ANNUAL REPORT

2015

Wyoming Landscape Conservation Initiative

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

2015

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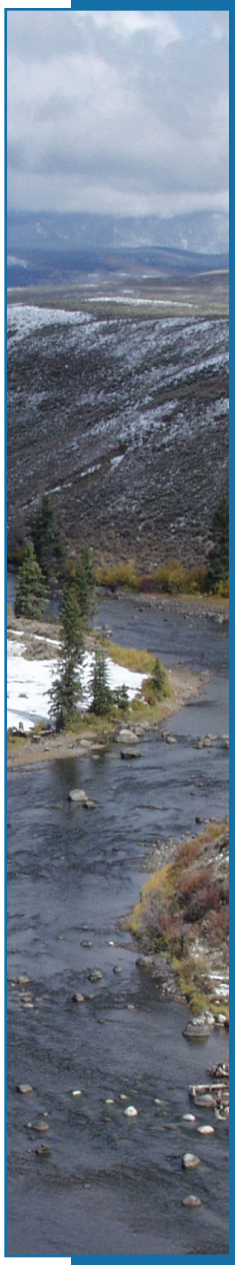
MISSION

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

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

Local Project Development Teams (LPDTs) identify issues that are important to the local landscape and cooperatively create projects to address identified needs for local wildlife, habitat, and other resource issues. LPDTs include biologists, range managers, conservation districts, landowners, county commissioners and interested parties, including members of the public. Four geographically based LPDTs meet quarterly:

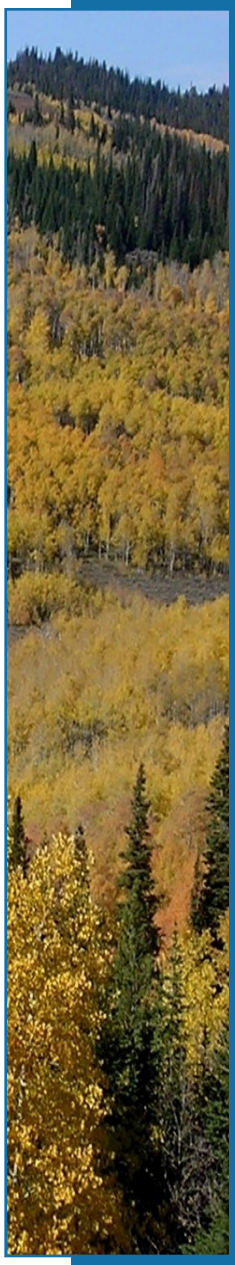
- Carbon County
- Lincoln/Uinta Counties
- Sublette County
- Sweetwater County

The WLCI Coordination Team works with five teams which provide support:

- Support Team
- Communication Team
- Science and Technical Advisory Team
- Interagency Monitoring Team
- USGS Science Team

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,

In 2015, the Wyoming Landscape Conservation Initiative had another successful year working with partners to continue our efforts of a long-term science-based program to assess and enhance aquatic and terrestrial habitats.

In December, the WLCI partnered with the Wyoming Chapter of The Wildlife Society for our third science workshop. The Science Workshop brought over two hundred individuals to Lander, Wyoming to listen to a wide range of topics from invertebrate health to sage-grouse, mule deer migrations and fisheries concerns, as well as aspen and mountain shrub health..

The WLCI learned that the BLM portion of funding had been reduced to an all-time low. In spite of the reductions, many projects were funded through unobligated funds from other BLM sources. In the face of the budget reductions, the Local Project Development Teams held an unprecedented All Team meeting in late November to discuss ways to stretch the project dollars and to complete those projects that are most important to the individual LPDT. The proposed changes need to be approved by the Executive Committee in early 2016.

We said farewell to Frank D'Erchia and welcomed Richard Ferrero to the Executive Committee; both from USGS. With the closing of a successful WLCI-WYTWS workshop, Frank is officially retired. Richard comes to us from Seattle, as USGS reorganized and WLCI is now under the direction of the Northwest Region, which Richard heads.

With the help of our partners and friends, the WLCI is looking to another successful year in 2016.

Warm Regards,

Wally J. Johnson
WLCI Chair

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ACCOMPLISHMENTS

In 2015, WLCI projects continued the facilitation of local collaborative on-the-ground habitat improvements and long-term science based efforts to ensure the long-term viability of species at a landscape scale in southwest Wyoming. The WLCI funded a total of 34 projects in 2015 and participated in several important events. These included:

- Installation of two bottomless arch culverts to improve fish passage for native species.
- Installation of one fish barrier installed to protect native fish species from burbot invasion.
- Applying herbicide treatment on 6,910 acres in 14 projects; assessing 2,248 acres for invasive weed species; and monitoring 2,316 acres, post treatment.
- Removing 2,083 acres of trees/shrubs by mechanical removal and preparing an additional 613 acres of aspen for prescribed burning in early 2016.
- Completing ten miles of wildlife friendly fence conversions.
- Erecting a modified steel jack fence around a five-acre aspen stand to protect the stand from wildlife use.
- Monitoring trumpeter swan numbers, nesting pairs and productivity on 113 acres of created ponds and wetlands previously constructed with WLCI funds.
- Creating a ten-acre wetland and protecting one mile of stream.
- The WLCI/Science and Technical Committee and Coordination Team members assisted in the organization of a joint science conference between WLCI and the Wyoming Chapter of The Wildlife Society. Numerous presentations covered issues affecting fish and wildlife population conservation in Wyoming with over 200 participants in attendance.
- Presenting WLCI information to the Wyoming Water Association in Evanston and Wyoming Oil and Gas Industry in Rock Springs.

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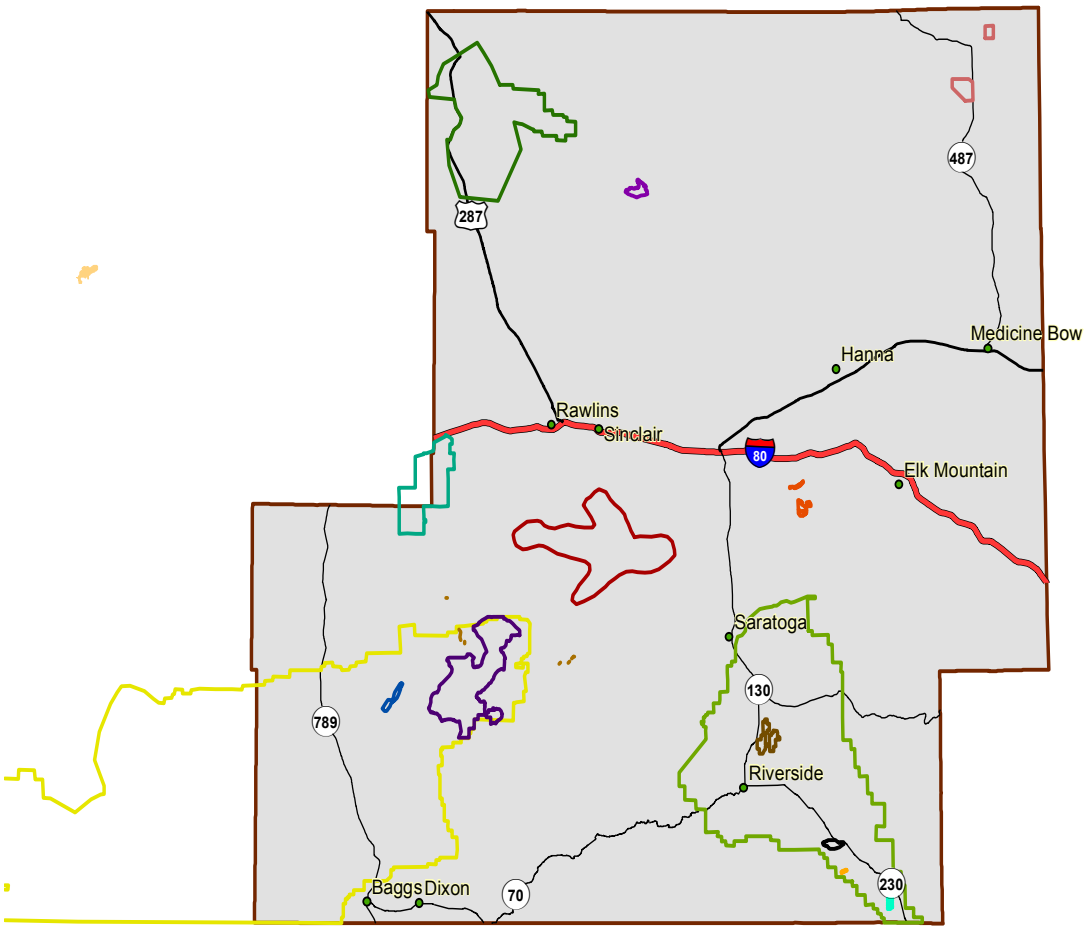
PROJECTS

The WLCI addresses its conservation mission through four Local Project Development Teams (LPDTs) which are based in counties within the WLCI area: Carbon, Lincoln/Uinta, Sublette, and Sweetwater. Each LPDT identifies its conservation needs, develops and prioritizes its projects which are then ranked by the WLCI Coordination Team. The Coordination Team then makes recommendations for funding based on the ranked projects to the WLCI Executive Committee for final approval. WLCI projects for 2015 include fencing, wetland creation, vegetation treatments, riparian enhancements, weed treatments, and river restoration. These projects benefited multiple species, including Greater Sage-Grouse, trumpeter swans, cutthroat trout, and big game in the five focus areas: aquatic, riparian, aspen, sagebrush, and mountain shrub communities.

CARBON

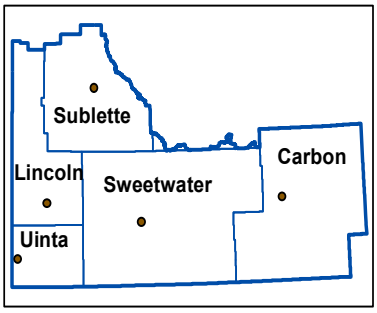


Carbon Projects

- Baggot Rocks
- Bradley Peak
- Ferris WSA Leafy Spurge Treatments
- Grizzly WHMA Fence Conversion
- Hay Reservoir Weed Treatments
- JO Ranch
- Perrenial Pepperweed Partnership
- Rawlins Fence Conversions
- Red Rim-Daley WHMA Improvements
- Sand Creek Salt Cedar Control
- Shirley Basin Sage-Grouse
- Upper Platte Valley Weed Treatments

Platte Valley Mule Deer Habitat

- Big Creek Aspen
- Big Creek Seeding
- Coyote Hill
- ZN Burn Units
- ZN Riparian Fence



2015 PROJECTS

Carbon County Local Project Development Team

Baggot Rocks Invasives

Located within the Upper North Platte Geographic Priority Area, the objectives of this project are to remove and/or treat invasive plant species and remove junipers encroaching into riparian areas. Targeted invasive plants include cheatgrass, leafy spurge, knapweeds, and Russian thistle. During the fall of 2015, an aerial application of a bacterial herbicide (D7), which has been shown to suppress cheatgrass, was completed on 100 acres of BLM-administered land. Photo points were established and pre-treatment monitoring (diversity, abundance, health, frequency, and canopy cover) and select weather indicators (temperature, precipitation, soil temperature) were implemented. This project addresses the Conservation Action Plan (CAP) landscape priorities associated with maintenance of quality crucial habitats; mountain shrub structure and regeneration; stream and riparian function; and control of invasive species. Treatments were implemented in cooperation with Wyoming Game and Fish Department (WGFD), BLM, University of Wyoming Extension, and Carbon County Weed and Pest District (CCWPD).

