mule deer habitat conditions and supports big game populations at WGFD planning objective levels.

Partners: WGFD, BLM, Bridger Teton National Forest, private landowners and permittees.

2017 WLCI Contribution: WLCI provided $50,000 toward the project this year; however, these funds were not utilized.

2017 Project Accomplishments & Implementation: Approximately 1,115 acres of sagebrush were treated, as well as 1,437 acres of conifer encroached aspen. We completed a prescribed burned on 457 acres that were slashed in 2015 (Figure 5). Ten thousand acres of cheatgrass were also treated with 2,519 acres being handpicked by field crews. Two range riders were hired to assist with resting the previously treated areas from livestock use.

Project Monitoring: Pretreatment vegetation monitoring occurred at sites that will be treated later. Post treatment monitoring was conducted on old sites treated in 2016 (Figures 6 & 7).

ACCOMPLISHMENTS

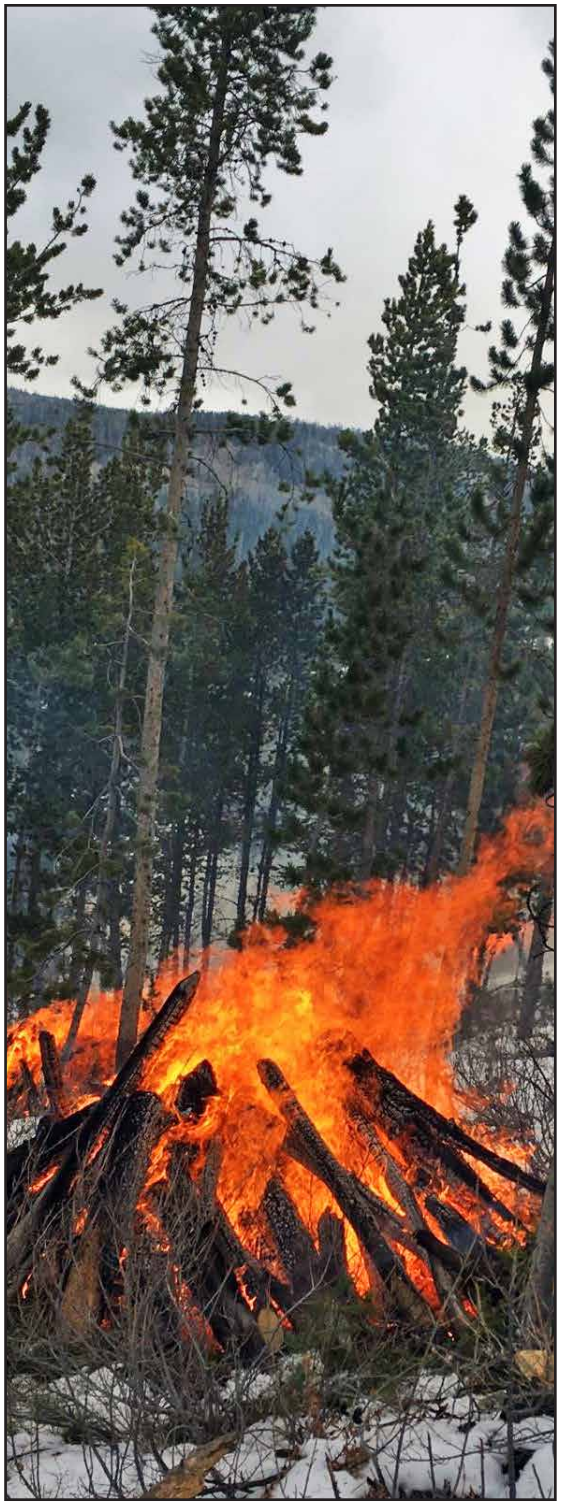

Figure 5. Slash piles burned to improve aspen regeneration. Photo courtesy WGFD.

Figure 6. Seedling sagebrush responding to favorable growing conditions one year post mowing in the Little Colorado Desert. Photo courtesy WGFD.

Figure 7. Overall excellent herbaceous response to sagebrush mowing three years post treatment located west of Fontenelle Reservoir. Photo courtesy WGFD.

ACCOMPLISHMENTS

Maintaining, Enhancing, and Restoring Sagebrush Communities

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 spends either their entire life or at least one critical season (e.g., breeding, winter) in sagebrush habitats.

Within WLCI, the WGFD 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 LPDTs, then evaluates each proposal based on merit in the form of acres treated and direct benefit to the target resource or species.

Summary of 2017 Activities:

Ongoing projects designed to maintain or improve the quality of sagebrush habitat include dispersing livestock grazing pressure away from springs and riparian areas, removing junipers from sagebrush communities, and treating numerous acres of cheatgrass, leafy spurge and other invasive plant species. A spring development and water trough were completed. Fencing to enclose springs and riparian areas were also completed. Cheatgrass treatments were applied to 1,697 acres in the Boulder area, with an additional 20,000 acres treated by project partners. Cheatgrass treatments also occurred on 2,453 acres in the Kemmerer Field Office area, with an additional 1 million acres aerially mapped for future treatment. Leafy spurge, thistle, and spotted knapweed treatments were treated on 500 acres on the Upper Platte Valley weed management project, and 100 acres of fir and juniper removal treatments were completed on the Red Creek Habitat Enhancement project.

ACCOMPLISHMENTS

Detailed Project Activities

Boulder Cheatgrass

Project Objective: The Boulder cheatgrass project is an integral component in the Boulder area associated with the Sublette County Invasive Species Task Force effort. This area is critical wildlife habitat for Elk, Mule Deer, Antelope, the Greater Sage Grouse and many other species. The habitat here is both transitional range and year-round habitat for numerous species. The goal of the project is to utilize WLCI funds to find matching and put 100% of this money on the ground for management of cheatgrass.

Partners: Sublette County Weed and Pest District (SCWPD), Natural Resources Conservation Services Sage-grouse Initiative, BLM, Bridger Teton National Forest, WGFD, private landowners and permittees.

2017 WLCI Contributions: $54,300.

2017 Project Accomplishments & Implementation: The Task Force meets in person and via email to prioritize treatments based on management plans. This year WLCI funds were leveraged with several other groups to broaden the project and included Rimsulfuron as another tool, which was approved by the BLM. The Boulder Cheatgrass project has been a great collaborative process and has led to a demonstration project and the initiation of a notice of intent to start the EIS process towards investigating the use of aerial application with the Bridger Teton National Forest. This year with WLCI funds of $54,300 ($45,000 and $9,300 remaining from 2016) 1,697 acres were treated. With additional funding from the Upper Green River Basin Sage Grouse Local Work Group, Wyoming Range Mule Deer, BLM and NRCS SGI Program participation, the Office of State Lands and Investment and private participation, nearly 20,000 acres of cheatgrass were treated, including many roads and two tracks.

Project Monitoring: The permanent transects and photo points are collaboratively monitored each year between the WGFD, SCWPD and NRCS.

Project Outreach & Partnerships: The SCWPD continues its outreach program with private landowners to connect them with several projects with the NRCS Sage Grouse Initiative to help them qualify for funding of private lands. The Sublette County Invasive Species Task Force continues to add partners, which helps to combine dollars and get more work accomplished in Sublette County and the Pinedale Field Office.

ACCOMPLISHMENTS

Bradley Peak Sage-Grouse Nesting Habitat Improvement

Project Objective: The objective of this project is to remove conifers that have expanded into mountain sagebrush communities, south and east of Bradley Peak. This area is suitable for sage-grouse nesting habitat. The majority of the project area is suitable as core grouse habitat. However, encroached conifers make it unlikely that sage-grouse are nesting in the project area. Recent scientific studies suggest grouse typically avoid sagebrush with encroached conifers during all life stages.

The proposed project includes the removal of conifers from suitable grouse nesting habitat within a 1,542-acre project area. Removal of the conifers should reduce perching areas used by predatory bird species. Conifers will be removed with chainsaws and remaining stems and branches cut to a height that is similar in height to the surrounding shrub community.

Partners: BLM, Saratoga Encampment Rawlins Conservation District and WGFD.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments & Implementation: Due to unforeseen contracting issues, this project was delayed during 2017.

Circle B Ranch Mayfield Springs

Project Objective: The objectives of this project are to benefit the mesic areas near sagebrush by allowing for the recovery of spring and riparian areas while still allowing livestock and wildlife access to water. The objectives of this project is to design and install catch basins, pipelines and water troughs for livestock and wildlife; provide spring and riparian fencing to exclude livestock and protect/restore spring and riparian habitats at the Old Cow Camp, Mayfield Cabins and Waterhouse Canyon springs.

Partners: Circle B Ranch and Cattle, Lincoln County Conservation District, Wyoming Water Development Commission (WWDC) and WDA.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments & Implementation: Circle B participated in the WWDC Level One study for the area, which made the ranch eligible for additional funding through their program. Circle B collaborated with Lincoln Conservation District to apply for WWDC funding, which was later granted. The funds received through the WWDC are being used to match WLCI funding. Circle B contracted with Sunrise

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Engineering to provide engineering design for the Old Cow Camp, Mayfield Cabin and Waterhouse Canyon springs. Their designs were 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 hired USU Archeology Services to conduct archeology surveys of the three springs, which were conducted in June 2016. Bid documents were advertised in July 2016. Two bids were received. Circle B and Lincoln County Conservation District reviewed the bids and awarded the bid to Brett Price Excavation. The Circle B Ranch completed spring development/restoration and riparian area protection on Circle B Mayfield property for livestock and wildlife. The effort included installing catch basins, pipelines and water troughs for livestock and wildlife; providing spring and riparian fencing to exclude livestock; and protecting and restoring spring and riparian habitats at the Old Cow Camp (Figures 8 & 9), Mayfield Cabins and Waterhouse Canyon springs. Spring rehabilitation, trough construction and placement, and fencing were completed as designed. During the winter, valves at the springs are turned off and water flows into the natural drainage.

Figure 8. Spring at Old Cow Camp before improvements. Photograph courtesy of the Ashworth Group.

Figure 9. Spring at Old Cow Camp after improvements. Photograph courtesy of the Ashworth Group.

ACCOMPLISHMENTS

Kemmerer Field Office Cheatgrass Control

Project Objective: Cheatgrass throughout the BLM Kemmerer Field Office (KFO) threatens winter ranges, impacts grazing, and increases the chance for a wildfire. This project has three main objectives: (1) to identify and map cheatgrass areas within the KFO; (2) to prioritize areas of cheatgrass for treatments; and (3) to treat and control or eradicate cheatgrass in small localized areas. Large areas with cheatgrass will be aerially treated by KFO.

Partners: BLM, Lincoln and Uinta County Weed and Pest Districts, Natural Resource Conservation Services and private landowners.

