

SHERIDAN REGION

Kendrick Dam Upstream Fish Bypass (Goal 2) - Travis Cundy

Kendrick Dam is a barrier to upstream fish passage on lower Clear Creek. Establishing fish passage past the dam would restore access to about 36 miles of Clear Creek suitable for the cool/warm-water aquatic species assemblage endemic to the Powder River drainage.

Final design engineering for the bypass channel project was completed by a team led by WWC Engineering's Laramie office. The final plans were approved by the PeeGee Ranch and, following the bald eagle nesting season, the project was offered for bid. JWS Energy was contracted to construct the bypass and WWC Engineering was retained to assist with construction management and oversight.

Work on the bypass channel began in October 2009 and was substantially completed in January 2010 (Figure 1). We will begin operating the bypass channel in spring 2010. Necessary grading adjustments, reseeding, and tuning of the boulder weirs within the bypass channel will occur when bald eagle nesting activities allow reentry into the site. Funding for the project was provided by the USFWS Fisheries program, WWNRT, Wyoming Governor's Office Sensitive Species Fund, and the Department's Habitat Trust Fund.



Figure 1. The Kendrick Dam fish bypass channel created an avenue for fish to move from lower Clear Creek to 36-miles of stream above the dam.

- Reconnected 59 stream miles along three separate stream reaches to gain fish passage.
- Screened fish from two irrigation diversions.
- Inventoried or monitored 15 miles of stream and riparian corridors.
- Rehabilitated aquatic and riparian habitats along one mile of the South Tongue River.
- Transplanted 16-beaver to two watersheds on the Black Hills National Forest.
- Consulted with proponents of 36 aquatic, riparian, and watershed-related projects.
- 275 acres enrolled in the Mule Deer Legume seeding program.
- Planned chemical treatment of sagebrush in core area on 240 acres.

Regional and Statewide Wildlife Environmental Reviews (Goal 1) - Travis Cundy

RI completed two formal requests for environmental review. One review involved the allotment management plan revision scoping process for five watersheds on the BNF. The other, which was brought to the Department's attention by the BLM, involved evaluating a new culvert crossing on Crazy Woman Creek for upstream fish passage.

On the latter review, a report was submitted to the Corps of Engineers regarding the likelihood the culvert array would limit fish passage. We found the array was a barrier to native fish movements under most flow conditions. The Corps of Engineers agreed the culvert crossing violated provisions of the nationwide-27 permit

that authorized it, and ordered remedial action or removal. Alternatives for replacing the culvert array with a fish-friendly crossing were provided to the company. No remedial action had been taken by year's end.

I also participated in two statewide environmental review projects. These included providing input on the draft aquatic monitoring section of the Department's wind power mitigation guidelines document and reviewing NRCS standard practices to include in Department environmental review procedures.

Lake DeSmet Conservation District's Sagebrush/Grassland Habitat Restoration Program (Phase V)- **Progress Report (Goal 2) - Bert Jellison**

This program just completed its fifth year of enrolling ranches to enhance sagebrush and grassland communities. Its foundation is to emulate the Deseret Land & Livestock management model to achieve enhanced benefits for livestock and wildlife. The paper "Sage Grouse Ecology and Management in Northern Utah Sagebrush-Steppe, a Deseret Land and Livestock Wildlife Research Report, 2002" by R. E. Danvir, provides documentation of benefits to sage-grouse from their ranch management operations. Deseret experienced a six-fold increase in male lek attendance by implementing timed livestock grazing, forb plantings and mechanical treatments. Their ranch management operations also benefited mule deer, pronghorn antelope and other wildlife. Due to Deseret's success at increasing wildlife populations while supporting a working ranch, the Lake DeSmet Conservation District (LDCD) in partnership with private landowners and NRCS initiated this program to replicate and test this "win-win" management model on private and public lands in northern Johnson County.