Bradley Peak Sage Grouse Nesting Habitat Improvement

The Bradley Peak project area is located in mountain big sagebrush communities south and east of Bradley Peak. The majority of the project area is identified as core sage grouse habitat. However, large areas of sagebrush habitat may not be suitable for nesting or brood rearing by sage grouse because of encroached juniper trees. Research suggests sage-grouse often avoid sagebrush communities associated with conifer trees during all life stages. The NEPA process was completed during spring of 2015. Approximately 270 acres (70 acres on private land and 200 acres on BLM land) of junipers were removed during 2015 from suitable grouse nesting habitat within a 1,542-acre project area. Standing biomass (i.e., limbs) was reduced to a height similar to that of the surrounding shrub community. These actions decreased perching and nesting sites by predatory bird species. The 2015 monitoring protocol included photo documentation of project activities and vegetation measurements to document changes in the landscape view shed. Annual lek counts and sage-grouse pellet counts were also conducted. This project is located within the "Seminoe Mountains" Priority Area, which is identified as a CAP priority for maintenance of quality crucial habitats and sagebrush maintenance, enhancement, and restoration. This project is being conducted in coordination with the Rocky Mountain Elk Foundation (RMEF), the landowner (Miller Estate), and the local Greater Sage-Grouse Working Group. Youth from the Montana Conservation Corps and BLM fuel crews were involved with this project.

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Ferris Mountain Wilderness Study Area (WSA) Leafy Spurge

The Ferris Mountain Wilderness Study Area (WSA) Leafy Spurge project includes BLM-administered land, State of Wyoming lands, and two private ranches. The project entails inventory, monitoring, and treating this area and the adjacent Hogback ridges for invasive weeds (mainly leafy spurge, whitetop, and Russian knapweed). Treatments consist of herbicide applications to control weeds in this extremely rugged area. The main goal is to restrict weed infestations to the currently affected landscape. The secondary goal is to remove or contain other noxious weeds where possible to prevent further degradation and improve wildlife habitat quality and livestock grazing forage. The area provides seasonal and some winter habitat for elk, deer, and pronghorn, as well as the few remaining bighorn sheep. The majority of the area contains sage-grouse habitat including some core area in the northern end. Livestock grazing occurs throughout the area. There is a timber enhancement project proposed on Ferris Mountain that includes part of this project area. 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. A total of 140 acres were inventoried, 375 acres were monitored, and 855 acres were treated in 2015. Project activities occurred on state, federal, and private lands. Past treatments have thinned infestations to the point that aerial treatment was not conducted this year, and may not be necessary in the future provided infestation maintenance continues on the ground. Landowners provided access, monitoring, and additional treatments on their land. Previously treated sites were monitored by ocular methods and photographed by treatment crews. Treatment and monitoring of known infestations will continue, and inventory will be conducted to search out new infestations. In 2015, 12 new patches were reported (11 leafy spurge and one Russian knapweed). Russian knapweed sites on the northern half of the project area have been almost completely eradicated through consistent treatments, although one new site was found in the area, and some areas where Russian knapweed re-emerged. The BLM is looking at other treatment options in some of these areas. This project addresses the CAP landscape priorities related to the removal and control of invasive species in the North Platte River watershed, improved riparian health, and to protect, maintain, and enhance important or crucial habitats and corridors for mule deer, elk, and other big game species, and sage-grouse in the Ferris and Seminoe Mountains Priority Areas. Partners include BLM, CCWPD, and two landowners in the project area.

Hay Reservoir

The Hay Reservoir project's primary objective is to treat and monitor approximately 1,200 acres for Russian knapweed, whitetop, and Swainson pea. Treatments consist of ground applications of herbicide to control these species on federal, state, and private

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lands in the study area. The secondary objective is to remove or contain other noxious weeds where possible to prevent further degradation and improve wildlife habitat for elk, deer, pronghorn, and sage-grouse habitat, and improve livestock grazing forage. In 2015, monitoring activities were conducted on 400 acres of state, federal, and private lands in July. Monitoring information indicates past treatments are being effective and have successfully thinned infestations of target species. Treatment and monitoring activities will continue in 2016. This project addresses the CAP to remove and control invasive plant species within priority habitats (sagebrush and meadow) and protect, maintain and enhance important or crucial habitats for mule deer, elk, and other big game species, as well as sage-grouse core habitat. Project partners include, BLM, CCWPD, oil and gas industry, and the landowner in the project area.

JO Greater Sage-Grouse Habitat Improvement

The JO Ranch Greater Sage-Grouse Habitat Improvement Project is designed to increase forb and invertebrate diversity in riparian and transitional riparian/upland areas through the control of invasive plants and seeding of native forb species. Treatments include broadcasting seed within upland, riparian, or transitional riparian areas that lack species and structural diversity and application of herbicides to control invasive plants. The primary objective of this project is to improve sage-grouse habitat and core habitat in the Colorado River watershed. The removal of non-native plants helps improve riparian area condition and aids in the reduction of erosion and sediment in streams flowing into Muddy Creek. This also results in less competition for the priority vegetation species in these habitats. During 2015, one new perennial pepperweed patch was discovered and saltcedar and Russian olive trees were removed. Most perennial pepperweed patches were eradicated in previous years. In 2015, approximately 20 acres of perennial pepperweed was treated with herbicides, another 100 acres were inventoried, and 20 acres monitored. This project addresses the CAP by removing and controlling invasive plant species within riparian, sagebrush, and meadow habitats. Many of the treated areas are within big game migration corridors and crucial winter habitat for mule deer and elk. Partners included BLM and CCWPD.

Little Snake River Basin Aspen Conservation

The Little Snake River Basin Aspen Conservation is a long-term, science-based effort to conserve and enhance fish and wildlife habitats through local collaboration and partnerships. This large-scale program encompasses all land ownerships in the WLCI priority area located in the Little Snake River Basin. To date, over 2,000 acres of treatments have been completed across the 78,000 acres of aspen habitat. The objectives are: restore aspen woodland communities; enhance watershed and ecosystem function, improve aquatic and terrestrial wildlife habitat; and sustain regional and local economic and aesthetic values in the aspen community. In 2015, 740 acres of aspen

understory, aspen-conifer/mountain shrub, and juniper stands were mechanically treated. In addition, the NEPA process was initiated during 2015 on three BLM parcel treatments that are to be treated during 2016. Project activities have improved age class and diversity in treated aspen stands, reduced the threat of catastrophic wildfire, improved wildlife habitat and watershed function. In addition, the removal of conifers should reduce water loss due to evapotranspiration resulting in enhancement of mesic areas that are needed to sustain aspen communities. Photo point monitoring occurred at select sites during 2015. This project addresses the following CAP priorities and goals associated with managing, conserving, restoring, or enhancing mountain shrub and aspen communities; supporting opportunities for sustainable agriculture; improving the understanding of ecological processes across southwest Wyoming; ensuring effective relationships among partners, stakeholders, and the public; and providing mechanisms to ensure effective data and information exchange. Coordination meetings have occurred between landowners, land management agencies, wildlife and conservation agencies to develop project activities. Project partners include Wyoming Wildlife and Natural Resources Trust Fund (WWNRT), Little Snake River Conservation District, and Natural Resources Conservation Service (EQUIP Program).

Lower Encampment River Restoration

The Richardson Bank Stabilization project on the Encampment River focused on stabilizing approximately 450 feet of stream bank along the Encampment River south of Riverside. This bank stabilization is part of a larger effort by WGFD, Trout Unlimited, and the Saratoga-Encampment-Rawlins Conservation District to bring partners together to improve aquatic and riparian habitats in the lower Encampment River watershed. Recent high spring flows have increased erosion rates of the streambanks, which is leading to increased sediment inputs into the river and threatening infrastructure. Increased sediment degrades aquatic habitat and leads to additional channel instability downstream. The erosion is nearing a tram system used by a local rancher to reach irrigated pasture during high flows. During 2015, approximately 450 feet of streambank along the Encampment River south of the town of Riverside, was stabilized by installing toe wood and then contouring bank angles. Sod mats, willow cuttings, and willow transplants were then installed on the newly shaped banks. A compound pool (two pools separated by a glide/run) was created in the riverbed.

Perennial Pepperweed Partnership

This project includes the BLM/ Rawlins Field Office and the Overland Trail Ranch in a partnership to reduce noxious weeds in the checkerboard land pattern that encompasses the majority of the ranch. The Perennial Pepperweed Partnership entails

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treating Little Sage Creek, for perennial pepperweed, whitetop, saltcedar, leafy spurge, and Russian knapweed. Treatment consists of the herbicide applications to remove and control weeds. The primary objective is to contain the pepperweed within its present watershed. Other objectives are to contain other noxious weeds where possible to prevent further degradation and improve wildlife habitat and livestock grazing forage. This area contains sage-grouse habitat as well as year-round habitat for pronghorn and mule deer, and winter range for elk. In 2015, herbicides were applied on approximately 500 acres of BLM land. Treatment applications were started in late June and completed in September. The Overland Trail Ranch provided access, discussed treatment priority areas, and conducted treatments on 200 acres on their ranch. An additional 500 acres of BLM were inventoried for future treatments. Five hundred acres that were previously treated were monitored using the ocular method and photographed. New patches of Russian knapweed, perennial pepperweed, and other invasives were found. Density of perennial pepperweed increased where they were previously decreasing, due to a two year lapse in treatments. This project (along with the contributions of the private landowner within the project area) address the CAP priorities associated with the removal and control of invasive species in the North Platte watershed for improved riparian health and to protect, maintain, and enhance important or crucial habitats and corridors for mule deer, elk, and other big game species, as well as sage-grouse core habitat. The removal of noxious weeds improves riparian area condition and reduces erosion and sediment of streams flowing into the North Platte River.

Platte Valley Mule Deer Habitat Improvement

The overall objective of the Platte Valley Mule Deer Habitat Improvement projects is designed to implement large-scale mule deer habitat improvements in seasonal mule deer habitats throughout the Platte Valley. In 2015, projects included the Big Creek Ranch mountain shrub and aspen treatments and the ZN Ranch riparian and mountain shrub enhancement. These projects are located within important transitional range receiving high-use by mule deer. The Big Creek Ranch projects included 920 acres of aerial spike application to enhance both mixed mountain shrub production and nutritive values important in transitional mule deer range, 200 acres of aeration and reseeding with forbs and grasses to renovate areas dominated by crested wheatgrass for mule deer and sage grouse, and 30 acres of aspen enhancement. The ZN Ranch project also included fencing for grazing management, willow sprigging, and sagebrush treatments along 1.8 miles of the Rattlesnake Creek riparian area and prescribed burn treatments in upland mixed mountain shrub habitats in an area encompassing 600 acres with a target of 50 percent of the total acres (300 acres) burned or treated. Pre-treatment photo point monitoring was conducted for Big Creek aeration and seeding with first year post-treatment photo point monitoring completed during July 2015. Pre-treatment transects were completed for the Big Creek spike treatment

in 2013, and vegetation samples were collected in November of 2015 for nutritional content to evaluate benefits of the spike treatment. Pre and post treatment monitoring was conducted in the Big Creek aspen treatments to measure sucker density, sucker height, and browse density with other aspen ripping treatments conducted in other areas of the state. All current and future projects are located within the Upper North Platte Priority area and focus on the CAP priorities associated with maintaining and enhancing crucial habitats (including migration corridors and high-use stopover areas) for mule deer; enhancing aspen communities to improve age-class structure and density of aspen; restoring healthy sagebrush communities; improving mixed mountain shrub stand health, production, and nutritive value; and ensuring healthy riparian systems in areas of mule deer use. The success of these projects has increased participation in the Platte Valley Habitat Partnership (PVHP) and has attracted future funding partners, and created opportunities for further landscape-level conservation efforts throughout the Platte Valley. Other partners include RMEF, WWNRT, WGFD, and Muley Fanatic Foundation.