2017 WLCI Contribution: $40,000.

2017 Project Accomplishments & Implementation: The BLM continued to collaborate with Uinta County Weed and Pest, Lincoln County Weed and Pest, private landowners and the NRCS to map, prioritize and determine treatment areas regardless of ownership within the KFO. We aerially treated 523 acres of cheatgrass in the Bear River project area, 893 acres of cheatgrass in the Uinta project area, and 1,037 acres in the SFA project area. We also mapped 1,000,000 acres to target future treatments.

Red Creek Habitat Enhancement

Project Objective: The Red Creek Enhancement project is a continuation of efforts to protect, maintain and enhance ecosystems within the Little Mountain and Pine Mountain areas. Historically the Little Mountain Ecosystem Area has shown its resilience during and after wildfire events. However, the exclusion of fire 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. As these conifers mature, their seed mast carries into the surrounding areas. As a result, understory herbaceous species and sagebrush communities continue to decline. This shift of vegetative composition can result in erosion, reduced seasonal stream flows, reduction of forage, loss of habitat, introduction of invasive species, and increased risk of uncharacteristic fire behavior.

Partners: BLM, Muley Fanatics Foundation, Rocky Mountain Elk Foundation, Wyoming Wildlife and Natural Resources Trust, WGFD.

2017 WLCI Contribution: $7,872.25

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2017 Project Accomplishments & Implementation: The BLM fire staff treated 100 acres of fir and juniper. Most subalpine fir lop and scatter (Figure 10) was performed on BLM land, while horizontal juniper thinning was performed on Wyoming state land. Due to the severity of the fire season and timing of dates of when Little Red Creek was accessible, minimal work was accomplished. Other projects within The Red Creek Enhancement project are still in the NEPA phase.

Figure 10. Aspen stands benefit from subalpine fir cuttings. Photo courtesy of the BLM.

Upper Platte Valley Weed Management

Project Objective: This project includes the inventory, monitoring and treatment for noxious weeds, mainly 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 USFS and private lands and restrict weed infestation to the currently affected landscape. A secondary goal is to remove or contain other noxious weeds where possible to prevent further degradation of and improve wildlife habitat quality and livestock forage. The Upper Platte Valley area provides crucial winter habitat and seasonal habitat for elk, deer, antelope and bighorn sheep. The majority of this area

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falls within core habitat for the Greater Sage-grouse, is used for livestock grazing, and is heavily used for recreation and hunting. This project is an informal partnership between the BLM, WLCI, Carbon County Weed & Pest District, and multiple landowners. Each landowner conducts treatments on their private lands.

Partners: BLM and private landowners.

2017 WLCI Contribution: $25,000.

2017 Project Accomplishments & Implementation: NEPA was completed for this project previously. The ranch owners were contacted to discuss treatment priority areas and where to access the property. Contractors were hired through the Carbon County Weed & Pest District via BLM Cooperative Agreement. Inventory for weeds, chemical treatments of known and new infestations, and monitoring of past treatments were carried out on state, federal, and private lands in June, July, September and October of 2017. During 2017, 500 acres were treated on federal lands. Not all of the acreage treated on private lands was reported. Treatments conducted in the Encampment River Campground and Miner Creek area were completed by BLM staff. Regularly treating this area in the past has thinned infestations to the point that the majority of locations do not need aerial treatments. 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.

Project Monitoring: In 2017, three quarters of the known infestations (500 acres) on BLM land were monitored. Only two new leafy spurge infestations were identified within the Bennett Peak area. Most of the treatments conducted were in the Bennett Peak area, which continues to have the greatest concentration of known weed infestation sites.

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Improving Aquatic Habitat and Improving the Distribution of Native Fish Assemblages

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*).

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 2017 Activities

During 2017, WLCI partners moved forward on planning, permitting and design-related issues on the Coal Creek stabilization, Blue Bell diversion, Bitter Creek restoration, and on three related projects in the Little Mountain area. The remaining rock needed to complete the improvement of the Blue Bell diversion was delivered, and the diversion structure was completed. Passage for Colorado cutthroat trout and other fish, stream function, bank stability and water quality will be monitored beginning this year. In the lower Encampment River, maintenance continued on the Richardson Bank Stabilization to repair flood related damage that occurred in 2017. Above the Highway 230 bridge in Riverside, 1,200 linear feet of wild trout habitat improvements were implemented. This included modifying channel dimensions and alignment, installing grade control and streambank protection structures, and seeding willows and other native riparian seed types along new bank structures. At Little Mountain, the Currant

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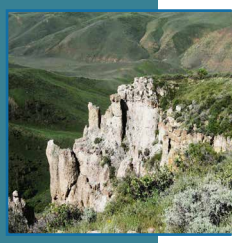

Creek Ranch culvert was replaced with a railroad car bridge, reconnecting 14 miles of fish habitat; Gooseberry and Trout Creek fencing projects were completed, each protecting 1 acre of riparian area along 600 feet of each stream.

Detailed Project Activities

Coal Creek Stabilization

Project Objective: This project will address stream channel instability, fish passage and road access issues in the Thomas Fork watershed on BLM, state and private lands. Phase I in Fall 2015 completed culvert installation and improved fish passage at two sites on Coal and Little Muddy creeks. Completion of phase II of this project will occur in the summer of 2018 will complete the instream and road drainage work for this project

Partners: WGFD, BLM, private landowners and permittees.

2017 WLCI Contribution: $82,500.

2017 Project Accomplishments & Implementation: In 2017, several design revisions (Figure 11) and permitting activities were completed that will both save the project money long term, as well as allow the smooth completion of the implementation in Summer 2018. Project implementation of phase II of the project will occur in summer 2018.

Project Monitoring: Pre-implementation Bank Assessment for Non-Point Source Consequences of Sediment monitoring was completed in summer 2017 to document sediment contributions from project banks that will be addressed in 2018.

Blue Bell Diversion

Project Objective: The Blue Bell diversion is one of the largest push-up dams on the Henry's Fork River. The landowner has to restructure the dam several times during the year, usually in the spring and early summer. Restructuring involves operating large equipment in the river, often during spring run-off and critical native fish spawning periods. If river flows are low, the Blue Bell dam becomes a seasonal fish barrier. Improving this diversion will allow CRC to access habitat needed during different life history stages and will promote connectivity between populations, thereby improving genetic integrity and the likelihood of persistence.

The objectives of this project are to improve the current diversion to a fish friendly

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Figure 11. Several meetings with project partners and engineers on the Coal Creek project helped to refine designs and prioritize sites for construction in 2018. Photo courtesy WGFD.

structure and reduce head-cuts and erosion around the diversion. The desired outcomes of this project include (1) reconnecting populations of Colorado River Cutthroat Trout and other native fishes during critical times of the year, (2) providing producers with a low-maintenance and more efficient irrigation system, and (3) promoting better stream function, increasing bank stability, and improving water quality.

Partners: Trout Unlimited, WGFD, Wyoming Wildlife and Natural Resources Trust, Walton Foundation, National Fish and Wildlife Foundation, and private landowners.

2017 WLCI Contribution: $0.00. Funds will be expended in federal Fiscal Year 2018.

2017 Project Accomplishments & Implementation: Final designs were completed October 2017. Some rock was mobilized December 2016 but not completed due to extreme weather conditions. Project was delayed until Fall 2017. The remaining rock was hauled on-site November 2017 and project was completed in December 2017.

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Project Monitoring: WGFD and Trout Unlimited electroshocked Burnt Fork Creek October 2017 and will continue to monitor the area after the project is complete.

Bitter Creek Restoration

Project Objective: The Sweetwater County Conservation District (SWCCD) along with agency and funding partners are constructing a new structure to stabilize ongoing downcutting of Bitter Creek. The new structure will help improve water quality, riparian habitats, and serve as a fish barrier to protect the native flannel mouth sucker. Stabilizing the head cut will protect water availability for all users and prevent further erosion. The project also helps to raise awareness about the importance of water quality, erosion, flooding concerns, and uses. The project continues to move forward despite weather related and contractor setbacks. Construction continued through 2017.

Partners: SWCCD, Little Snake River Conservation District, Wyoming Department of Environmental Quality, Desert Fish Habitat Partnership, Wyoming Wildlife and Natural Resources Trust, Sweetwater County, and BLM.

2017 WLCI Contribution: $139,598.76.

2017 Project Accomplishments & Implementation: Various work sessions and conference calls between the SWCCD Board, contractor, engineer, COE, WDA and BLM have taken place over the course of the past year. The District and their engineer are currently working together on cost estimates for the project completion and the project repair to the property (due to large amounts of runoff water from storm events). Numerous site visits with Corp of Engineer, Little Snake River Conservation District, SWCCD Board, Wyoming Department of Agriculture and BLM have taken place. The contractor began work in the Fall 2016. Subsequently, Bitter Creek began to headcut due to late fall/winter 2017-18 storm events. The contractor dug a diversion ditch to allow water to bypass the structure (Figure 12), until the flows subsided and a new plan could be implemented. The contractor and the District were unable to reach a mediation of the project and the contract was terminated. The BLM Wyoming State Office completed a drone fly-over of the 20-acre parcel and construction of the drop structure site. The SWCCD Engineer completed analysis of the creek reroute options. The first step includes finishing the drop structure, stilling basin, and removing the temporary road within the channel. The second step will redirect Bitter Creek flows to the new drop structure and line the creek channel.

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Figure 12. Bitter Creek Diversion Ditch conveying high water affecting the construction site. Photo credit SWCCD.

Project Monitoring: Michael Brown from Inberg Miller Engineers is monitoring the project. The SWCCD Board has hired Brown as project manager to oversee the project. Site visits are on-going by the SWCCD Board, WDA, WDEQ, Sweetwater County and BLM.

Lower Encampment River Restoration

Project Objective: River restoration and fish passage efforts started in the Encampment River drainage in 2007 and have steadily increased over the past few years. The restoration is located within two priority habitat areas as identified by WGFD's Strategic Habitat Plan. The WGFD manages the Encampment River for wild trout (rainbow trout, brown trout, and brook trout), and it is considered an economically important blue ribbon trout fishery. The Lower Encampment River is highly unstable with long stretches of bank erosion, extensive mid-channel and transverse bar development, and channel degradation and aggradation. Several irrigation diversions have also been identified as barriers to fish movement. Project objectives includes: (1) establishing a stable river course, enabling the channel to adequately route sediment and improve stream connectivity and water quality for aquatic species; (2) providing irrigation water delivery to ranchers; (3) improving streambank stability by decreasing the channel width/depth ratio; (4) improving channel pattern, increasing fish spawning

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success, and juvenile rearing and adult refuge habitat, especially during periods of low flow; (5) decreasing adjacent land loss from excessive erosion; (6) implementing riparian fencing where applicable; (7) increasing habitat for mammals, birds and amphibians; (8) improving public safety by establishing a single-channel watercourse; and (9) fostering pride and ownership of the Encampment River through collaboration, education and multimedia.

A combination of engineered channel restoration, bank stabilization, riparian fencing, and replacement of temporary push-up irrigation structures are enabling project partners to meet the stated objectives for the Lower Encampment River.