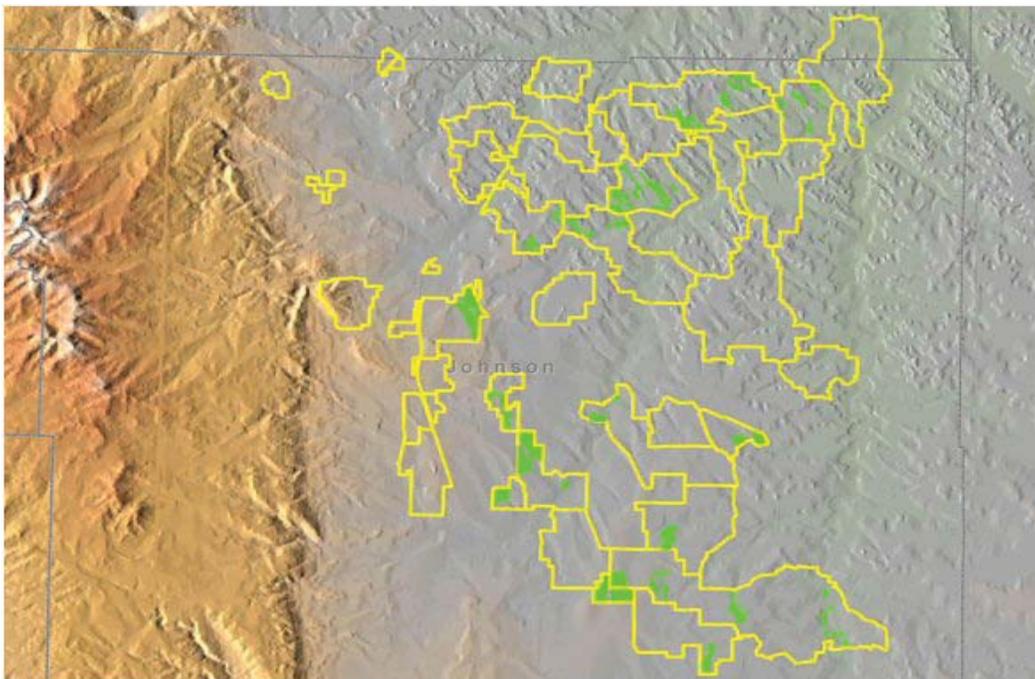


Figure 2. The LDCD (northern Johnson County) has enrolled 24 livestock producers, consisting of 353,722 acres (yellow polygons), to restore and enhance sagebrush/grassland communities. This program has grown to a scale where it could potentially benefit wildlife populations on a landscape level. In addition, 13,588 acres (fluorescent green polygons) have been treated with an aerator and planted with an assortment of forbs and shrubs.

The LDCD has partnered with numerous agencies, non-governmental organizations, foundations and industry to restore the productivity of sagebrush/grassland communities. This community-based program has had tremendous success. So far, over \$3.3 million have been granted to restore 353,722 acres (Figure 2). Phase V of the program involved implementing grazing strategies and plans on seven ranches.

The NRCS and contractors have, and are, preparing ranch management plans for all 24 participating ranches. These plans include rangeland resource inventories, conservation strategies, infrastructure needs, livestock grazing practices and monitoring techniques for measuring management changes. The WGFD prepares reports showing sage-grouse seasonal distribution maps and suggested livestock grazing best management practices per pasture. This year, seven of these reports were prepared. All resource information is managed in a geographic information system database to supply a rapid decision-making tool for land managers. Dr. Roy Roath, a rangeland and livestock grazing specialist from Colorado State University and others are contracted to educate livestock producers and assist them with developing progressive plans that will benefit both livestock and wildlife.

Funding partners, in order of contributions, include the Wyoming NRCS, private landowners enrolled in program, National NRCS, WVNRT, Wyoming Governor’s Sage-Grouse Fund/NE Wyo. Sage-Grouse Local Working Group, WGFD, oil and gas industry (Anadarko Petroleum, Lance Oil and Gas, Kennedy Oil), BLM, LDCD, USFWS, Department of Environmental Quality SEP, Sheridan/Johnson County Chapter of Pheasants Forever, WGBGLC, Eyas Foundation, Wyoming Private Lands Grazing Team, Bighorn Environmental Consultants, Water for Wildlife Foundation and Bow Hunters of Wyoming.

Rangeland restoration practice accomplishments are shown in Table 1. Most practices involve creating more pastures to allow livestock rotations. Rotating livestock limits the duration of grazing use to favor positive plant responses. Fences and water facility practices are designed to be as wildlife friendly as possible. Aeration equipment was used to restore up to 5 percent of the landscape. Approximately 2,810 acres were treated in 2009. By improving herbaceous production and maintaining conservative livestock stocking rates, we expect to reserve more forage and cover for wildlife. The aerator is also used to enhance overflow and riparian sites for sage-grouse brood rearing. Seed is planted during most aeration operations. Species selected depend on soil conditions and include prairie coneflower, American vetch, white prairie clover, Spredor alfalfa, winterfat, fourwing saltbush and yarrow (Figure 3).

Table 1. Conservation practice achievements for 2009 and for the history of the program.

Conservation Practices	2009 Achievements	Program Achievements to Date
Restoration of depleted rangelands and enhancement of sage grouse brooding habitats	2,810 acres mechanically aerated and interseeded with 5,337 pounds of forb and shrub seed	13,588 acres mechanically aerated and interseeded with 13,277 pounds of forb and shrub seed.
Livestock grazing system practices that are designed to improve rotational grazing and management	13 tanks installed 8.5 miles of pipeline installed * 3 wells drilled * 2 solar -system pumps 18 wildlife escape ramps installed 16 miles of fence installed	74 tanks installed 18 miles of pipeline installed * 3 wells drilled * 6 solar-system pumps 74 wildlife escape ramps installed 54 miles of fence installed
Note: *The Lake DeSmet Conservation District’s program does not offer financial assistance for wells or stock-water pipelines. These are landowner costs.		