Rawlins Fence Conversion

In Carbon County, fencing conversion continued south and west of Rawlins and in the Baggs area. In 2015, fencing conversions were completed on 0.25-mile of fencing under private ownership and 2.25 miles on BLM-administered lands. Over the past several years, fence conversions have been implemented in migration corridors, crucial winter range, and at locations where fences are damaged, or mesh is altered to improve big game passage and reduce stress, energy loss, injury, and mortality. Most of these more constrictive types of fences were built to control domestic sheep but the majority of these allotments have since been converted to cattle grazing that can be controlled with 3- or 4-strand barbed wire fences. The focus this year was to work closer with permittees to provide the labor for conversions, with lower funding levels from WLCI. The Montana Conservation Corp (MCC) worked on the Little Jack Creek/Middlewood Hill boundary fence, converting one mile of mesh with two barbed wires on top to a BLM four wire fence design. Work was also completed on the boundary fence of the Sulphur Springs allotment, converting six barbed wire fences to rail-top with three-wire design and BLM four-wire design. Removing obsolete fences and converting fences to meet wildlife standards are reflected in the CAP priority addressing "Big Game Passage and Life Stage Connectivity." Modified fences allow wildlife species to safely negotiate these fences when they are migrating between winter range at lower elevations and summer range on or adjacent to the Ferris and/or Seminoe Mountains. Partners included permittees, MCC, and Saratoga-Encampment-Rawlins Conservation District (SERCD). The SERCD was consulted for project planning and implementation. In addition to WLCI, other funding partners included the Wyoming Wildlife and Natural Resource Trust (WWNRT) that paid for fencing materials. The

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MCC involved youth employees to assist with fencing construction.

Red-Rim Daley Wildlife Habitat Management Area Improvements

The objective of the project is to improve the vegetative structure of the Red Rim Wildlife Habitat Management Area (WHMA) and to make other improvements for wildlife. This project includes the maintenance and conversion of fences to meet wildlife friendly fence standards, well development and maintenance, noxious weed control, and terrestrial habitat improvements. Eliminating woven and five-wire fencing and building new fences that meet wildlife friendly standards improve access to important habitat for all wildlife, especially pronghorn. In 2015, projects plans were completed for the conversion of a windmill to a solar pump; additional well developments; and the relocation of one mile of fencing and the removal of two miles of fencing to improve livestock handling capabilities as well as reducing the overall length of fence on the WHMA. The projects address CAP priorities associated with passage of big game and maintenance of crucial habitat objectives.

Red Rim – Grizzly Fence Conversion Project

The purpose of this project is to replace existing 6-strand and woven-wire fence on the Upper Muddy Creek/Red-Rim Grizzly Wildlife Habitat Management Area to a 4-strand wildlife friendly fence to enhance wildlife movement. Much of the existing 6-strand and woven-wire fence on the property creates a barrier to wildlife movement. This year's fence conversions focused on mule deer movement corridors in the Rendle Rim area identified from GPS collar data from the Baggs Mule Deer Herd. This area is the primary hub for mule deer movements on the property. Fence conversions also benefit elk and pronghorn. Due to contractor issues, the WGFD had to cancel the existing contract in late 2015. The new contract will include the addition of 2.5 miles of rail-top fence to address sedimentation issues in the headwaters of Littlefield Creek and deposition in Colorado River cutthroat trout spawning habitat. This project addresses the CAP landscape conservation priorities associated with big game passage and life stage connectivity, enhancement and restoration of big game corridors, transition and crucial habitats, and improvements to stream and riparian function. This work will occur within the Baggs Big Game Corridor/Terrestrial Enhancement Priority Area.

Sand Creek Saltcedar Control

The Sand Creek Saltcedar control project was expanded in 2014 to include all tributaries of Sand Creek and Muddy Creek, as well as all incidental saltcedar found in the southwest portion of the BLM Rawlins Field Office. This area is home to elk, deer, pronghorn, sage-grouse and other wildlife species, as well as providing habitat to sensitive fish species downstream. Treatments consist of herbicides being applied

to cut saltcedar plants and removing clippings from the area. This project directly improves water quantity, reduces water loss, decreases erosion and sedimentation, and salt loading into the Little Snake River, a tributary to the Colorado River. Monitoring was conducted starting in October 2014 and continued through winter and spring of 2015, primarily focused on completing the reservoir work begun in 2012. Chemical treatments were carried out in late September through mid-October 2015. The effectiveness of treatments continues to remain high, although some regrowth was noted on a few plants. Approximately 388 acres were inventoried, 320 acres were monitored, and 250 acres were treated. This project addresses the CAP priorities associated with the removal and control of invasive species in the Little Snake River/Sand Creek/Savery Creek priority areas and promotes riparian health and the maintenance and enhancement of important crucial habitats and corridors for mule deer, elk, and other big game species, and sage-grouse habitat and core areas. Project partners include BLM, Carbon County Weed and Pest District, and landowners.

Shirley Basin Sage Grouse Habitat Project

The objective of this project is to improve sagebrush habitat for the sage-grouse and other sagebrush obligate species in BLM grazing allotments through improved livestock grazing management. Construction of cross-fences and off-channel water developments in the Thorton and Bates Benchmark allotments will allow the permittees to better control the timing, location, and duration of grazing by livestock, which in turn will reduce livestock impacts to sagebrush habitats. This year, a non-functioning windmill at a water well in the Thorton Allotment was replaced with a solar powered water pump. Work in the Bates Benchmark allotment, to be completed in 2016, includes a new head box on private land, 0.8-mile of pipeline and two water tanks in the southern portion of a state section. Another water tank and 0.45-mile of water pipeline in the northern portion of the same state section will connect to an existing water development and provide water in the northern part of this section. Other work in 2015 included coordinating with the Wyoming Game and Fish Department to determine an alternate location for an existing water tank that is located within 0.6 mile of a known sage-grouse lek. The landowner has filed the necessary papers with the State Engineer's office. The Office of State Lands and Investments has been contacted regarding permitting and clearances. Contractors have been lined up for site visits in preparation for bidding the remainder of the project. NEPA analysis was completed for 305 acres of private, 2,132 acres of state and 609 acres of BLM-managed land. The removal of a non-functioning windmill and installation of a solar powered water pump will provide conservation benefits to sage-grouse, other sagebrush obligate species, such as mule deer, pronghorn, sage sparrow, sage thrasher and other non-game species within the 2,810-acre BLM Thorton Allotment. The project addresses the CAP landscape conservation priorities of maintenance of

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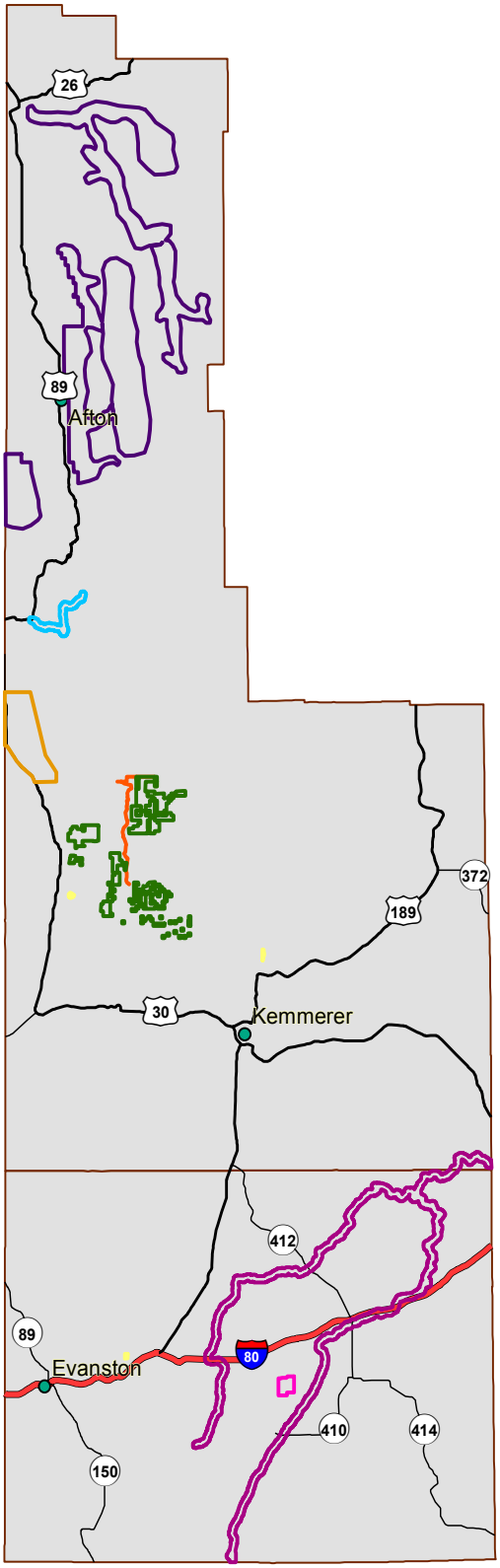
quality crucial habitats, sagebrush maintenance, enhancement and restoration and conservation actions on agricultural and other private lands benefiting sage-grouse and other sagebrush obligate species. This project is part of the ongoing effort to maintain, enhance and restore sagebrush habitats within the Shirley Basin Priority Area Priority identified by the Carbon County Local Project Development Team. In addition, the project occurs in Wyoming greater sage-grouse core area. Partners include the Medicine Bow Conservation District, a private landowner, grazing permittees, BLM, and U.S. Fish and Wildlife Service.

Upper Platte Valley Weed Management Area

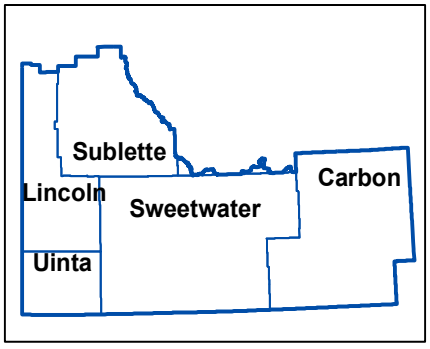
The Upper Platte Valley Weed Management Area includes the inventory, monitoring, and treating of invasive plants species, mainly leafy spurge, musk and Canada thistle, and spotted knapweed. Treatments consist of herbicide applications or manual removal of targeted species. One of the main goals is to prevent weed encroachment onto the adjacent Forest Service and private lands and restrict weed infestations to currently affected areas. Another goal is to remove or contain other noxious weeds where possible to prevent further habitat degradation and to improve wildlife habitat quality and livestock grazing forage. This area provides seasonal and crucial winter habitat for elk, deer, and pronghorn, as well as a few bighorn sheep. The majority of this area is also within sage-grouse core habitat, as well as being grazed by livestock. In 2015, approximately 500 acres of known infestations were treated, 500 acres were inventoried, and 200 acres were monitored, June through September, on state, federal, and private lands. Treatments were also completed by landowners and CCWPD. New infestations of musk thistle, leafy spurge, Canada thistle, yellow toadflax, spotted knapweed, houndstongue, and cheatgrass were identified. Past treatments have thinned infestations reducing the need for aerial treatments. This project addresses CAP priorities by removing and controlling invasive plant species within various habitats (riparian, mountain shrub, aspens, sagebrush, and meadow), within big game corridors and crucial habitats, and sage-grouse core habitat. Project partners include BLM, CCWPD, and multiple landowners.