Partners: Saratoga, Encampment, and Rawlins Conservation District; WGFD; Trout Unlimited, BLM; Wyoming Wildlife and Natural Resource Trust; Wyoming Governor's Big Game Coalition; BRCS; USFS; and private landowners.

2017 WLCI Contribution: $10,000.

2017 Project Accomplishments & Implementation: Planning efforts included NEPA, Army Corps of Engineer permitting; grant reporting, landowner meetings, project partner meetings, contracting, engineer meetings, and developing monitoring plans. Two projects were implemented on the Lower Encampment in 2017. WLCI funding was utilized to provide maintenance to the Richardson Bank Stabilization (2015 project). High flows in 2017 eroded the sod mats and material placed on a portion of the toe wood structure. The repairs focused on maintaining the bankfull bench with soil lifts and bank contouring. The Encampment River – Riverside Phase 1 Restoration improved river stability and wild trout habitat through 1,200 linear feet of the river immediately upstream of the Highway 230 Bridge in Riverside, Wyoming. Restoration consisted of modifying existing channel dimensions and adjusting channel alignment (Figure 13). Grade control and streambank protection structures were installed. Native riparian seeding and willow stakes were also placed on newly contoured streambanks.

Project Monitoring: Cross-sections were measured and photo points were taken on the 2015 Richardson Bank Stabilization (2015 project). Annual stream temperature monitoring also occurred just downstream of the Richardson Bank Stabilization. Riparian shrub planting survival was monitored on the Boykin Restoration (2011-2013 project). Photos were taken at photo monitoring locations on the 2016 Cherokee-Wagoner Diversion Replacement (2016 project). Pre-project monitoring (bank erosion hazard index, near-bank shear stress and photo points) was conducted on the 2017 Riverside Restoration Phase I.

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Figure 13. Constructing a narrower and deeper channel at the Encampment River - Riverside Phase I Restoration. Photo credit WGFD.

Little Mountain Riparian and Fish Habitat Project

Project Objective: The Little Mountain area is a unique high-elevation desert with a diverse range of sensitive species. The area is home to three populations of Colorado River cutthroat trout (CRC). These three populations live in three different drainages Sage Creek, Currant Creek and Red Creek. Project partners want to make landscape-scale improvements on these fisheries by implementing unique project ideas. The Little Mountain Riparian and Trout Habitat Project (LMRP) will build on existing projects to keep improving the populations of CRC and the heath of each of the said drainages. Project partners have three goals for the LMRP: increase the woody material available near the streams, allow better stream function, and improve fish passage. To accomplish these goals we will be using three approaches: riparian steel jack enclosure fencing, culvert replacement, and planting of native vegetation.

For the CRC populations to grow in the Little Mountain area, large-pool habitat is needed for temperature refuge in the summer and over wintering habitat. In high-elevation deserts, large pools are formed by beaver dams. Because of heavy browsing by wildlife, the riparian areas in the project areas lack large woody material beavers require for feed and dam construction. Project partners will use free-standing steel

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fence to keep wildlife out of the riparian areas and allow the woody plants along the stream to become established. Once woody plants have established at one location, the fence will be moved to a different location on the stream. Ensuring fish passage within small drainages is imperative for CRC populations to persist into the future. Project partners have identified road crossings within each drainage that cause fish passage issues, are causing stream function problems, or pose risks to the public. Project partners would like to address these issues by replacing these culverts with bridges, larger culverts or bottomless culverts. In 2017, Trout Unlimited worked with Currant Creek Ranch to replace a failing culvert with a railroad car bridge. Trout Unlimited plans to start working with the County Road and Bridge and others to replace an undersized culvert on upper Sage Creek. Project partners would like to advance vegetation growth in some of the enclosures by planting woody plants. These plants (willows, aspens, alder) will be irrigated via small solar water pumps when needed. This will allow the plants to establish quickly.

Gooseberry Creek: In 2013 Trout Unlimited partnered with WWNRT and others to complete three fish passage projects on Gooseberry Creek. These projects have been a success. The Gooseberry Creek fence project in 2017 will improve the habitat above the past projects. The enclosure fence at this site will protect established and newly planted aspens until the trees are six feet tall and able to escape the heavy big game and wild horse use in the area. This site had a large aspen grove and beaver ponds at one time. However, a fire in 2001 promoted a large response of regrowth. Heavy browsing by big game, wild horses and livestock have killed the trees. This project will allow the aspens and willows to take hold and provide food for a new beaver family in the future. Project partners will complete this project in 2017.

Trout Creek: In 2015, WWNRT collaborated with Trout Unlimited and others to complete the Ramsay Irrigation Diversion Improvement. This project was completed in the fall of 2015. Similar to the other two projects this one will protect aspens and other streamside woody plants. The fence will protect existing and newly planted willows until they become established. The ultimate goal is to have enough growth and established woody materials to allow beaver to build and maintain dams on this reach of the stream.

Partners: Ramsay Ranch, Wyoming Wildlife and Natural Resource Trust, Seedskadee Trout Unlimited Chapter and WGFD.

2017 WLCI Contribution: $62,296.03.

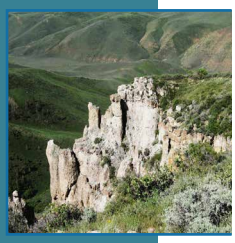
2017 Project Accomplishments & Implementation: All the permitting and planning was

completed for the Currant Creek Ranch culvert, Trout Creek riparian fencing, and Gooseberry Creek fencing project. Cultural permitting for the Currant Creek riparian fencing project is being developed and should be completed late 2017. The Currant Creek Ranch Culvert was replaced with a railroad car bridge and reconnected 14 miles of fish habitat. Gooseberry and Trout Creek fencing project were completed and protect one acre each of riparian areas along 600 feet of each of the streams (Figure 14).

Project Monitoring: The WGFD monitored the Red Creek riparian fence project.

Figure 14. Steel Jack fence installation along Trout Creek to protect riparian corridor. Photo courtesy of Trout Unlimited.

ACCOMPLISHMENTS



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 Seedskadee 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 2017 Activities

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

primary species that were treated, inventoried, and monitored during 2017. Treatments occurred primarily on sagebrush and riparian habitats associated with the Green River, its tributaries, and associated wetlands. Reducing invasive species on these crucial habitats is intended to benefit sage-grouse, mule deer, pronghorn, songbirds and other desired wildlife. In 2017, approximately 24,450 acres of cheatgrass was treated across the WLCI area, with most of this in the Boulder area. Monitoring and mapping of invasives occurred in the Ferris Mountain, Flaming Gorge, Kemmerer Field Office, Raymond Mountain, Sand Creek and Upper Platte Valley areas, and treatment activities are being planned and carried out in these areas. Salt cedar treatments were applied in the Blacks Fork/Muddy Creek, Flaming Gorge, Sand Creek and Upper Platte Valley areas, and leafy spurge treatments were applied in 6 newly identified locations on Ferris Mountain. Based on results from small exclosure reseeding trials at Flaming Gorge, two 2.5 acre test plots were seeded with forage kochia and Russian wildrye. Private land owners, County weed and pest districts, conservation districts, non-government organizations, state, and federal agencies all participated in 2017 activities once again.

Detailed Project Activities

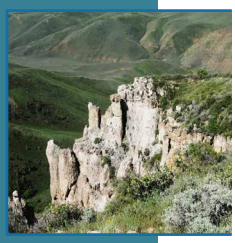
Blacks Fork/Muddy Creek Invasives

Project Objective: A large component of the headwaters for the Colorado River starts in Uinta County, the very southwest corner of the state. The project area has several small tributaries that feed into the Blacks Fork River. This is a long-term project to minimize tamarisk from spreading on stream banks, preserve existing riparian habitat, and to improve native vegetation capacities. In addition, this project involves controlling and decreasing herbaceous invasive species along the drainage to protect, preserve and maintain the native ecosystem.

Partners: Uinta, Lincoln and Sweetwater weed and pest districts; BLM, Wyoming State Lands and Investment; and private landowners.

2017 WLCI Contribution: $52,441.77.

2017 Project Accomplishments & Implementation: Headwater Weed Control was contracted to treat tamarisk on the Blacks Fork Drainage. They were directed to start at the confluence of Muddy Creek and the Blacks Fork and treat in an easterly direction to Highway 30. Headwaters Weed Control used their equipment, and Uinta County Weed and Pest provided the herbicides (Figure 15). Headwater Weed Control received the contract and treated salt cedar, perennial pepperweed, thistle and other invasive species occurring on the Blacks Fork River throughout Uinta, Lincoln and Sweetwater



counties. Crews spent over 3 weeks due to undesirable spray weather and conditions due to high water, which made access more difficult than in past years.

Project Monitoring: GPS data and photo points were collected. Shapefiles were provided to WLCI regarding treatment points. Herbicide application records are included.

Figure 15. Headwater Weed Control Crew re-treating stubborn salt cedar along the Blacks Fork. Photo courtesy of Headwater Weed Control.

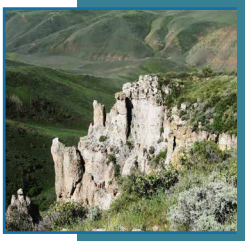
Boulder Cheatgrass

Project Objective: The Boulder cheatgrass project is an integral component in the Boulder area associated with the Sublette County Invasive Species Task Force effort. This area is critical wildlife habitat for Elk, Mule Deer, Antelope, the Greater Sage Grouse and many other species. The habitat here is both transitional range and year-round habitat for numerous species. The goal of the project is to utilize WLCI funds to find matching and put 100% of this money on the ground for management of cheatgrass.

Partners: Sublette County Weed and Pest District (SCWPD), Natural Resources Conservation Services Sage-grouse Initiative, BLM, Bridger Teton National Forest, WGFD, private landowners and permittees.

2017 WLCI Contributions: $54,300.

ACCOMPLISHMENTS



2017 Project Accomplishments & Implementation: The Task Force meets in person and via email to prioritize treatments based on management plans. This year WLCI funds were leveraged with several other groups to broaden the project and included Rimsulfuron as another tool, which was approved by the BLM. The Boulder Cheatgrass project has been a great collaborative process and has led to a demonstration project and the initiation of a notice of intent to start the EIS process towards investigating the use of aerial application with the Bridger Teton National Forest. This year with WLCI funds of $54,300 ($45,000 and 9,300 remaining from 2016) we were able to treat 1,697 acres. With additional funding from the Upper Green River Basin Sage Grouse Local Work Group, Wyoming Range Mule Deer, BLM and NRCS SGI Program participation, the Office of State Lands and Investment and private participation, nearly 20,000 acres of cheatgrass were treated.

Project Monitoring: The permanent transects and photo points are monitored each year via a collaborative effort of the Wyoming Game and Fish Department, the SCWPD and NRCS.

Ferris Mountain Leafy Spurge

Project Objective: The Ferris Mountain Wilderness Study Area (WSA) Leafy Spurge project involves an informal partnership between the BLM, the State of Wyoming, WLCI, Carbon County Weed & Pest District, and the owners of the 47 Ranch and Ferris Mountain Ranch. This project included the inventory, monitoring and treating (herbicides) the WSA area and the adjacent hogback ridges for invasive weeds; mainly leafy spurge, whitetop and Russian knapweed. The main objective is to restrict weed infestations to the currently affected landscape and to remove or contain other noxious weeds where possible to prevent further degradation and improve the quality of wildlife habitat and livestock forage. This project area is topographically diverse and scenic with very few vehicle access points, which restricts most inventory and treatment to air or foot access and increases costs over other areas that are more readily accessible. The eastern end of Ferris Mountain was burned in a wildfire during the summer of 2012, and cheatgrass treatments were conducted on portions of the burned area in the fall of 2012, 2014 and 2015.

Partners: BLM, Wyoming State Lands and Investment and private landowners.

2017 WLCI Contributions: $0.00.

2017 Project Accomplishments & Implementation: NEPA was completed for this project previously. The ranch owners were contacted to discuss treatment priority areas and where to access the property. Contractors were hired through the Carbon

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County Weed & Pest District via a BLM Cooperative Agreement. Chemical treatments, inventory, and monitoring were carried out on state, federal and private lands in June of 2017 (Figures 16 & 17). Regularly treating this area in the past has thinned infestations to the point that aerial treatments have not needed to be conducted and may not be necessary in the future. Treatments were also implemented by the ranch owners. During the 2017 treatment season, six new infestation locations were found, and were subsequently treated.

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

Figure 16. Leafy Spurge infestation in 2015. Photo courtesy of the BLM.

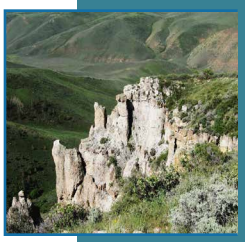
Figure 17. Leafy Spurge infestation in 2017, note the reduction of leafy spurge and increase in the native vegetation community. Photo courtesy of the BLM.

Flaming Gorge Invasives

Project Objective: (1) Restoration of Salt Desert Shrublands Displaced by Halogeton: Two exclosures were established in the Flaming Gorge National Recreation Area (FGNRA) within previously existing Gardner saltbush communities, which were displaced by halogeton. Information and results obtained from these two exclosures may be used as the basis for restoration of other Gardner saltbush communities displaced by halogeton.

(2) Control of Noxious Weeds within the FGNRA: A highly specialized watercraft is used to access 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 Blacks Fork River and Green River. Targeted species include perennial pepperweed, black henbane, thistles, knapweeds, common reed, Russian olive and salt cedar, among other noxious weed species.



Partners: Ashley National Forest, Sweetwater County Weed and Pest District and the United States Department of Agriculture Agricultural Research Services (ARS).

2017 WLCI Contributions: $2,113.10.

2017 Project Accomplishments & Implementation: (1) Restoration of Salt Desert Shrublands Displaced by Halogeton: Based on the results of various test plot seedings within the exclosures, a larger scale trial of approximately 2-5 acres outside the the exclosures were broadcast seeded with forage kochia and Russian wildrye fall/winter 2016-2017. The seedings inside the exclosure showed that broadcast seeding of forage kochia and Russian wildrye were the most successful treatments. This method was used to test a larger scale trial outside the two exclosures in January 2017, approximately 2.5 acres each.

(2) Control of Noxious Weeds within the FGNRA: Areas of noxious weeds infestations were revisited and treated along with new sites in 2017 (Figure 18). The FGNRA was treated by land with ATV/UTV/pickup/backpack sprayer units as well as treatments via USFS weeds jet boat on the Flaming Gorge Reservoir, Black's Fork River, Green River and other tributaries.

The efficacies of 2017 treatments are estimated to be greater than 90 percent. Noxious weeds of highest abundance include perennial pepperweed, black henbane, thistles and salt cedar. USFS weeds crew the areas via land around Lucerne Valley. New treatments and re-treatments also occurred on other areas of the Flaming Gorge Reservoir. As with other areas of the reservoir, the efficacy of the treatments is estimated to be great than 90 percent. Sweetwater County Weed and Pest (SWCWP) treated over 30 sites of the FGNRA via land with backpack sprayers, ATV, UTV and/or pickup truck spray units, and via water with the USFS weeds jet boat. The efficacy of treatments by SWCWP is estimated to be over 90 percent.

Project Monitoring: (1) Restoration of Salt Desert Shrublands Displaced by Halogeton: A field visit was conducted by members of USFS, ARS and WLCI on August 18, 2017. During the field visit, the ARS presented different treatment methods and there efficacies. Monitoring vegetation in the enclosures will continue along with monitoring of the new seedings sites outside of the enclosures.

(2) Control of Noxious Weeds within the FGNRA: Camera points accomplish project

monitoring for sites infested by noxious weeds. GPS fixed camera points were visited and photographed to qualify long-term efficacy of herbicide treatments. Comparisons of photographic images indicate the year-to-year efficacy of herbicide treatments is good to excellent.

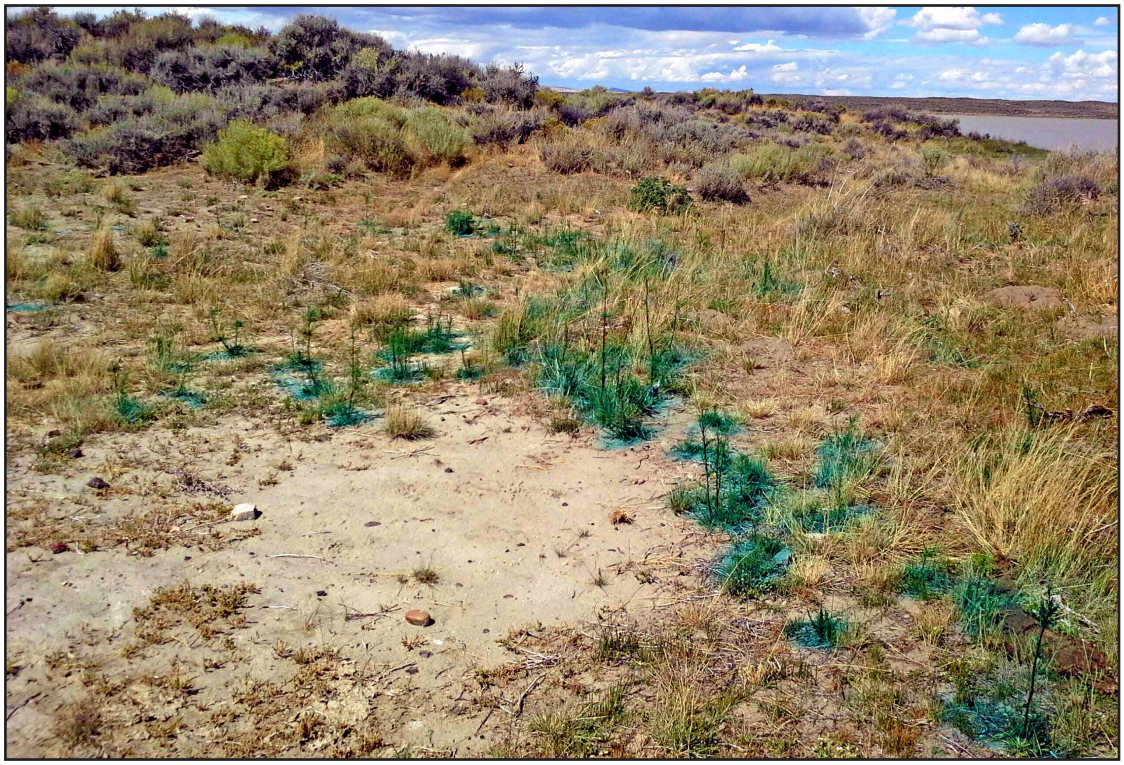


Figure 18. Chemical herbicide treatments on tamarisk seedlings along the Flaming Gorge Reservoir. Photo Courtesy of USFS.

Green River Russian Olive and Tamarisk Control

Project Objective: The objective of the project is to control Russian olive and tamarisk along the Green River from the Fontenelle Dam to the confluence of the Flaming Gorge. If left unchecked, these non-native invasive plant species may outcompete native tree and shrub species along the Green River riparian corridor.

Partners: WGFD, BLM, Sweetwater County Weed and Pest District and private landowners.

2017 WLCI Contributions: $0.00.

2017 Project Accomplishments & Implementation: No actions were completed on this project. The agreement between WLCI and the Wyoming Game and Fish Department had expired in 2016. The new agreement was not initiated until late September 2017.

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No major planning efforts have occurred without the agreements in place.

Kemmerer Field Office Cheatgrass Control

Project Objective: The objectives of this project are: (1) identify and map cheatgrass areas within the Kemmerer Field office; (2) prioritize areas of cheatgrass for treatment; (3) treat and eradicate small areas of cheatgrass; and (4) aerially treat large areas of cheatgrass based on prioritization.

Partners: BLM, Lincoln and Uinta County Weed and Pest Districts, NRCS and private landowners.

2017 WLCI Contributions: $40,000.

2017 Project Accomplishments & Implementation: The BLM continued to work with cooperators Uinta County Weed and Pest, Lincoln County Weed and Pest, private landowners and the NRCS to map, prioritize and determine treatment areas regardless of ownership within the BLM Kemmerer Field Office. During 2017, we aerially treated 523 acres of cheatgrass in the Bear River project area, 893 acres in the Uinta project area, and 1,037 acres in the SFA project area. We also mapped 1,000,000 acres to plan future treatments.

Raymond Mountain Invasives

Project Objective: The Raymond Mountain Toadflax project is an effort to clean up the Dalmatian toadflax off a critical wild game wintering range area. The western side of the mountain has the main infestation of Dalmatian toadflax. This area is very rugged and remote. A helicopter is required to establish control over this noxious weed. The elk and deer winter on the southern faces of the mountain, which is where the majority of the Dalmatian toadflax has been spread. The effort of this project is to try to decrease the spread of Dalmatian toadflax in these areas and work towards eliminating it.

Partners: Lincoln County Weed and Pest District and BLM.

2017 WLCI Contributions: $10,000.

2017 Project Accomplishments & Implementation: This project will use a helicopter and utility vehicles to monitor success from previous treatments and apply herbicide on any infestations that were found or missed from previous years, in conjunction with the BLM and private landowners. Coordination with the private landowners was critical for this project, as the helicopter was staged on their lands. The project started

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on June 25, 2017. Lincoln County Weed and Pest inventoried what weeds they could from the ground, and then had a private contractor (Wyoming Helicopters) fly the area. The monitoring of the previous year's work was completed and new target areas were identified. The treatments took three days to complete, in which all the area was monitored, and the new infestation were treated with herbicide.