LINCOLN/UINTA

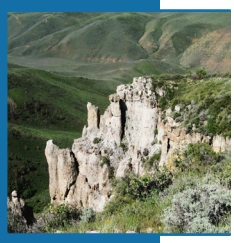


Lincoln-Uinta Projects

- Blacks Fork River Drainage Tamarisk Control
- Circle B Land Co
- Coal Creek Stabilization
- Cottonwood Creek and Sibert_Lease
- Dempsey Ridge Fence
- Greys River Weed Treatments
- Bear River KFO Cheatgrass
- Uinta KFO Cheatgrass
- Commissary KFO Cheatgrass
- Raymond Mountain



PROJECTS



Lincoln-Uinta Counties Local Project Development Team

Blacks Fork Drainage Invasive Species Treatment

A large portion of the Blacks Fork River watershed is located in Uinta County, Wyoming. The Blacks Fork is a headwater drainage to the Colorado River. The project area includes multiple drainages with several small tributaries that flow into the Blacks Fork River. This is a long-term project designed to reduce tamarisk and other invasive plants along stream banks, support existing riparian habitat, and improve and increase native vegetation. Since 2008, tamarisk has been reduced by 80 percent. The project is currently in a maintenance phase to ensure that tamarisk and other invasive weeds do not return to significant densities. In 2015, Uinta County Weed and Pest crews and a contractor treated tamarisk and other invasive plant species on approximately 20 miles of riparian habitat along the Blacks Fork drainage and an additional 50 acres of invasive weeds. In total, approximately 1,500 acres were treated. In the future, this project will be extended into Sweetwater County. The Blacks Fork drainage is identified as a priority area in the WLCI Conservation Action Plan (CAP), and provides critical habitat for wildlife and livestock as well as recreational opportunities. This project also addresses the WLCI's landscape priority associated with stream and riparian function. Measures have been taken to control the drainage of tamarisk and other noxious weeds to preserve the integrity of the drainage and increase biodiversity. These control efforts have been an effective approach to address; riparian resilience to drought, reduced water consumption, and provide more desirable winter habitat for wildlife and livestock. The majority of the Blacks Fork River is subjected to erosion and natural scouring. Therefore, it does not have extensive native riparian shrubs and trees. Controlling invasive plants will reduce competition with desirable vegetation. Establishing native seedlings along the stream bank will enhance game corridors and crucial habitats. Project partners include the Uinta County Weed & Pest District and the Uinta County Conservation District.

Coal Creek

This project is designed to reduce sediments entering Coal Creek, through bridge/culvert crossings, road and stream realignments, stabilization of back slopes and toe slopes along the road, and the reestablishment of vegetation. An improperly functioning bridge was replaced where vehicles have been fording the stream, causing stream-bank and bed erosion. In addition, an existing culvert crossing on Coal Creek was replaced. This crossing was not properly aligned with the stream and limited free passage of native aquatic organisms, including the sensitive Bonneville cutthroat trout. Because the road was built too close to the creek in some locations, large amounts of sediment are entering the stream from the road surface, and the steep, toe slopes and bank slopes along the roadway. These sites will be re-contoured with proper slope

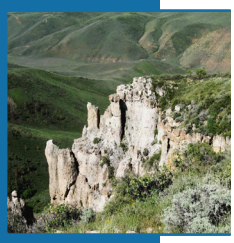
angles and re-vegetated. Temporary fences will be constructed to protect these sites for several years to allow proper establishment of stabilizing vegetation at all sites. This project addresses WLCI landscape priorities associated with 1) fish passages and aquatic habitats and 2) stream and riparian function. Project partners include the Wyoming Game and Fish Department and Bureau of Land Management.

Cottonwood Creek Wetlands

The goal of this project is to increase wetland habitat and improve existing wetland habitat for a variety of wetland-dependent wildlife, terrestrial game and non-game wildlife species. This will be accomplished through the construction and repair of dikes, water control structures, and a reservoir on flood-irrigated land. This year the project proponent continued working on fundraising (Wyoming Water Development Commission) and soliciting contractor bids for the Cottonwood Reservoir repair. This project supports the CAP landscape priorities by investing in conservation actions on Agricultural and Other Private Lands and by addressing objectives associated with the landscape priority on Wetland Enhancement and Development. Many of the species associated with wetlands are regarded as sensitive or are listed as species of concern. This includes many residential and migratory bird species and amphibians.

Dempsey Ridge Fence

The current Dempsey Ridge fence is an old mesh and barbed-wire fence that serves as a boundary for 7 BLM allotments. Portions of this fence are completely down or have been cut. The BLM, in cooperation with allotment permittees, will construct 8.9 miles of new fencing that meets wildlife standards. Replacement of this fence will allow for better management of livestock that graze in these allotments and overtime will improve forage conditions within the seven grazing allotments (~45,000 acres). The Dempsey Ridge fence will improve habitat conditions for elk, moose, pronghorn, mule deer, sage-grouse, and other BLM sensitive species throughout each season of the year. Habitat that will be improved by the fence replacement is adjacent to the Lost Creek/ Ryan Creek Cooperative Management Area. Fence replacement includes 7.4 miles on BLM-managed land (83%) and 1.5 miles on private land (17%). Accomplishments during 2015 included the completion of National Environmental Policy Act (NEPA) analysis, and purchasing of fence materials. Installation of the fence will occur during spring of 2016. By completing the maintenance on the Dempsey Ridge fence, this project addresses several landscape priorities that are listed in Part I of the CAP. The newly maintained fence will help control livestock better allowing better management of vegetation and improved quality of crucial habitats. Habitat will be improved by leaving more vegetation behind for wildlife. Species that will benefit from this are big game, sage-grouse, and sagebrush-obligate birds. Another landscape priority that will be met would be big-game passage and life stage-connectivity. The fence line will be



converted from woven wire to a wildlife friendly fence. This project will help enhance and restore big game corridors, transition, and crucial habitat. The project is located along several migratory corridors for mule deer and elk, crucial winter ranges for elk and moose, and elk calving. The fence will allow for better vegetation management and easier passage during transition to seasonal habitats. Flight diverters will be installed on the portion of the fence located within 4 miles of the nearest sage-grouse lek. The Dempsey Ridge fence will help promote diverse age class structure in aspen and mountain shrub communities, increase stand resilience, aspen densities, reduce excessive browsing, protect, maintain, and enhance important or crucial habitats and corridors for big game species. The project also addresses many of the objectives identified in the Wyoming Range West Priority Area.

Greys River Weed Treatments

The main focus of the Greys River District Noxious Weed Control Program is to prevent the successful establishment of noxious weed species, and prevent new infestations of noxious weed species and either eliminate existing patches or reduce the density of noxious weeds to a point at which a native diversity of vegetation is maintained. The project relies on a three-pronged approach: (1) carry out a repeating cycle of spraying known spotted knapweed and other noxious weeds along roads, major trails, and at campgrounds; (2) spray leafy spurge, yellow toadflax, and other noxious weeds in the backcountry using a packhorse; and (3) release biological control agents (e.g., apthona beetles). The Lincoln County Weed and Pest District is carrying out the first approach, a private contractor is carrying out the second approach, and both groups are cooperating on the third approach. The District is currently upgrading the noxious weed monitoring program to include GIS based equipment in order to better track progress in terms of these approaches. About 391 acres of noxious weed infestations were treated this year on the Greys River Ranger District, with about 75 of those acres being treated with WLCI funding. The primary species targeted include spotted knapweed, leafy spurge, yellow toadflax, Dyer's woad, houndstongue, black henbane, and musk thistle. Noxious weed treatments will continue next year. This project addresses several landscape priorities of the CAP. It directly addresses the priority to "eradicate, reduce, or control of invasive plant species especially in areas crucial to important life stages". The project also addresses priorities to increase grass and forb diversity in sagebrush communities and to maintain and protect functional mountain shrub communities. The project also directly addressed the landscape priority associated with invasive plant species. This project also addresses issues and conservation objectives in Parts II and III of the CAP. The Greys River watershed is identified as a priority area, and control of invasive plants is a priority for the Wyoming Range Mule Deer Herd Initiative. Partners include Lincoln County Weed and Pest District, US Forest Service (USFS), and Wyoming Wildlife and Natural Resources Trust Fund (WWNRT).

PROJECTS

Kemmerer Field Office Cheatgrass

This is a new multi-year project to control cheatgrass within the BLM Kemmerer Field Office boundaries. This project has also received funds from the WLCI Ruby Cooperative Conservation Agreement. Both funding sources will be covered in this portion of the report. Project proponents have identified four objectives to control cheatgrass: 1) identify and map cheatgrass areas within the BLM Kemmerer Field office; 2) prioritize areas of cheatgrass for treatment; 3) aggressively treat and eradicate small areas of cheatgrass; and 4) aerially treat large areas of cheatgrass based on prioritization. Over 350 acres were chemically treated in three cheatgrass priority areas: Bear River Project Area (139 acres), Uinta Project Area (104 acres), and Commissary Project Area (108 acres). In addition, 500 acres were monitored. Ruby funds will be carried over to 2016 to treat cheatgrass. This project addresses the CAP Landscape Priorities by maintaining the quality of crucial habitats through the control of invasive species. This project enhances and restores big game corridors, transition, and crucial habitats by controlling invasive species within these areas. This project maintains, enhances, and restores sagebrush by controlling invasive species, especially within the Ruby pipeline area. This project improves mountain shrub structure and regeneration by controlling invasive species. This project maps and treats cheatgrass on BLM-administered land and across all jurisdictional boundaries including private lands. The KFO cheatgrass project includes portions of the Bear River Priority Area, Blacks Fork Priority area, CNNR Priority Area, and The Wyoming Range West Priority Areas. This project addresses WLCI landscape priorities by controlling invasive species for riparian and range health, and promoting diverse age classes in aspen and mountain shrub communities.

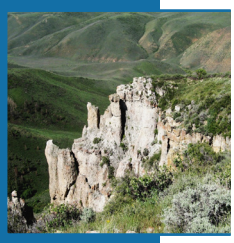
Raymond Mountain

Raymond Mountain is in the CAP Wyoming Range West Geographic Priority Area and addresses objectives related to the WLCI landscape priority associated with Invasive Plant Species. This area is important winter and summer range for mule deer and elk and important to livestock producers. The primary objective of this project is to treat Dalmatian toadflax and Dyers woad in rugged terrain on Raymond Mountain to improve habitat for livestock and wildlife. This year a helicopter was contracted to monitor and treat 645 acres. Partners include the Lincoln County Weed and Pest District, BLM, and local landowners.