Project Monitoring: Due to the rugged terrain, Lincoln County Weed and Pest and the BLM Kemmerer office could only monitor about 25% of the area from the ground. The rest of the monitoring was done from a helicopter. The monitoring indicated a drastic decrease in Dalmatian Toadflax in the area. However, as the wintering wildlife spends time on the mountain, they disturb the soil that causes seeds to germinate and new plants are found in different areas. The Weed and Pest District in conjunction with the BLM will continue to monitor the area.

Sand Creek Salt Cedar Control

Project Objective: The Sand Creek Saltcedar control project includes approximately sixty-five miles of stream bottom, as well as all infested reservoirs/sites within the BLM checkerboard portion of the Colorado River watershed. The primary infestation is saltcedar. Saltcedar, a native to Eurasia, dramatically reduces available surface and groundwater, dries up wetlands, reduces stream flows and alters channel widths. Saltcedar roots extract salt from deep soil layers and excrete the salt with leaf drop in the fall. The Sand Creek area is home to wild horses, deer, elk, antelope and Greater Sage-grouse, among other wildlife species. Sand Creek encompasses the headwaters for many sensitive fish species.

This saltcedar project directly reduces water wastage, erosion, sedimentation and salt loading into the little Snake River, a tributary of the Colorado River. The project objectives are to inventory for new infestations, treat existing infestations and monitor to evaluate treatment effectiveness. Inventory consists of checking reservoirs and creek bottoms for saltcedar. Treatment consists of cutting and applying herbicide to the stump, as well as foliar herbicide treatment to reduce and eliminate saltcedar plants. Monitoring consists of returning the same year to confirm herbicide effectiveness, and returning later (3-5 years) to ensure there are not seedlings or resprouts.

Partners: BLM and Carbon County Weed and Pest District.

2017 WLCI Contributions: $9,668.93.

2017 Project Accomplishments & Implementation: Project planning NEPA and a Pesticide Use Proposal were completed for this project in previous years. Contractors

were hired through the Carbon County Weed & Pest District via a BLM Cooperative Agreement. Inventory and treatments from last year continued through mid-November 2016. In the fall of 2016 and spring of 2017, 83 reservoirs were inventoried, treated and monitored. Of the 83 reservoirs, 38 had never been inventoried for weeds before; 45 reservoirs were last inventoried in 2009, 2010 and 2011; and nine reservoirs had saltcedar or other noxious weeds present. Three of these nine reservoirs with weeds were new locations. Saltcedar inventoried in November 2016, April 2017 and May 2017 was treated chemically. Other weeds were not treated, as it was too late/early in the season. Chemical treatments and monitoring resumed in September 2017, lasting seven days. The BLM monitored 2017 treatments for a week in October, to be reflected in the FY 2018 report. This year focused on reservoir inventory for new saltcedar infestations, monitoring and retreating (if needed) treatments from previous year. The areas monitored and retreated this past year were last monitored in 2012 and 2013, with some initial treatments dating back to 2002.

Project Monitoring: Overall, chemical treatment is successful. Thirty-nine known weed locations ranging from 0.1 to 10 acres were monitored with the option for retreatment. Thirteen of the 39 locations were treated chemically, and 26 of the 39 previously treated sites were free of saltcedar resprouts. One area that had been treated chemically seven times since 2002 was free of new growth.

Upper Platte Valley Weed Management

Project Objective: The Upper Platte Valley Weed Management Area project entails inventory, monitoring and treatment for noxious weeds; mainly 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 USFS and private lands and restrict weed infestation to the currently affected landscape. A secondary goal is to remove or contain other noxious weeds where possible to prevent further degradation of and improve wildlife habitat quality and livestock forage. The Upper Platte Valley area provides crucial winter habitat and seasonal habitat for elk, deer, antelope and bighorn sheep. The majority of this area falls within core habitat for the Greater Sage-grouse, is used for livestock grazing, and is heavily used for recreation and hunting. This project is an informal partnership between the BLM, WLCI, Carbon County Weed & Pest District, and multiple land owners. Each landowner conducts treatments on their private lands. Not all private treatments are reported, so actual treatment acreages and funds spent are under-represented. There are several other ongoing projects in the area including; the Platte Valley Mule Deer Initiative, cheatgrass treatment projects, the Riparian Habitat Improvement & Wildlife Friendly Fence Conversion in Platte Valley WLCI, and juniper management and fuels reduction (including School & Moore's

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Creeks). Timber sales are also proposed in the future to enhance forest health.

Partners: BLM, Carbon County Weed and Pest and private landowners.

2017 WLCI Contributions: $25,000.

2017 Project Accomplishments & Implementation: Project planning NEPA was completed for this project previously. The ranch owners were contacted to discuss treatment priority areas. Contractors were hired through the Carbon County Weed & Pest District via BLM Cooperative Agreement. Inventory for weeds, chemical treatments of known and new infestations, and monitoring of past treatments were carried out on state, federal and private lands in June and July, September and October of 2017 (Figure 19). Regularly treating this area in the past has thinned infestations to the point that the majority of locations do not need aerial treatments. 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.

Project Monitoring: In 2017, three quarters of the known infestations (500 acres) on BLM land were treated and/or monitored. Only two new leafy spurge infestations were identified within the Bennett Peak area. Most of the treatments conducted were in the Bennett Peak area, which continues to have the greatest concentration of known weed infestation sites. Treatments conducted in the Encampment River Campground and Miner Creek area were completed by BLM staff. This allowed the range specialist and our hydrologist to be aware of the extent of the thistle infestation and lifecycle to promote more extensive future monitoring.

ACCOMPLISHMENTS

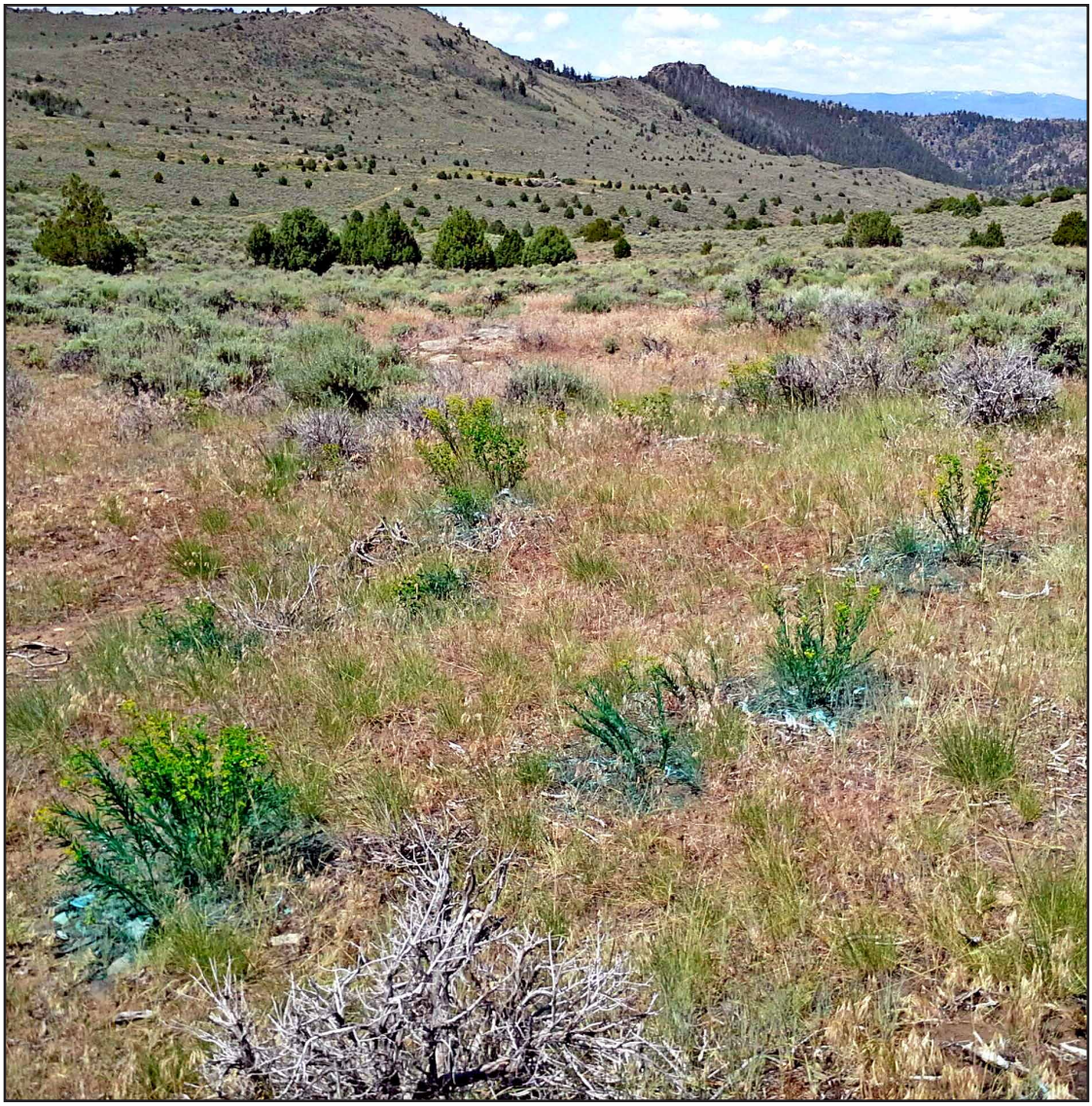

Figure 19. Mature (5+ year old) leafy spurge treated with herbicide. Photo credit BLM.

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, control 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 saltcedar 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 WGFD 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 saltcedar and other invasive plant species.

ACCOMPLISHMENTS

Summary of 2017 Activities

During 2017, riparian and wetland work occurred in several areas, including the Circle B Ranch Mayfield Spring Developments, Cottonwood Creek reservoir project, the Shirley Basin, along the Green River below Fontenelle Dam, the Sibert Ranch in the Lincoln/Uinta LPDT area, and trumpeter swan project area, which occurs on numerous ranches in the Sublette LPDT area. WLCI-supported activities included: the instsallation of fencing to enclose spring and riparian areas from livestock; the creation of 70 acres of wetlands; wildlife friendly fence to move livestock into upland areas away from riparian corridors; planting 1,500 linear feet of coyote willow seedlings in degraded cottonwood gallery riparian habitats; invasive weed control; leaving crops (sainfoin) standing for wildlife consumption; and improvements to existing trumpeter swan wetland habitats.

Detailed Project Activities

Circle B Ranch Mayfield Springs

Project Objective: The objectives of this project is to design and install catch basins, pipelines and water troughs for livestock and wildlife; provide spring and riparian fencing to exclude livestock and protect/restore spring and riparian habitats at the Old Cow Camp, Mayfield Cabins and Waterhouse Canyon springs.

Partners: Circle B Ranch and Cattle, Lincoln County Conservation District, Wyoming Water Development Commission (WWDC) and WDA.

2017 WLCI Contributions: $10,000.

2017 Project Accomplishments & Implementation: Circle B participated in the WWCD Level I study for the area, which made the ranch eligible for additional funding through their program. Circle B collaborated with Lincoln Conservation District to apply for WWDC funding, which was later granted. The funds received through the WWDC are being used to match WLCI funding. Circle B contracted with Sunrise Engineering to provide engineering design for the Old Cow Camp, Mayfield Cabin and Waterhouse Canyon springs. Their designs were 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 hired Utah State University Archeology Services to conduct archeology surveys of the three springs, which were conducted in June 2016. The Circle B Ranch completed spring development/restoration and riparian area protection on Circle B Mayfield property for livestock and wildlife. The effort included installing catch basins, pipelines and water troughs for livestock and wildlife; providing

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spring and riparian fencing to exclude livestock and protecting and restoring spring and riparian habitats at the Old Cow Camp, Mayfield Cabins and Waterhouse Canyon springs. During the winter, valves at the springs are turned off and water flows into the natural drainage.

Cottonwood Creek Wetlands

Project Objective: The objective of this project is to increase wetland habitat and improve existing wetland habitat for a variety of wetland-dependent wildlife and terrestrial game and non-game wildlife species by constructing and repairing dikes, water control structures and a reservoir on flood-irrigated land.

Partners: FWS Partners for Fish and Wildlife Program, private landowner, Wyoming Water Development Commission and Uinta County Conservation District.

2017 WLCI Contributions: $45,486.79.

2017 Project Accomplishments & Implementation: The Cottonwood Reservoir repair, the final phase of implementation for this project (Figure 20), was completed in September 2017. This phase of the project created or enhanced 70 acres of wetlands.

Project Monitoring: Project proponents continue to monitor the completed wetlands with camera points and documenting wildlife use.

Figure 20. Cottonwood Reservoir after repair. Photo courtesy of FWS.

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Little Medicine Bow Upland/Riparian Grazing

Project Objective: The initial project focus was to maintain/enhance rangeland resources and riparian areas in several large BLM grazing allotments within the Shirley Basin. There were originally two parts to the proposed project. The first part included water development systems involving spring developments, with approximately 3.5 miles of pipelines, drinking troughs (including wildlife ramps), wildlife exclosures, and a reservoir modification. The second element was the installation of over 20 miles of wildlife friendly fencing to divide large allotments into smaller pastures. The fencing allows managers to convert livestock grazing permits from summer, season-long use to rotated grazing systems incorporating deferment and recovery periods. This is the final phase of the project with an installation of approximately three miles of wildlife friendly fencing.

Partners: Private landowner, FWS Partners for Fish and Wildlife Program and Medicine Bow Conservation District.

2017 WLCI Contributions: $15,000.

2017 Project Accomplishments & Implementation: During late summer/early fall of 2017, a request for bids was released for fencing contractors. The final phase of this project completed approximately three miles of wildlife friendly fence (Figure 21) to break down a large pasture that has under-utilized upland areas by fencing off the riparian area and linking up with other fencing creating three pastures. The fencing allows managers to utilize rotated grazing systems for better recovery periods.

Figure 21. A completed section of wildlife friendly fence. Photo courtesy of the Medicine Bow Conservation District.

ACCOMPLISHMENTS

Project Monitoring: Monitoring in this area has been developed and implemented.

Narrowleaf Cottonwood Stand Replacement

Project Objective: Narrow leaf cottonwood, native willows and other riparian shrubs provide important migratory habitat for many species of warblers and other migratory birds, habitat for moose and mule deer, nesting and roosting for bald and golden eagles, nesting habitat for threatened yellow billed cuckoo, and improved instream conditions for sportfish. This riparian habitat is affected by Fontenelle Dam located above the Seedskadee National Wildlife Refuge, and active stand replacement is needed over time to ensure this critical riparian habitat is renewed.

Partners: WGFD, Wyoming Trout Unlimited, Seedskadee Chapter of Trout Unlimited, BLM, Intermountain West Joint Venture and North American Wetlands Conservation Act funding.

2017 WLCI Contributions: $39,000. WGFD provided an additional $30,000.

2017 Project Accomplishments & Implementation: Project bid was accepted and will be completed by the contractor in March/April of 2018. Approximately 1,500 linear feet of bank (estimated 2,500 coyote willow) were planted with skid steer mounted auger in October 2017 by WGFD, Wyoming Trout Unlimited, Seedskadee Chapter Trout Unlimited, BLM Kemmerer and Seedskadee National Wildlife Refuge staff (Figure 22).

Figure 22. Partners increasing riparian vegetation along the Green River. Photo credit FWS.

ACCOMPLISHMENTS

Project Monitoring: Previous live pole plantings have shown 50% establishment rate. These plantings will be monitored for three years after planting to determine establishment rate and assist with improving the techniques used.

Sibert Ecosystem Services

Project Objective: The objectives of this project are to improve riparian habitat, increase the vegetative diversity of grasses and forbs as well as mountain shrub and cottonwood components, and control invasive weed species. Another intended objective was to assist and support the landowner, NRCS and FWS's Partners Program in the creation of seven wetland improvements/developments, and deepening of Cottonwood Reservoir. The project area includes crucial winter mule deer habitat and migration corridors for mule deer and elk. Project outcomes will ensure the viability of state species of highest concern, and increase critical winter range and migration routes for publicly hunted species, enhanced wetlands and riparian habitat, forage for wintering and migrating ungulates, and nesting cover for the Greater Sage-grouse. This project has helped to ensure the public's enjoyment and recreation associated with these limited wildlife resources.

Partners: Private landowner, WDA, FWS Partners for Fish and Wildlife Program, WGFD, NRCS and BLM.

2017 WLCI Contributions: $15,000.

2017 Project Accomplishments & Implementation: This was the final year of a five-year project to improve agriculture and wildlife resources through improvements to riparian habitat; increase vegetative diversity of grasses and forbs as well as mountain shrub and cottonwoods; and control invasive weed species. Activities completed for this reporting period include invasive weed control through the application of herbicide, and hand picking of invasive plants. Over the course of the project, invasive species have been reduced dramatically within the project area, improving all classes of vegetation: riparian, shrub and grasses. Forage quality for livestock and wildlife has improved due to the landowners' willingness to manage his grazing at levels below customary stocking rates and over shorter periods. Crop forage for mule deer and other wildlife species has been left for their benefit. The ranch is leaving 15 acres of uncut sainfoin standing, and an additional 60 acres of (one cut) regrowth of sainfoin (Figure 23); this equates to 105 tons of sainfoin left in the field available for wildlife use. Other activities include planting willow clippings along the banks of Three Mile Creek, the creation of four pastures within the +1400 acre project area, and moving/rotating livestock regularly.

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Project Monitoring: Monitoring of the four focal communities; riparian, mountain shrub, sagebrush and grasses associated with this project was accomplished in late July of 2017. Invasive plant species have been greatly reduced. The owner will continue to chemically treat and or hand pull/cut where needed. Work on Cottonwood Reservoir to deepen and shore up the banks has been completed. Livestock grazing will remain at or below recommended NRSC grazing suggestions. In addition, the limitations for human access during critical winter months will remain in place into the near future to protect wildlife from potential human-related stress.

Figure 23. Sage-grouse hens bringing their broods to the freshly cut sainfoin. Photo courtesy of WDA.

Trumpeter Swan Habitat Improvements

Project Objective: The major objective of this project, which has been ongoing since 2007, is to construct and restore shallow water wetland habitat on private lands through working with willing landowners in the Green River Basin to increase high quality summer habitat for the growing population of resident Trumpeter Swans and other waterfowl, water birds and wildlife associated with wetland habitat in the Green River Basin. Shallow, open-water wetland habitat is one of the rarest habitat types in southwestern Wyoming.

As part of this project, wetland ponds are being created that provide summer habitat and potential nesting habitat for Trumpeter Swan, the largest waterfowl in North America. Ponds to support nesting pairs must be greater than five acres in size and

provide adequate submergent and emergent aquatic vegetation to feed a pair of swans and their broods during the 5+ month nesting season. It takes a number of years post-construction for new ponds to develop adequate vegetation resources to support a nesting pair, but we have found that many waterfowl, water birds and non-breeding swans use these wetland ponds for loafing soon after they are filled.

The 5-year contract, which was renewed with WGFD in 2013, has provided funds for two projects: (1) the construction of one pond on the Lazy River Ranch along the New Fork River in Boulder, Wyoming, which is a major swan flyway and nesting area; and (2) work to correct design faults on the Sago and Trumpeter Ponds on the Rimfire Ranch south of Daniel, Wyoming.

The Rimfire Ranch ponds were constructed using WLCI and Wyoming Wildlife and Natural Resource Trust funds in 2009-2011 along Soaphole Creek. This site has challenging soil and water characteristics that were not anticipated in the original engineering design, so further work was required to stabilize the dikes and improve water flow to allow for the ponds to operate at full capacity. Nesting pairs of swans produced young at two other completed project sites on the Circle Nine Swift Ranch in Boulder this year. Improvements of the pond at Lazy River Ranch continued in 2017. The plan is to decrease the size to five acres in an attempt to develop the pond at a size that can be managed and store water into later months of the summer season.

Partners: Private landowner, WGFD and FWS Partners for Fish and Wildlife Program.

2017 WLCI Contributions: $5,298.

2017 Project Accomplishments & Implementation: Alder Environmental was hired to further evaluate the Lazy River Ranch pond site with regards to water inflow, soil percolation, and storage capacity. With information from field evaluations, a modified site plan was developed, which reduces the size of the pond and modifies the source of water to include both irrigation ditch and groundwater sources. We plan to implement construction of the modified site plan prior to June 2018.

Project Monitoring: The site has been monitored from the air by WGFD each summer since construction

2017

SCIENCE SUMMARY

The USGS continued its science projects in support of WLCI during 2017. As part of its effort to provide science that supports responsible energy development, the USGS continued to evaluate the response of fish and wildlife to oil and gas development and other energy related disturbances. Understanding the mechanisms that underlie the effects of energy development on native wildlife leads to data driven recommendations and actions to maintain healthy wildlife populations where energy extraction is taking place. These efforts resulted in several publications that investigated oil and gas development on sage-grouse lek attendance, pygmy rabbit presence and abundance, and a simulation framework for assessing development scenarios on wildlife habitats. A new study was initiated during 2017 to document ground disturbances from wind farm construction and to compile information about wind and wildlife issues in southwest Wyoming.

We continued efforts to use satellite imagery to document changing land use patterns. During 2017, existing sagebrush cover maps were updated with Landsat 8 imagery. This effort will allow USGS scientist to evaluate changes in sagebrush cover between 1985 and 2015. Mortality of sagebrush, perennial grasses, and other shrubs continued to be assessed with Moderate Resolution Imaging Spectroradiometer (MODIS) satellite imagery to characterize growing season productivity of sagebrush communities in the Upper Green River Basin in Wyoming from 2000 to 2016. Anomalies in plant productivity were mapped and related to precipitation/drought cycles. This information was shared with staff from the WGFD and NRCS who are collaborating on the project and presented to a broad audience at the Wyoming Chapter of The Wildlife Society meeting in December 2017. Findings from these efforts will be published in 2018.