Sibert Ecosystems Services

Initiated in 2012, the primary objective of this project is to implement a five-year contract for ecosystem services (habitat improvements) on private lands to enrich native vegetation and wetland conditions. This project supports the CAP by investing in conservation actions on agricultural lands and with maintaining access to crucial

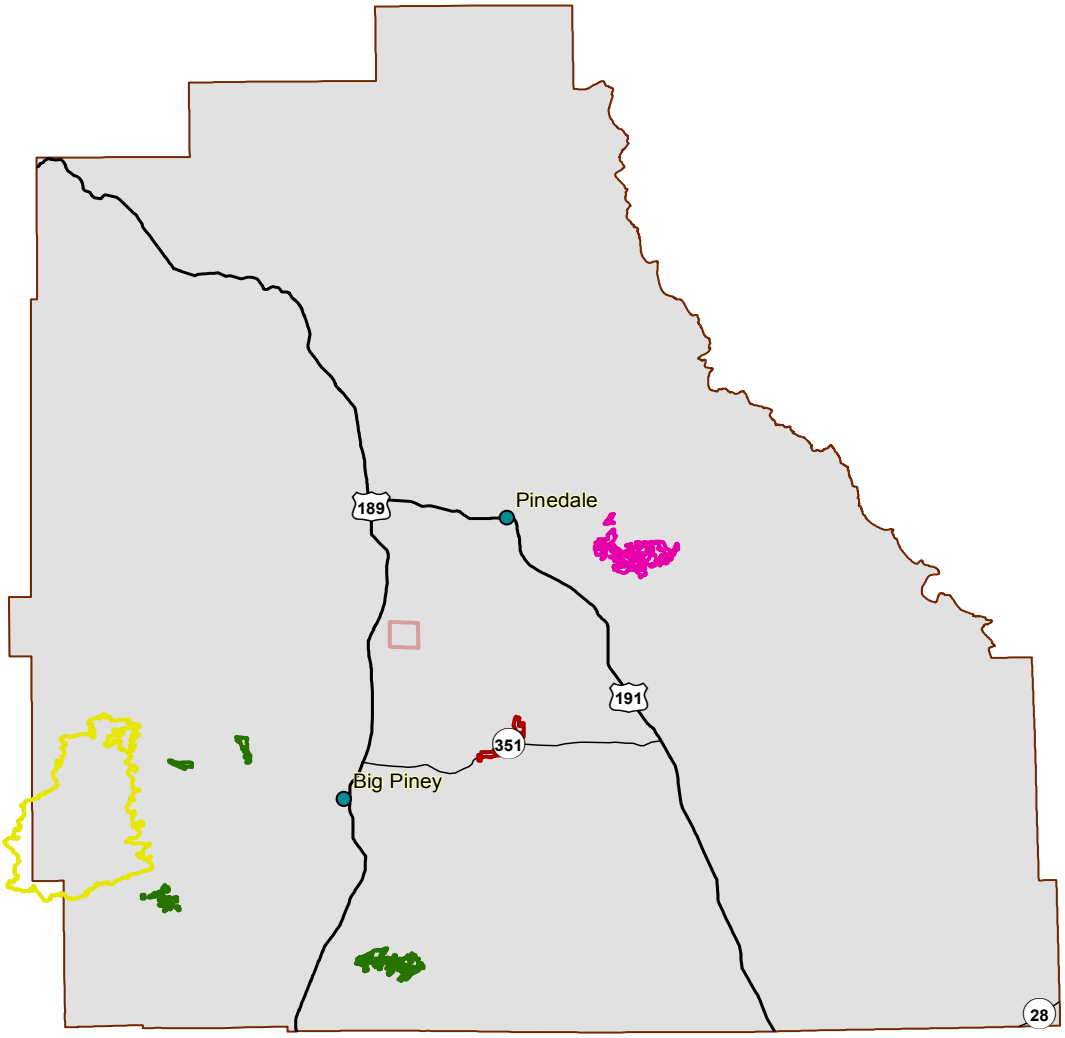
PROJECTS



winter habitat. A collaborative effort between the landowner and a multiagency team resulted in habitat improvements and the design and implementation of monitoring objectives aimed at improving range condition for livestock and wildlife. This information lessons learned will be shared with WLCI's LPDT. Activities completed for this reporting period include herbicide treatments and hand picking of individual invasive plant species. These activities conducted during 2014 and 2015; have dramatically decreased invasive plants under pivots and in pastures. Other activities included providing crop forage (sainfoin) for Mule Deer, Pronghorn, and other wildlife. This was achieved by leaving 15 acres of uncut crop and allowing access to new growth of 40 acres that were previously harvested. The 40 acres of regrowth provide approximately 75 percent of the nutritional value of uncut crop, but doubles the size of accessible crop. Improvements to vegetation in the wetland, riparian, rangeland habitats were accomplished by adjusting grazing time. Stocking rates were reduced for the 2014 and 2015 grazing seasons, reflecting a reduction of 218 AUMs for half of the grazing season each year. This activity was completed at the end of September 2015, with all livestock being removed from the project area, and restrictions of human activities during the winter months to reduce stress on wildlife.

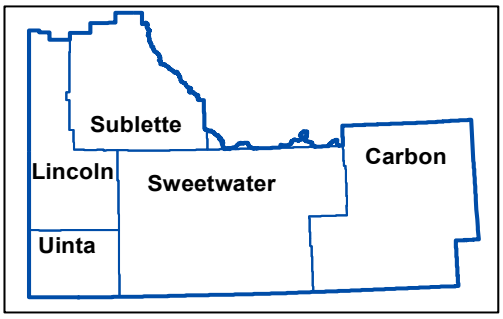
2015

SUBLETTE



Sublette Projects

- Boulder Cheatgrass
- Olson New Fork Stabilization
- Piney Creeks Veg. Restoration
- Trumpeter Swan Ponds
- Wyoming Range Mule Deer



PROJECTS

Sublette County Local Project Development Team

Boulder Cheatgrass Control Project

This is a long-term project to address the spread of cheatgrass in Sublette County, Wyoming. The Sublette County Invasive Species Taskforce has identified the treatment of cheatgrass in the Boulder area as crucial to the County-wide control effort. This project takes place within the Sublette Invasive Species Taskforce Cheatgrass Priority Area identified by the Local Project Development Team. The area is primarily sagebrush steppe habitat with scattered pockets of mountain shrub. The project area is also within a big game migration corridor and greater sage grouse core area, as well as critical wildlife habitat for elk, mule deer, pronghorn and numerous other non-game species. The project continues to improve critical sagebrush steppe habitat by reducing the occurrence of, and spread of cheatgrass. This year 100 percent of the WLCI funds and matching money were used for aerial spraying of cheatgrass on 181 and 1,211 acres of State and BLM-administered lands, respectively. This project addresses the WLCI Conservation Action Plan (CAP) landscape conservation priorities of maintenance of quality crucial habitats, enhancement and restoration of big game corridors, transitional and crucial habitats and invasive plant control. In addition, the project augments work on the Wyoming Range Mule Deer Project and the Hoback to Red Desert migration corridor. Project partners include Denbury Resources, Pinedale Anticline Project Office, Jonah Interagency Office, Wyoming Range Mule Deer Taskforce, Upper Green River Sage Grouse Local Working Group, Wyoming Game and Fish Trust, Wyoming Governor's Big Game License Fund, and WLCI.

Olson New Fork Wetland Project

This project is designed to create a ten-acre wetland within an old oxbow of the New Fork River and stabilize 200 yards of stream bank to prevent bank erosion and incision which threatens to cut off a large river meander. Water control structures were installed in 2014 that enabled the inundation of the ten-acre wetland. However, high runoff overwhelmed the water control structures causing them to fail. In 2015, with U.S. Army Corp of Engineers permitting completed, the water control structures were repaired by the engineering firm at their cost and 200yards of the New Fork river bank was stabilized. This should prevent stream bank erosion and future incisions. Post construction site visits occurred throughout the spring to see how the structure and restored banks responded to this year's runoff. Monitoring will continue to ensure project compliance and efficacy. This project maintains and improves wetland and riparian habitat quality and quantity for Trumpeter Swans and a multitude of other game and non-game species that utilize the New Fork River corridor. This project addresses the WLCI CAP landscape conservation priorities of wetland enhancement and development, fish passage and aquatic habitats, stream and riparian function, and conservation actions on agricultural and other private lands. This project occurs within

the Upper Green River Valley-New Fork River Priority Area. This undertaking was a cooperative effort involving the private landowner, Sublette County Conservation District, U.S. Fish and Wildlife Service (USFWS), and Wyoming Game and Fish Department (WGFD).

Piney Creek Restoration Project

The objective of this project is to reestablish native vegetation, maximize vegetative growth, and control non-native invasive plants following the 64,000 acre Fontenelle fire which occurred in 2012. The fire occurred on federal (Forest Service and BLM), state, and private lands used by wildlife and livestock for grazing. The fire reduced forage and destroyed fences, severely affecting livestock use of the burned area for several years after the fire. To assure vegetative recovery it was critical to defer grazing and replace fences necessary to manage subsequent grazing. The Piney Creek Vegetation Restoration Team was formed to address these issues. With the cooperation of landowners and permittees, the team identified and implemented the following actions: providing alternate sources of forage for livestock, assisting with the movement of livestock to alternate allotments or pastures, and providing supervision of livestock while on the new locales. The project also monitored the vegetative response and early detection and control of weed infestations, and provided assistance with replacing lost infrastructure within the burned area. The USFS, BLM, and WGFD team members conducted monitoring of revegetation efforts. Results indicate impressive vegetative responses. Livestock grazing resumed during the 2015 grazing season. Sublette County Weed and Pest monitored and treated weed occurrences on 331, 189, 12,382 and 51,175 acres of private, state, BLM-managed and USFS lands, respectively. This project addresses the WLCI CAP landscape conservation priorities of maintenance of quality crucial habitats, big game passage and life stage connectivity, enhancement and restoration of big game corridors, transition and crucial habitats, sagebrush maintenance, enhancement and restoration, aspen structure, regeneration and conifer encroachment, mountain shrub structure and regeneration, invasive plant control and stream and riparian function to aid the restoration of the Colorado River cutthroat trout. The project occurs within the Upper Green River Valley-New Fork River Priority Area, and benefits mule deer, elk, sage-grouse, snowshoe hare, lynx, migratory birds and other non-game species. Partners include private landowners, grazing permittees, Office of State Lands and Investments, BLM, USFS, Sublette County Conservation District, WGFD, and Wyoming Wildlife and Natural Resources Trust Fund (WWNRT).

Trumpeter Swan Summer Habitat Enhancement Project

The major objective of this project, which has been ongoing since 2007, is to construct and restore shallow water wetland habitats on private lands in the Green River Basin

PROJECTS

to increase high quality summer habitat for a resident population of trumpeter swans, other waterbirds and wildlife. In 2014, construction of the 12-acre Homestead pond on the Lazy River Ranch, along the New Fork River in Boulder, Wyoming, was completed. A 2014 water diversion failure on a neighboring ranch necessitated draining the Homestead pond and required additional groundwork to reshape the banks and track-pack the bottom. The pond was refilled during the spring of 2015 and is now functioning at full capacity. Planning for the second pond has been completed. However, the landowner wants to observe how the first pond functions before agreeing to start construction on the second pond. Because of unanticipated soil and water characteristics encountered during construction of two ponds on the Rimfire Ranch south of Daniel, Wyoming, additional work to fortify the dikes and improve water flow needs to be completed in order for the ponds to operate at full capacity. An agreement to complete the work was signed in 2014. However, wet conditions in 2014 prevented this work from being completed. The Wyoming Game and Fish Department personnel conducted two site visits and additional phone meetings with the Rimfire Ranch to determine what work could be done later in the fall of 2015. Work to fortify the dike should be completed in 2016. Future projects will include assessments that are designed to characterize wetland used by nesting trumpeter swans in the Green River Basin. Outcomes of these assessments will be used to augment existing wetland habitats and to improve the design for future development projects. During 2015, Wyoming Game and Fish Department and Fish and Wildlife Service Partners Program personnel conducted site visits to document wildlife use of enhanced wetland habitat and ponds on the Rimfire Ranch, Lazy River Ranch, Circle Nine Ranch and the Swift Ranch. Site visits to the projects are conducted at least once a year to take photos at photo points and assess vegetation growth. This project addresses the CAP landscape conservation priorities of, wetland enhancement and development, fish passage and aquatic habitats, stream and riparian function and conservation actions on agricultural and other private lands. The project is within the Upper Green River Valley-New Fork River Priority Area. Partners include the Lazy River Ranch, Lost River Ranch and Rimfire Ranch, WGFD, USFWS, WWNRT, Upper Green River Grazing Association, Ducks Unlimited, and BLM.