Similar to these efforts, USGS published other manuscripts and released data that support WLCIs landscape priorities, conservation planning and focal wildlife species. These activities included publishing data associated with the long term monitoring of groundwater and surface water in the WLCI area (available online at http://waterdata.usgs.gov/nwis). WLCI has several conservation activities that are focused on using habitat treatments to diversify and improve browse and vegetative structure for mule deer and their ability to forage and have access to and within seasonal ranges and long distance migration routes. USGS published a report that described an assessment to determine how well migratory mule deer select peak forage quality during spring green-up. During 2017, protocols were completed and processing of mountain mahogany stems was initiated. Both of these efforts help WLCI local project teams select appropriate treatment options and prioritize stop over sites for protection, restoration, or enhancement. Dendrological techniques were developed to evaluate browse intensity over one to several decades. Two other manuscripts were completed in 2017 that should help conservation planning for sage-grouse. One paper evaluated

sage-grouse population trends across Wyoming and another paper used dynamic population simulations to extend resource selection analyses and prioritize habitats for conservation.

Another effort during 2017 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. This is part of an ongoing effort for USGS to highlight its accomplishments for WLCI's 10-year anniversary. The USGS also released circular on its monitoring efforts in support of WLCI.

2017 USGS Publications

Aikens E.O., Kauffman M.J., Merkle J.A., Dwinnell S.P.H., Fralick G.L., Monteith K.L. 2017. The greenscape shapes surfing of resource waves in a large migratory herbivore. Ecology Letters 20(6): 741-750. http://dx.doi.org/10.1111/ele.12772.

Edmunds, D. R., Aldridge, C. L., O'donnell, M. S. and Monroe, A. P. (2017), Greater sage-grouse population trends across Wyoming. Jour. Wild. Mgmt.. doi:10.1002/jwmg.21386 at http://onlinelibrary.wiley.com/doi/10.1002/jwmg.21386/abstract.

Garman, S.L., 2017, A simulation framework for assessing physical and wildlife impacts of oil and gas development scenarios in southwestern Wyoming: Environmental Modeling and Assessment, 18p, at https://doi.org/10.1007/s10666-017-9559-1.

Germaine, S.S., Carter, S.K, Ignizio, D.A., and Freeman, A.T., 2017, Relationships between gas field developments and the presence and abundance of pygmy rabbits in southwestern Wyoming: Ecosphere, v. 8, no. 5, e01817, at http://onlinelibrary.wiley.com/doi/10.1002/ecs2.1817/full.

Green, A.W., C.L. Aldridge, and M.S. O'Donnell, 2017, Investigating impacts of oil and gas development on greater sage-grouse: Journal of Wildlife Management, v. 81, no. 1, 46–57, http://onlinelibrary.wiley.com/doi/10.1002/jwmg.21179/full.

Heinrichs, J.A., C.L. Aldridge, M.S. O'Donnell, and N.H. Schumaker, Using dynamic population simulations to extend resource selection analyses and prioritize habitats for conservation: Ecological Modelling, v. 359, p. 449-459, at https://doi.org/10.1016/j.ecolmodel.2017.05.017.

Monroe, A. P., Aldridge, C. L., Assal, T. J., Veblen, K. E., Pyke, D. A. and Casazza, M. L. (2017), Patterns in Greater Sage-grouse population dynamics correspond with public grazing records at broad scales. Ecol Appl, 27: 1096–1107. doi:10.1002/eap.1512, at http://onlinelibrary.wiley.com/doi/10.1002/eap.1512/full.

WLCI Budget for FY 2017 by Theme

Project Name	Lead Agency	Partner's Contributions 2017	BLM Funds Requested FY17	BLM FY17 Funding
Maintaining and Reconnecting Wildlife Corridors and Passages				
Circle B Ranch & Cattle Fence Project	LCCD	$45,176.11	$0.00	$20,000.00
Grizzly WHMA Fence Conversion	WGFD	$26,103.00	$75,000.00	$0.00
Rawlins Fence Conversion	BLM	$28,572.00	$10,000.00	$10,000.00
Red Desert to Hoback Migration Fencing Initiative	SCCD	$99,354.58	$100,000.00	$100,000.00
TOTALS		**$199,205.69**	**$185,000.00**	**$130,000.00**
Leveraged	**$1.53**			

Improving the Resilience and Function of Priority Habitats				
Aspen Conservation Joint Venture	LSCD	$80,480.00	$20,000.00	$24,000.00
Bradley Peak Sage-Grouse Nesting Habitat Improvement	BLM	$0.00	$10,000.00	$10,000.00
Ferris Mountain Prescribed Burn	BLM	$30,000.00	$50,000.00	$50,000.00
Platte Valley Mule Deer Habitat Improvement	WGFD	$0.00	$10,000.00	$0.00
Wyoming Range Mule Deer Habitat	BLM/ WGF D	$881,963.00	$50,000.00	$0.00
TOTALS		**$992,443.00**	**$140,000.00**	**$84,000.00**
Leveraged	**$11.81**			

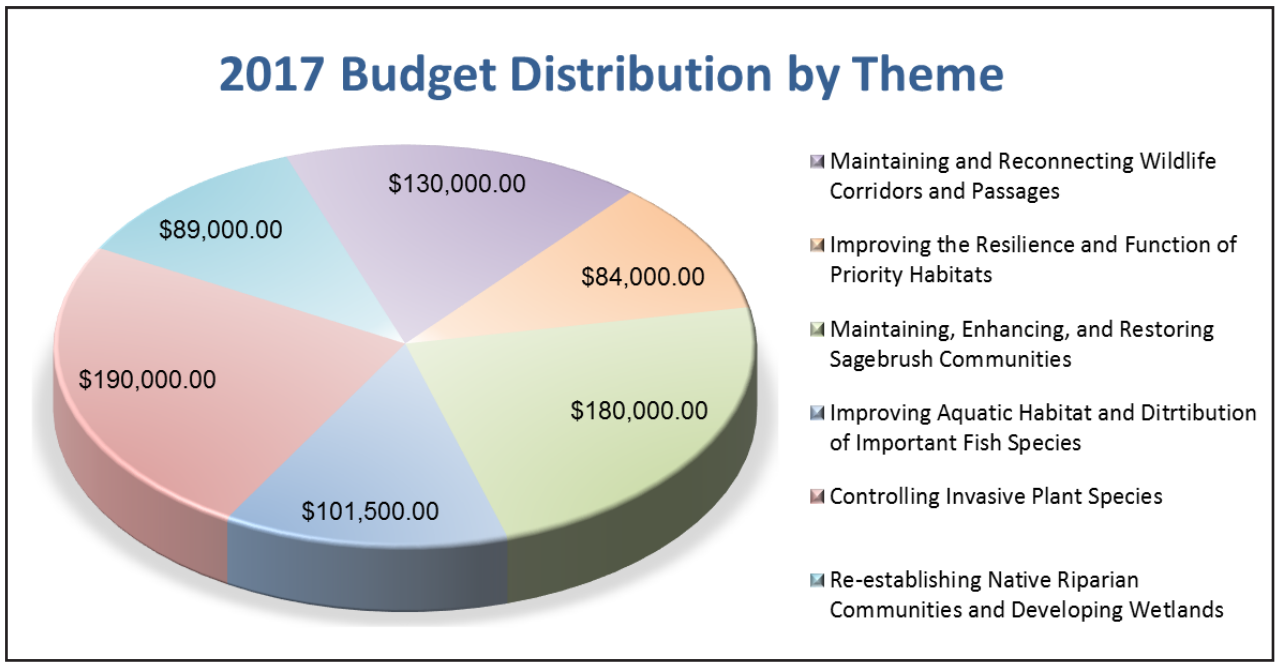
Maintaining, Enhancing, and Restoring Sagebrush Communities				
Bradley Peak Sage-Grouse Nesting Habitat Improvement*	BLM	$0.00	$10,000.00	$10,000.00
Boulder Jonah Cheatgrass*	SCWPD	$605,530.00	$45,000.00	$45,000.00
Circle B Ranch Mayfield Springs*	LCCD	$39,286.00	$0.00	$20,000.00
KFO Cheatgrass*	BLM	$215,000.00	$30,000.00	$30,000.00
Red Creek Habitat Enhancement Project	BLM	$0.00	$50,000.00	$50,000.00
Upper Platte Valley Weed Management Area*	BLM	$29,000.00	$25,000.00	$25,000.00
TOTALS		**$888,816.00**	**$160,000.00**	**$180,000.00**
Leveraged	**$4.94**			

Improving Aquatic Habitat and Ditrtibution of Important Fish Species				
Blue Bell Diversion	TU	$4,851.00	$22,500.00	$22,500.00
Bitter Creek Restoration	SWCCD	$256,565.70	$0.00	$0.00
Coal Creek Stabilization	WGFD	$402,000.00	$50,000.00	$0.00
Little Mountain Riparian & Fish Habitat Project	TU	$68,602.27	$76,000.00	$30,000.00
Narrowleaf Cottonwood Stand Replacement	USFWS	$0.00	$40,000.00	$39,000.00
Lower Encampment River Restoration	SERCD	$245,500.00	$10,000.00	$10,000.00
TOTALS		**$977,518.97**	**$198,500.00**	**$101,500.00**
Leveraged	**$9.63**			

Controlling Invasive Plant Species				
Blacks Fork/Muddy Creek Invasives	UCWPD	$4,838.18	$25,000.00	$25,000.00
Boulder Jonah Cheatgrass*	SCWPD	$605,530.00	$45,000.00	$45,000.00
Green River Russian Olive & Tamarisk Control	WGFD	$0.00	$0.00	$0.00
Ferris Mountain WSA Leafy Spurge Treatment	BLM	$41,658.00	$20,000.00	$0.00
Flaming Gorge Invasives	USFS	$4,646.80	$15,000.00	$15,000.00
KFO Cheatgrass*	BLM	$215,000.00	$30,000.00	$30,000.00
Lincoln/Uinta Co. Noxious Weed Management	BLM	$0.00	$20,000.00	$20,000.00
Raymond Mountain Invasives	LCWPD	$14,746.00	$10,000.00	$10,000.00
Sand Creek Salt Cedar Control	BLM	$1,857.71	$20,000.00	$20,000.00
Upper Platte Valley Weed Management Area*	BLM	$29,000.00	$25,000.00	$25,000.00
TOTALS		**$917,276.69**	**$210,000.00**	**$190,000.00**
Leveraged	**$4.83**			

Re-establishing Native Riparian Communities and Developing Wetlands				
Circle B Ranch Mayfield Springs*	LCCD	$39,286.00	$0.00	$20,000.00
Cottonwood Creek Wetlands	USFWS	$51,213.21	$10,000.00	$0.00
Little Medicine Bow Upland/Riparian Grazing	MBCD	$1,250.00	$15,000.00	$15,000.00
Narrow Leaf Cottonwood Stand Replacement	USFWS	$0.00	$40,000.00	$39,000.00
Sibert Ecosystem Services	WLCI	$4,679.00	$15,000.00	$15,000.00
Trumpeter Swan Habitat Improvements	WGFD	$7,300.00	$0.00	$0.00
TOTALS		**$103,728.21**	**$80,000.00**	**$89,000.00**
Leveraged	**$1.17**			

* Projects are in multiple themes



WLCI LPDT Budget for FY 2017

BLM Allocated Dollars - FY2017	**$798,103.06**
BLM Healthy Lands Dollars - FY2017	**$278,000.00**
BLM Program Dollars - FY2017	**$345,000.00**

Contracts/Agreements	**$623,000.00**	**78.06%**
Project Travel/Supplies/Vehicles	**$360.50**	**0.05%**
BLM Administrative Costs (labor, etc.)	**$174,742.56**	**21.89%**
TOTAL WLCI Project & Support Expenditures	**$798,103.06**	**100.00%**

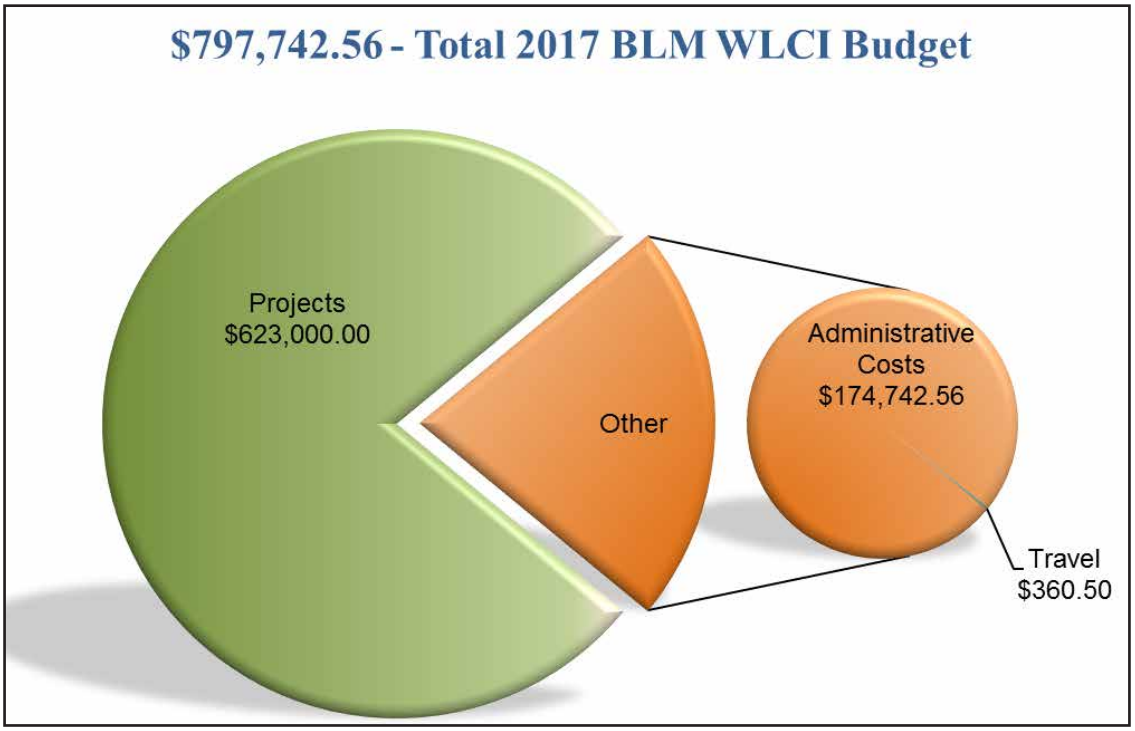
Project Name	Lead Agency	Partner's Contributions 2017	BLM Funds Requested FY17	BLM FY17 Funding
Carbon County LPDT				
Aspen Conservation Joint Venture	LSCD	$88,000.00	$20,000.00	$24,000.00
Bradley Peak Sage-Grouse Nesting Habitat Improvement	BLM	$0.00	$10,000.00	$10,000.00
Ferris Mountain Rx Burn	BLM		$50,000.00	$50,000.00
Ferris Mountain WSA Leafy Spurge Treatment	BLM	$45,520.00	$20,000.00	$0.00
Grizzly WHMA Fence Conversion	WGFD	$50,000.00	$75,000.00	$0.00
Juniper Mechanical Treatments				$0.00
Little Med Bow Upland/Riparian Grazing	MBCD		$15,000.00	$15,000.00
Lower Encampment River Restoration	SERCD	$0.00	$10,000.00	$10,000.00
Muddy Creek Fish Passage	BLM		$30,000.00	$0.00
Platte Valley Conifer Encroachment			$10,000.00	$10,000.00
Platte Valley Mule Deer Habitat Improvement	WGFD	$308,074.00	$10,000.00	$0.00
Rawlins Fence Conversion	BLM	$35,000.00	$10,000.00	$10,000.00
Red Rim-Daley WHMA Improvements	WGFD	$60,000.00	$30,000.00	$0.00
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		**$650,594.00**	**$335,000.00**	**$174,000.00**

Lincoln/Uinta County LPDT				
Blacks Fork/Muddy Creek Invasives	UCWPD	$0.00	$25,000.00	$25,000.00
Blue Bell Diversion	TU		$22,500.00	$22,500.00
Circle B Ranch & Cattle Project	LCCD	$128,500.00	$0.00	$20,000.00
Coal Creek Stabilization	WGFD	$119,880.00	$50,000.00	$0.00
Cottonwood Creek	USFWS	$74,058.00	$10,000.00	$0.00
Dempsey Ridge Fence			$27,500.00	$27,500.00
Greys River Weeds	USFS	$77,500.00	$10,000.00	$0.00
KFO Cheatgrass	BLM	$1,150,000.00	$30,000.00	$30,000.00
Lincoln/Uinta Co. Noxious Weed Management	BLM	$84,000.00	$20,000.00	$20,000.00
Raymond Mountain Invasives	LCWPD	$97,000.00	$10,000.00	$10,000.00
Rocking Chair Ranch Conservation Easement	WGFD	$950,000.00	$0.00	$0.00
Sibert Ecosystem Services	WLCI	$15,000.00	$15,000.00	$15,000.00
Wyoming Range Mule Deer Habitat South			$50,000.00	$0.00
TOTALS		**$2,695,938.00**	**$270,000.00**	**$170,000.00**

Project Name	Lead Agency	Partner's Contributions 2017	BLM Funds Requested FY17	BLM FY17 Funding
Sublette County LPDT				
Boulder/Jonah Cheatgrass	SCWPD	$15,000.00	$45,000.00	$45,000.00
Miller 67 Swan Pond	WGFD		$50,000.00	$0.00
PFO Noxious Weed Management			$0.00	$0.00
Red Desert to Hoback Migration Fencing Initiative	WGFD	$126,500.00	$100,000.00	$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	$50,000.00	$0.00
TOTALS		**$547,580.00**	**$245,000.00**	**$145,000.00**
Sweetwater County LPDT				
Bitter Creek Restoration	SWCCD	$41,374.00	$0.00	$0.00
Buckhorn Flowing Well	WLCI	$19,000.00	$0.00	$0.00
Flaming Gorge Invasives			$15,000.00	$15,000.00
Green River Russian Olive & Tamarisk Control	WGFD	$125,000.00	$0.00	$0.00
Little Mountain Aspen & Riparian Project	TU	$143,000.00	$76,000.00	$30,000.00
Narrow Leaf Cottonwood Stand Replacement	USFWS	$110,000.00	$40,000.00	$39,000.00
Red Creek/Bitter Creek Tamarisk Control			$0.00	$0.00
Red Creek Habitat Enhancement Project	BLM	$281,200.00	$50,000.00	$50,000.00
Sweetwater County Invasive Weed Control			$0.00	$0.00
TOTALS		**$719,574.00**	**$181,000.00**	**$134,000.00**
LPDT TOTALS		**$4,613,686.00**	**$1,031,000.00**	**$623,000.00**

Leveraged Dollars				
Local Project Development Team	**Leverage**	**Partner's Contributions 2017**	**Funding Request**	**BLM FY16 Funding**
Carbon	**$3.74**	$650,594.00	$335,000.00	$174,000.00
Lincoln/Uinta	**$15.86**	$2,695,938.00	$270,000.00	$170,000.00
Sublette	**$3.78**	$547,580.00	$245,000.00	$145,000.00
Sweetwater	**$5.37**	$719,574.00	$181,000.00	$134,000.00
TOTALS	**$7.41**	**$4,613,686.00**	**$1,031,000.00**	**$623,000.00**


$5,236,686 - Total 2017 WLCI Project Expenditures
Total BLM Funded Expenditures $623,000
Estimated Cost Share Funds $4,613,686


$797,742.56 - Total 2017 BLM WLCI Budget
Projects $623,000.00
Other
Administrative Costs $174,742.56
Travel $360.50

PROJECT COOPERATORS

Baggs Mule Deer Working Group
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
Desert Fish Habitat Partnership
Ducks Unlimited
Exxon/Mobil
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
National Fish and Wildlife Foundation
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
Ramsay Ranch
Rim Fire Ranch
Rocky Mountain Elk Foundation
Rolling Thunder Ranch
Saratoga, Encampment, and Rawlins Conservation District
Seedskadee National Wildlife Refuge
Southern Rockies, LCC
Sublette County Conservation District
Sublette County Weed and Pest District
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 – Partners for Fish and Wildlife Program
U.S. Forest Service
U.S. Geological Survey
Walton Foundation
Warren Energy
The Wilderness Society
Western Landowners Alliance
Wyoming Department of Agriculture
Wyoming Department of Environmental Quality
Wyoming Game and Fish Department
Wyoming Governor's Big Game License Coalition
Wyoming Migration Initiative
Wyoming Outdoor Council
Wyoming Water Development Commission
Wyoming Wildlife Federation
Wyoming Wildlife – The Foundation
Wyoming Wildlife and Natural Resource Trust
ZN Ranch
47 Ranch

TEAMS

Executive Committee (EC)

Provides guidance and decision-making authority

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Coordination Team (CT)

Coordinates all WLCI activities and manages daily and fiscal operations

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TEAMS

Science and Technical Advisory Committee (STAC)

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

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Joe Budd, WDA	joe.budd@wyo.gov
Jill Frankforter, USGS	jdfrankf@usgs.gov
Rox Hicks, FWS	rox_rogers@fws.gov

USGS Science Team

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

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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