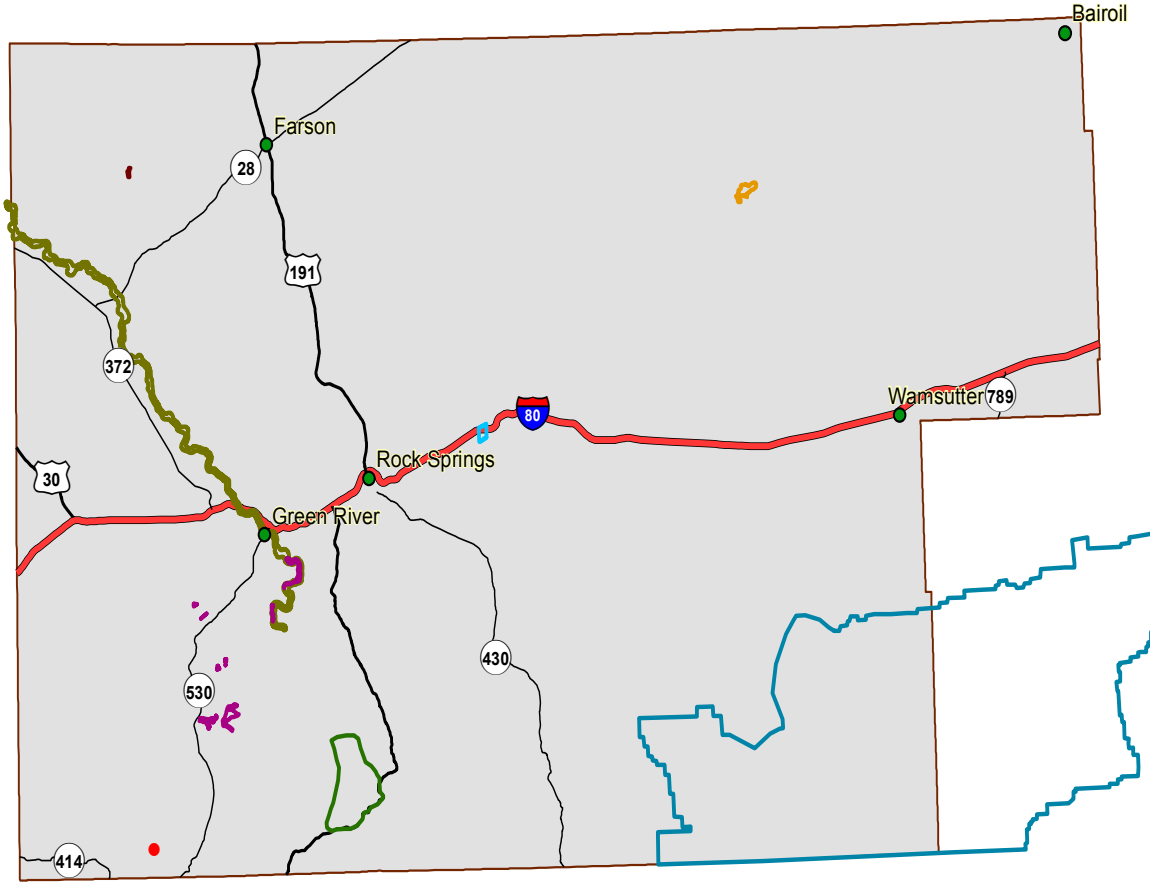
Wyoming Range Mule Deer Habitat Project

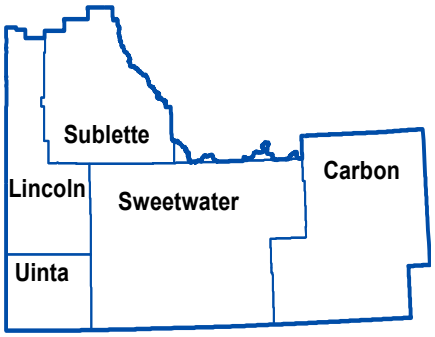
The objective of this project is to improve habitat quality on mule deer crucial winter range, transitional range, and parturition range on federal and state lands in Sublette County. During 2015, mechanical and chemical treatments were focused on increasing sagebrush vigor and seed production, increasing forb and grass diversity and percent composition, removing invasive plant species and increasing aspen regeneration. Baseline vegetation inventories were conducted at representative sites prior to treatment. Post treatment monitoring was conducted on sites treated in 2014. This data will be used to document post treatment vegetation change. The information gathered will be

used to determine the success of treatments and direct future treatments. In total 3,696 acres were treated in the summer and fall of 2015. This includes mechanical treatment of 2,083 acres of mountain shrub communities on BLM-administered land, herbicide spraying of 1,000 acres of cheatgrass on BLM administered land and mechanical preparation for a prescribed burn in aspen on 524 acres of BLM-administered land and 89 acres of State lands. Five miles of fence was constructed to deter grazing on treated areas. A range rider was hired to assist with resting the previously treated areas from livestock use and payment was allocated to one permittee in exchange for resting a pasture from livestock use. Additional funding was provided to another permittee to improve a water development to achieve deferred grazing objectives. Cultural inventory was completed on 22,966 acres of BLM-administered land within the project area. This project addresses the WLCI CAP landscape conservation priorities of maintenance of quality crucial habitats, enhancement and restoration of big game corridors, transition and crucial habitats, maintenance, enhancement and restoration of sagebrush habitats, aspen regeneration and conifer encroachment, mountain shrub structure and regeneration, and invasive plant control. This project benefits mule deer, elk, moose, sage-grouse, pygmy rabbit, snowshoe hare, migratory birds and non-game species. This project occurs within the Wyoming Range Mule Deer Initiative priority area and augments the work of the Sublette County Invasive Species Taskforce. Partners include WGFD, BLM and permittees, WWNRT, Denbury Resources, the BLM Fuels program, Wyoming Game and Fish Trust, Rocky Mountain Elk Foundation, and Wyoming Governor's Big Game License Fund.

2015

SWEETWATER





Sweetwater Projects

- Bitter Creek Restoration
- Buckhorn Flowing Well Enclosure
- Flaming Gorge Invasive Weed Control
- Green River Russian Olive and Tamarisk Control
- Hay Reservoir
- Little Mountain Aspen Protection
- Peoples Canal Fish Barrier
- Sand Creek

Note: Hay Reservoir and Sand Creek Invasive Weed Control Projects can be found in the Carbon County Portion of this Report.These Projects are from the BLM Rawlins Field Office.

PROJECTS

Sweetwater County Local Project Development Team

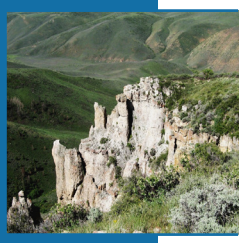
Bitter Creek Diversion Structure

This project is intended to replace a failing drop structure on Bitter Creek, located approximately 18 miles east of Rock Springs, Wyoming. The drop structure has restricted a 20-foot headcut from moving up the watershed for the past 40 years, and protects the flannelmouth sucker (a native fish species of greatest conservation need) from cross breeding with other sucker species, maintaining a genetically pure population. In 2014, Anadarko donated 20 acres to Sweetwater County to allow the construction of the drop structure. This project supports both the Fish Passage and Aquatic Habitats, and Stream and Riparian Function portions of the Conservation Action Plan (CAP). This effort will reduce sediment loading in Bitter Creek, which would occur if/when the existing Pierotto Ditch structure fails, maintaining the existing upstream channels morphology and riparian regime. During 2015, acquisition of complete funding took place with WLCI providing $200,000 through an agreement with the Sweetwater County Conservation District (SWCCD) that also contributed $80,000. In addition, the project was awarded $118,638 from a 319 Grant through the Wyoming Department of Environmental Quality program. Applications to other funding sources were also prepared. SWCCD, County personnel, and WLCI Coordination Team continued to work on getting access permissions through a multi-entity agreement. The diversion structure should be completed by early winter of 2016.

Buckhorn Flowing Wells

This project is intended to improve existing riparian habitat in the Buckhorn Flowing Wells area. Since 1956, this well has provided water to fill and maintain a reservoir with the overflow supporting riparian habitat at least one mile further down the valley. This well provides water and important riparian habitat to livestock, wild horses, and other wildlife. This project's goals will be accomplished through the construction of 3-pipe fence around the well head and downstream riparian habitat. This enclosure is intended to keep wild horses and livestock off riparian habitats. The ecological objective of this project is to improve the riparian habitat for sage-grouse brood rearing and year-round use. In 2012 a one-acre enclosure was constructed protecting the well head, in 2013 the second enclosure was constructed protecting about 20 acres. In 2015 Linn Energy donated 64 joints (1,920 feet of 1-7/8" pipe), and 179 joints (5,370 feet of 3-1/2" pipe) as fencing materials. Linn Energy's donation was valued at $12,000. John Bunning Transfer Co. Inc. hauled the materials from Sublette County to the project location in Sweetwater County. Transportation costs were valued at over $2,022. WLCI Coordination Team members coordinated with the Wyoming Community Foundation to provide both companies with 501(c)3 credits. Construction of the enclosure will begin during 2016.

PROJECTS



Green River Russian Olive and Tamarisk Control

This project began in 2010, to control Russian olive and tamarisk along the Green River from Fontenelle Dam to the confluence of the Flaming Gorge. If left unchecked, these non-native invasive trees typically out-compete native tree and shrub species within riparian corridors. The project addresses the CAP by controlling tamarisk, Russian olive, perennial pepperweed and other invasive species along the main stem of the Green River and tributaries important for focal fish species and riparian health. During October and November of 2015, Field Services and Weed Control LLC implemented stump and basil bark foliar treatments within the 5-mile (586 riparian acres) urban greenbelt reach of the Green River. Most of the control work treated re-sprouts and seedlings. Approximately 5-8 acres of mature Russian olive/tamarisk stands were treated. After the fall 2015 work was completed, virtually all known Russian olive and tamarisk infestations within the 586-acre urban riparian corridor had been treated at least once, with several locations receiving 2-3 repeated applications. Attempts were made to get private landowners in the Jamestown reach to participate and allow access for treatments. Only a limited number of landowners were willing to participate resulting in less than 5 acres of riparian habitat being treated in the Jamestown reach during 2015. Treatments occurred on Sweetwater County Park lands, a small island on BLM-administered land downstream of the Killdeer Wetland weir structure, and on a single private land parcel immediately upstream of the Killdeer Wetland weir structure. Plans are being made to re-contact private landowners again in January to negotiate participation in the control program during the spring of 2016. Additional funding may be needed beyond what was originally expected to purchase and plant native trees and shrubs on private lands in order to increase landowner participation. Annual trend monitoring for this project occurred during October 6, 2015. The Green River High School Advanced Biology class monitored four sites within the City of Green River. This was the fourth year they provided this service.

Little Mountain Aspen Stand Protection

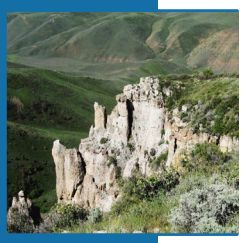
A steel jack fence was constructed around an over-browsed aspen stand on Little Mountain, south of Rock Springs, Wyoming, to help keep ungulates including moose, elk, and cattle from further affecting this aspen stand. This is one of three sites (1 to 3 acres in size), identified as needing protection to help regenerate vertical aspen growth for stand replacement and promote healthy aspen habitat conditions with mesic and diverse understories. The fencing is designed to keep large ungulates out while allowing limited mule deer and pronghorn access. Browsing of aspen suckers at many, locations have impeded vertical growth and some sites exhibit browsing severe enough to cause regression and death of aspen suckers. The fenced sites will also serve as representative Little Mountain aspen control stands allowing managers to evaluate aspen habitat potential where large ungulate browsing has been removed except for limited deer and pronghorn use. The Little Mountain landscape supports some of the most ecologically

diverse wildlife habitats found in southwest Wyoming. Partners include the Muley Fanatic Foundation Southwest Chapter, Wyoming Game and Fish Department, BLM Rock Springs Field Office, SWCCD, Wexpro Energy, Breitburn Energy, and R & M Welding. Project funding, labor and 15,000 feet of drill stem pipe were donated to bring this project together, with BLM also completing the National Environmental Policy Act documentation. This project addresses the CAP by protecting, maintaining, and enhancing important or crucial habitats and corridors for mule deer, elk, and other big game species and is within the Little Mountain Ecosystem priority area.

Peoples Canal Fish Barrier

The construction of an improved diversion dam and fish barrier is the first step to enhancing the Henrys Fork watershed and reestablishing the range and connectivity of native Colorado River Cutthroat trout in the drainage. This barrier will protect the entire drainage from invasive aquatic species and ensure the sustainability of the native fish populations and future habitat work. The Henrys Fork of the Green River contains a number of species of concern and has scores high in native fish community values. Colorado River Cutthroat trout, bluehead sucker, and flannelmouth sucker each occur in the watershed. As a result, the main stem Henrys Fork corridor has been listed as an Aquatic Crucial Area as part of Wyoming Game and Fish Department's Strategic Habitat Plan. The Henrys Fork watershed was also identified as a potential Native Fish Conservation Area for a new national Fish and Wildlife Foundation keystone initiative focused on native fishes in the Upper Colorado River. According to the most recent report "Range-Wide Status of Colorado River Cutthroat Trout," Colorado River cutthroat trout currently occupy only 16 percent of their historic range. Of the 87 total conservation populations found in Wyoming, three core conservation populations are found in the Henrys Fork drainage. Protecting these populations from invasive predators will help maintain these vital populations. Construction began in the fall of 2015 with the building of concrete cut off walls. Backfill and riprap were installed in November. Once the diversion structure was completed, the water flow was released over the new diversion structure and a 12.5-foot trash rack and head gate were installed. Trout Unlimited and WGFD will sample above the diversion in 2016 and 2017 to ensure burbot and other species are remaining below the barrier. Project partners include the Peoples Canal Company, Trout Unlimited, BLM, WGFD, Natural Resources Conservation Service, and many others. This project addresses the CAP by maintaining and restoring species ranges for SGCN fish species (Colorado River Cutthroat trout, flannelmouth sucker, bluehead sucker, and roundtail chub. It will protect over 100 stream miles from invasive fish species.

PROJECTS



USFS Ashley National Forest, Flaming Gorge Ranger District Projects

The Flaming Gorge Ranger District was involved with two projects involving invasive plant species. These included evaluating if forage kochia and other species that can out compete halogeton in Gardner saltbush communities and treating noxious weeds in the Flaming Gorge National Recreation Area (FGNRA). Both of these activities address the Invasive Plant Species/Tamarisk and Russian Olive Control and Removal section of the CAP.

Halogeton Invasion and Restoration in Southwest Wyoming Salt-Desert Shrublands

Gardner saltbush ecosystems are increasingly being invaded by halogeton, an annual halophyte that increases soil surface salinity and reduces plant biodiversity. Thus, a study was established in 2010 in the Flaming Gorge National Recreation Area near Manila, UT to evaluate the ability of forage kochia, Russian wildrye, tall wheatgrass, Indian rice grass, and Gardner saltbush to establish and compete in halogeton-dominated Gardner saltbush ecosystems. During 2015, crews monitored over twenty sites in Wyoming where halogeton is displacing native plants. In addition, annual monitoring of two enclosures continued. Field data was analyzed and presented at the Wyoming Chapter of Society of Range Management in Evanston, WY in November 2015. A M.S. thesis titled "Potential of Forage Kochia and other Plant Materials in Reclamation of Gardner Saltbush Ecosystems Invaded by Halogeton" was completed and defended in April of 2015. A manuscript has been drafted and will be submitted as a journal publication in 2016.

Noxious Weed Control Within the Flaming Gorge National Recreation Area (FGNRA)

The USFS is using specialized boating equipment capable of accessing low water areas of the Flaming Gorge Reservoir including the Blacks Fork River and Green River to map and treat noxious weed species, in those areas with limited vehicular/OHV access. Noxious weeds were treated within the FGNRA in Wyoming during the 2015 field season. Efforts were focused on areas that were not previously treated due to limited OHV access and/or lower reservoir levels last year. Areas treated in 2015 included large portions of the Black's Fork River and Green River. Noxious weeds included perennial pepperweed, black henbane, thistles, and salt cedar. On the Green River, the high reservoir level allowed extensive access to the stretches above Firehole Canyon. Herbicide treatments also occurred on other areas of the Flaming Gorge Reservoir. Sweetwater County Weed and Pest (SWCWP) treated many areas of the FGNRA with backpack sprayers, ATV, UTV, and/or pickup truck spray units.

Ruby Pipeline Projects

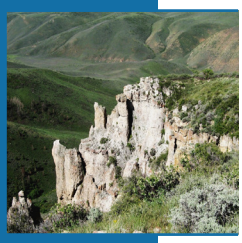
Characterizing Pygmy Rabbit Distribution and Habitat Suitability in the Kemmerer Area

Pygmy rabbits are sagebrush obligates, relying on sagebrush for both food and cover, and they typically occur in association with relatively tall, dense stands of big sagebrush on deep soils. Sagebrush stands meeting this set of criteria are patchily distributed, and the relationship among pygmy rabbit distributions and variation in habitat structure is poorly understood. The three main objectives for this study are: 1) relate pygmy rabbit spatial distributions to variation in habitat structure, 2) characterize habitat composition at heavily used, seldom used, and unused areas, and 3) relate pygmy rabbit site occupancy to gas well, well pad, and road densities on the Moxa Arch gas field and other areas within the Ruby Priority Area. During 2015, site occupancy survey data for pygmy rabbits collected during 2008, 2009, 2013, and 2014 and a suite of environmental predictor variables were used to generate a species distribution model that covered a core area considered by local wildlife managers to be of high conservation value to pygmy rabbits, and the surrounding non-core area where pygmy rabbits also occur. Next, a probability surface map of the entire area was generated in Arc GIS and grouped into three classes based on the predicted probability of occupancy. Probability of occupancy was best predicted in a Random Forest model that contained variables describing winter precipitation, road density (negative relationship), aspect variability, variability in shrub height (positive relationship), and solar radiation. High suitability habitats were characterized by less winter precipitation, lower road densities, greater aspect variability, lower shrub height variability, and higher solar radiation levels than in low suitability habitats, while moderate–suitability habitats generally had intermediate values for these attributes. While some of these variables (i.e., solar radiation and winter precipitation) may be changing in unmanageable ways, others (i.e., aspect) are static, providing managers the ability to manipulate factors such as road density and variation in shrub height in areas where pygmy rabbits are a conservation priority. A final report will be completed during 2016 and findings and map products related to these activities will be shared with the Ruby Focus Group and with the WLCI Lincoln/Uinta LPDT to support conservation planning.

Circle B Ranch

This project will utilize Ruby Funds to implement several improvements on private lands to improve habitat for livestock and wildlife. One objective of the project is to develop and restore springs and fence those riparian areas around the springs. Next, is to provide wildlife friendly fencing at critical areas on private land adjacent to Bureau of Land Management and Forest Service land to exclude livestock and manage livestock

movement along property boundaries. Another objective is to conduct weed control on private lands adjacent to BLM-managed and Forest Service lands. The final objective of the project is to develop a comprehensive Conservation and Grazing Management Plan that addresses long-term agricultural sustainability, conservation of habitat and monitoring of sensitive species. To date no funds have been utilized.



Sage-Grouse Core Area Riparian Enclosures

BLM Kemmerer Field Office (KFO) proposes to construct riparian enclosures within sage-grouse core area as designated by the Wyoming Governor's Executive Order (EO 2011-5). During late summer, fall, and early winter of 2011, the BLM mapped and inventoried approximately 190 reservoirs and 50 springs/seeps in the Ruby Priority Project area. After compiling 2011 data, the BLM identified several springs/seeps as priorities for protection/enhancement. The springs/seeps are repeatedly grazed to the extent that hummocks are forming or have already formed. Once hummocks form, soil compaction is typically increased which may result in a lower water table, uphill migration of the springs, or development of head cuts, or a complete loss of the water source. The KFO proposes to use low maintenance fencing to reduce the development of hummocks and soil compaction. Low maintenance fencing will be used to address heavy snow loads and to reduce future maintenance/repair costs. If needed, the fences would be fitted with low light reflectors/reflective tape to increase visibility by wildlife, especially sage-grouse. The enclosures would be located within the Bear River and Upper Colorado River watersheds. Other species of concern include Bonneville and Colorado River Cutthroat trout, northern leopard frog, northern leatherside and roundtail chub, flannelmouth and bluehead suckers, big game, raptors, and other migratory birds. Activities completed for this reporting period include the purchasing of fencing materials and progress on the NEPA process. NEPA was completed on five enclosures (~10 acres). Enclosures will be built during 2016 at these sites.

2015

PROJECT FUNDING

Carbon County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Aspen Conservation Joint Venture	Little Snake Conservation District	$88,000.00	$25,000.00	$50,000.00
Baggott Rocks Invasives	WGFD	$0.00	$0.00	$0.00
Bradley Peak Sage-Grouse Nesting Habitat Improvement	BLM	$20,000.00	$25,000.00	$25,000.00
Carbon County Weeds Perennial Pepperweed	BLM	$11,710.00	$0.00	$0.00
Ferris Mountain WSA Leafy Spurge Treatment	BLM	$24,294.00	$20,000.00	$20,000.00
Grizzly Fence Conversion	WGFD	$50,000.00	$0.00	$0.00
Hay Reservoir Weed Treatment	BLM	$3,600.00	$0.00	$0.00
JO Greater Sage_Grouse Habitat Improvement	Medicine Bow Conservation District	$0.00	$0.00	$0.00
Lower Encampment River Restoration	Saratoga Encempment Rawlins Conservation District	$43,723.00	$45,000.00	$45,000.00
Platte Valley Mule Deer Habitat Improvement	WGFD	$75,677.00	$70,825.00	$70,825.00
Rawlins Fence Conversion	BLM	$16,500.00	$15,000.00	$15,000.00
Red Rim Daley	WGFD	$1,909.38	$15,000.00	$0.00
Sand Creek Salt Cedar Control	BLM	$5,000.00	$20,000.00	$20,000.00
Shirley Basin Sage-Grouse Habitat	Medicine Bow Conservation District	$0.00	$0.00	$0.00
Upper Platte Valley Weed Management Area	BLM	$67,722.00	$70,000.00	$70,000.00
TOTALS		**$408,135.38**	**$305,825.00**	**$315,825.00**

2015

PROJECT FUNDING

Lincoln/Uinta County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Blacks Fork Tamarix Removal	Uinta County Weed & Pest District	$21,198.53	$25,000.00	$50,000.00
Coal Creek Stabilization	WGFD	$101,344.00	$0.00	$0.00
Cottonwood Creek	USFWS	$1,500.00	$0.00	$0.00
Dempsey Ridge Fence	BLM	$0.00	$35,000.00	$35,000.00
Greys River Weeds	USFS	$77,500.00	$0.00	$0.00
KFO Cheatgrass	BLM	$50,000.00	$25,000.00	$25,000.00
Raymond Mountain Invasives	Lincoln County Weed & Pest District	$0.00	$10,000.00	$10,000.00
Sibert Ecosystem Services	WLCI	$75,000.00	$75,000.00	$15,000.00
TOTALS		**$326,542.53**	**$170,000.00**	**$135,000.00**

*Funding totals do not include projects associated with Ruby Funds.

Sublette County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Boulder & Sublette Invasive Species Taskforce	Sublette County Weed & Pest District	$106,045.00	$40,000.00	$40,000.00
New Fork River Infiltration of Trace Organics	USGS	$143,940.00	$0.00	$2,000.00
Olson New Fork Stabilization and Wetland Development	Sublette County Conservation District	$17,491.00	$50,000.00	$50,000.00
Piney Creek Vegetation Restoration	Sublette County Conservation District	$13,642.00	0.00	$5,428.00
Swift/Sullivan Trumpeter Swan Nest Site Enhancement	WGFD	$5,954.84	$541,500.00	$0.00
Wyoming Front Aspen Treatment	BLM	$65,000.00	$50,000.00	$0.00
Wyoming Range Mule Deer Habitat	BLM/WGFD	$299,080.00	$250,000.00	$115,000.00
TOTALS		**$651,152.84**	**$931,500.00**	**$212,428.00**

2015 PROJECT FUNDING

Sweetwater County LPDT

Project Name	Lead Agency	Partner's Contributions	BLM Funds Requested	Funding Allocation
Bitter Creek Restoration	Sweetwater County Conservation District	$198,638.00	$200,000.00	$200,000.00
Buckhorn Flowing Well	WLCI	$14,022.00	$0.00	$0.00
Green River Russian Olive Treatment	WGFD	$23,780.00	$0.00	$10.00
Little Mountain Aspen Stand Protection	WGFD	$49,200.00	$45,000.00	$50,000.00
Peoples Canal Fish Barrier	TU	$353,400.00	$50,000.00	$50,000.00
TOTALS		**$639,040.00**	**$295,000.00**	**$300,000.00**

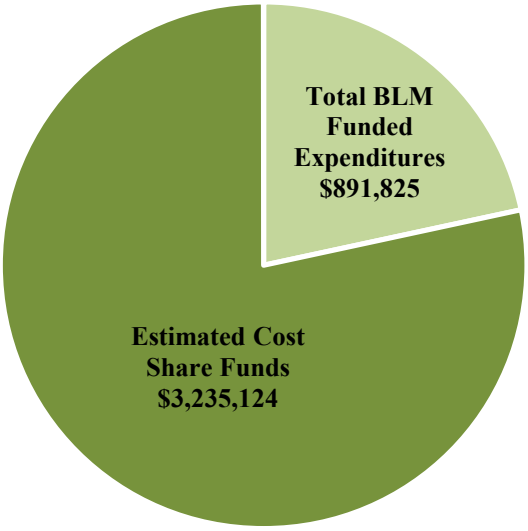
LPDT Totals

Local Project Development Teams	Leverage	Partner's Contributions 2015	Funding Request	Funding Allocation
Carbon	$1.29	$408,135.38	$305,825.00	$315,855.00
Lincoln – Uinta	$1.37	$150,965.53	$170,000.00	$110,000.00
Sublette	$3.07	$651,152.84	$931,500.00	$212,428.00
Sweetwater	$59.56	$2,024,870.75	$295,000.00	$34,000.00
Totals	**$3.36**	**$3,235,124.50**	**$1,702,352.00**	**$963,253.00**

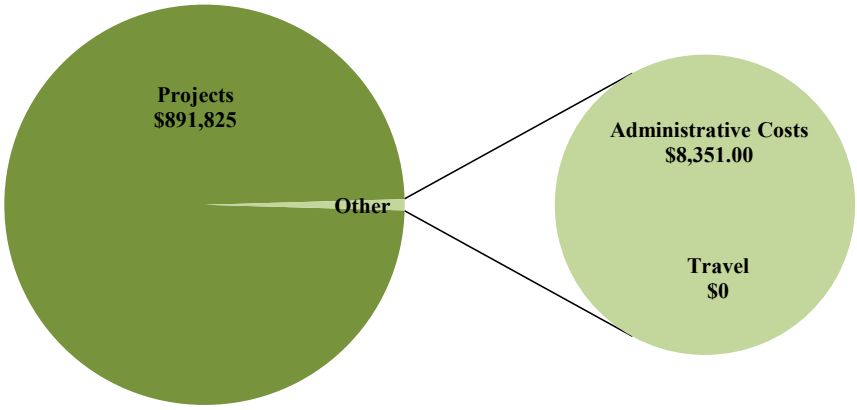
2015

PROJECT FUNDING

$4,126,949 - Total 2015 WLCI Project Expenditures

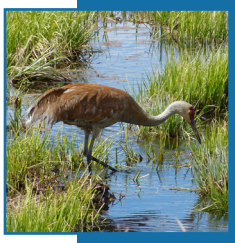


$902,000 - Total 2015 BLM WLCI Budget



2015

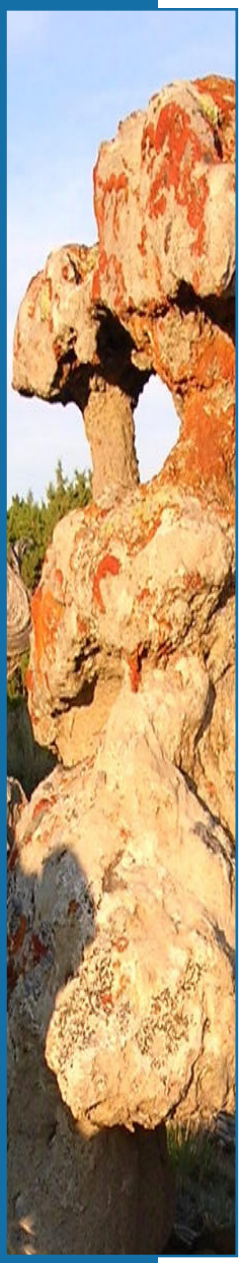
PROJECT COOPERATORS



Anadarko Petroleum
Bureau of Land Management
City of Green River
Carbon County Weed and Pest District
Great Northern Landscape Conservation Cooperative
John Bunning Transfer Co. Inc.
Lincoln County Weed and Pest District
Linn Energy
Little Snake River Conservation District
Medicine Bow Conservation District
Muley Fanatic Foundation
Private Landowners and Permittees
R & M Welding
Rocky Mountain Elk Foundation
Saratoga, Encampment, and Rawlins Conservation District
Seedskadee National Wildlife Refuge
Sublette County Conservation District
Sublette County Weed and Pest District
Sweetwater County Conservation District
Sweetwater County Weed and Pest District
Trout Unlimited
Uinta County Conservation District
Uinta County Weed and Pest District
U.S. Fish and Wildlife Service – Partners for Fish and Wildlife Program
U.S. Geological Survey
University of Wyoming
Utah State University
Wyoming Wildlife – The Foundation
Wyoming Game and Fish Department
Wyoming Wildlife and Natural Resource Trust

2015

SCIENCE SUMMARY



The U.S. Geological Survey (USGS) continued its science and web-development projects in 2015 to help WLCI partners address management questions and support conservation planning. The USGS also continued to advance the understanding of how energy development, invasive plant species, and other change agents affect wildlife populations and agricultural lands in the WLCI region. During 2015, the USGS continued or initiated work on 24 science and web-development projects. These include projects to inventory, monitor, and assess the historical, current, and potential future status of the region's resources; and to understand specific mechanisms that drive wildlife responses to energy development and other human activities, and maintenance of the WLCI web page.

The USGS initiated two new science thrusts during FY 2015. The first included the development of models to simulate future oil and gas development scenarios with different well densities and drilling methods. These models were then used to evaluate the effects of different buildup scenarios on wildlife occurrence and their habitats. During 2015, simulated assessments on future oil and gas development were applied to habitats used by pygmy rabbits to evaluate design scenarios that minimize negative impacts. The second thrust was directed to support WGFD, NRCS, and other WLCI partners to document and understand current events associated with sagebrush defoliation and mortality in Wyoming. In 2015, USGS collected additional field data on sagebrush mortality and areas of perceived healthy sagebrush and began acquiring Landsat satellite imagery to test the ability of remotely sensed imagery to delineate between areas of mortality and healthy sagebrush.

USGS published and presented numerous papers during 2015. A representative subset of these publications include: a paper characterizing hydrology and groundwater levels, and the development of a generalized potentiometric surface map of the Green River Basin Lower Tertiary Aquifer System; a paper with updated information on the spatial representation of oil and natural gas well pad scars in southwest Wyoming; a fact sheet describing the approaches used to forecast and evaluate patterns of energy development in southwestern Wyoming; a paper describing how the relationship of soil disturbance activities in the Muddy Creek Watershed may influence stream salinity; a paper describing an approach to map forest functional types (aspen and conifer tree species) using predictive habitat distribution modeling; and a paper utilizing 28 years of Landsat satellite imagery and climate data to forecast sagebrush ecosystem components and Greater Sage-Grouse habitat in the future.

SCIENCE SUMMARY

The highlight of 2015 for USGS and WLCI was a jointly held science conference with the Wyoming Chapter of the Wildlife Society. The USGS and other WLCI partners sponsored this conference, which took place December 1 – December *3 in Lander*, Wyoming. Approximately 260 people participated in the conference. Attendees represented restoration practitioners, resource specialists, researchers and scientists, managers and planners, students, and policy and legislative staff. The Conference included 62 oral presentations and 21 poster presentations that addressed new research methods and modeling; studies and assessments that evaluated mitigation and restoration of aquatic and terrestrial landscapes, adaptive management and policy; studies that evaluated the influence of energy development on wildlife and focal habitats; conservation activities and research associated with species of concern and threatened species; and studies that evaluated the dynamics of sage-grouse populations and ungulate migration and related habitats. USGS scientist presented 22 professional papers and 16 student papers that were affiliated with USGS investigators and/or as advisers. The conference included four workshops (developing leadership skills and training, discussing career opportunities and collaboration with Industry and other non-governmental agencies, communicating and engaging non-scientific audiences, and an introduction to the R Program) and a special session addressing the effectiveness of Wyoming's Sage-Grouse Executive Order.

2015

TEAMS

Executive Committee (EC)

Provides guidance and decision-making authority

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Brad Rogers, USFWS	brad_rogers@fws.gov
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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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Interagency Monitoring Team (IAMT)

Provides technical information on monitoring activities by WLCI partners

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

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TEAMS

USGS Science Team

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Ruby Pipeline Focus Group

Focuses on conservation actions associated with the Ruby Mitigation Fund

Focuses on conservation actions associate with the Ruby Mitigation Fund

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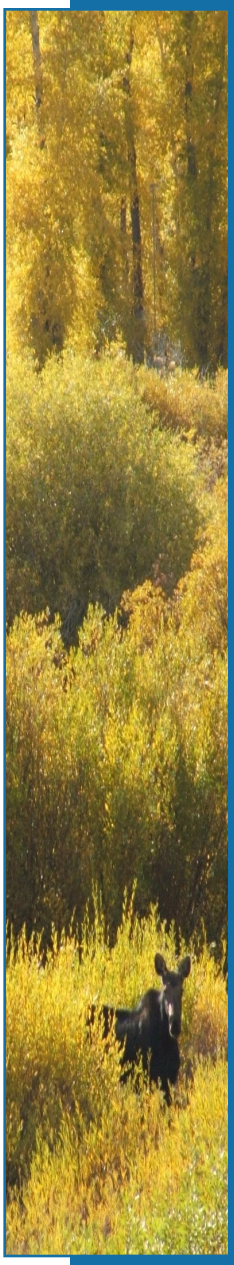
LEARN MORE



Ducks Unlimited
www.ducks.org

Fish and Wildlife Service Partners Program
www.fws.gov/pacific/ecoservices/habcon/partners/

Great Northern Landscape Conservation Cooperative
greatnorthernlcc.org

Greater Yellowstone Coalition
www.greateryellowstone.org

Jonah Interagency Project Office
www.wy.blm.gov/jio-papo/jio/index.htm

Muley Fanatic Foundation
www.muleyfanatic.com

The Nature Conservancy
www.nature.org

Pinedale Anticline Project Office
www.wy.blm.gov/jio-papo/papo/

Rocky Mountain Elk Foundation
www.rmef.org

Trout Unlimited
www.tu.org

Wyoming Natural Diversity Database
www.uwyo.edu/wyndd

Wyoming Wildlife and Natural Resource Trust
wwnrt.wyo.gov

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