Figure 3. An aerator implement with mounted seed boxes was used to improve the productivity of go-back (previously farmed) lands. By increasing forage production in pastures where sagebrush is not a significant component, the livestock producer has the flexibility of developing a livestock-grazing system for the entire ranch that's more sage-grouse friendly.



Lake DeSmet Conservation District Fish Passage and Screening Grants (Goal 2) - Travis Cundy

The Watt Diversion project on Clear Creek and TA Ranch Diversion project on Crazy Woman Creek were completed during 2009. Both projects were components of an ongoing diversion rehabilitation partnership program administered by the Lake DeSmet Conservation District. The purpose of the program was to improve channel stability and stream function at, create fish passage past, and where practical, exclude fish from being entrained in irrigation diversions. The Department provided cost share and technical assistance to the program.

The Watt project applied a series of rock structures to reduce streambank erosion and provide upstream fish passage. The structures, which provide small steps, will allow trout and native fishes to move upstream past the diversion. Also, the project applied an in-channel Coanda screen (Figure 4) to exclude fish and debris from the diversion and replaced the initial segment of ditch with a pipeline. Excess flow diverted at the screen can be bypassed back to Clear Creek via the pipeline. Although unproven, the system functioned well during 2009.



Figure 4. The Watt Diversion project improved the ability of fish to move upstream past the diversion and screened fish from entering the diversion pipeline.

The TA Diversion project replaced a coffer dam with a series of rock structures. The structures step water surface elevations up at small intervals to allow trout and native fish to move upstream past the diversion. A punch plate screen was placed at the headworks to exclude fish and debris from the diversion, and the ditch was replaced with a pipeline (Figure 5). Some final adjustments and seeding at the project site will be necessary in spring 2010.



Figure 5. The TA Ranch Diversion project improved upstream fish passage and opportunities for fish seeking thermal refuge during low flow conditions in the North Fork Crazy Woman Creek while screening fish and debris from the diversion.

Cost-share assistance from the Department's fish passage budget was allocated to work with partners to screen additional Clear Creek diversions in 2010. The Lake DeSmet Conservation District will again administer the projects. Four potential screening projects above and below Buffalo were targeted for the cost share assistance. Three of the projects are being engineered and will likely be implemented in 2010.

Barnum Area Mahogany Restoration Project (Goal 2) - Bert Jellison

Curl-leaf mountain mahogany (mahogany) is drought tolerant, slow growing, long-lived and an evergreen shrub that exists on well drained nutrient poor soils. The preservation of functional mahogany habitats is essential for maintaining the diversity and abundance of wildlife in the region. Mahogany benefits wildlife by providing crucial forage for wintering ungulates. The shrub also provides thermal cover, hiding cover, and nesting cover for a variety of wildlife species.

In 1996, we found mahogany to be crucial to mule deer within the Middle Fork Powder River Management Area (part of this project area). While comprising only 5.4 percent of the landscape, mahogany accounted for 75 percent of the discerned fragments from mule deer fecal samples. The density of mule deer pellet groups within this type affirmed this preference. Average pellet groups per acre approximated 427.0, for an average days use per acre of 32.8.

Threats to mahogany in the region include fire and encroachment by conifers. For instance, the 2006 Outlaw Cave wildfire burned 11,574 acres, of which 815 acres were mahogany within crucial mule deer winter range (Herd Unit 322). This amounted to a 7 percent loss of this valuable shrub during a single event. In some areas (as shown in Figure 6), it was entirely removed.



Figure 6. Over 7 percent of the curlleaf mountain mahogany occurring on crucial mule deer winter ranges in Herd Unit 322 burned in 2006.

Invariably the greatest threat to mahogany in the region is encroachment by conifers. Conifers compete with mahogany for sunlight, nutrients and water. Conifers exhibit a faster rate of growth than mahogany. As conifers mature and canopy closure increases they begin to overshadow and choke out the mahogany. Immature mahogany is relatively shade tolerant; persisting in the understory of mature mahogany for decades. However, mahogany becomes less shade tolerant as it develops. Mature mahogany is largely shade intolerant. The removal of mahogany due to encroachment by conifers depends largely on the density of conifers (i.e. % canopy cover). Aggressive infestations of conifers eventually lead to the removal of entire mahogany stands. The establishment of conifers in the region occurs most commonly on ridge tops and northern and eastern aspects. However, conifers are establishing at variable densities within viable curl-leaf mahogany stands on the southern and western aspects as well. To prevent conifers from replacing stands of mahogany, we are proposing to use mechanical and fire treatments to remove conifers throughout the project area where encroachment threatens the persistence of mahogany.

The first group of mahogany communities proposed for treatment involves 1,165 acres (Figure 7). See Figure 8 through Figure 11 for photos of the treatment area.

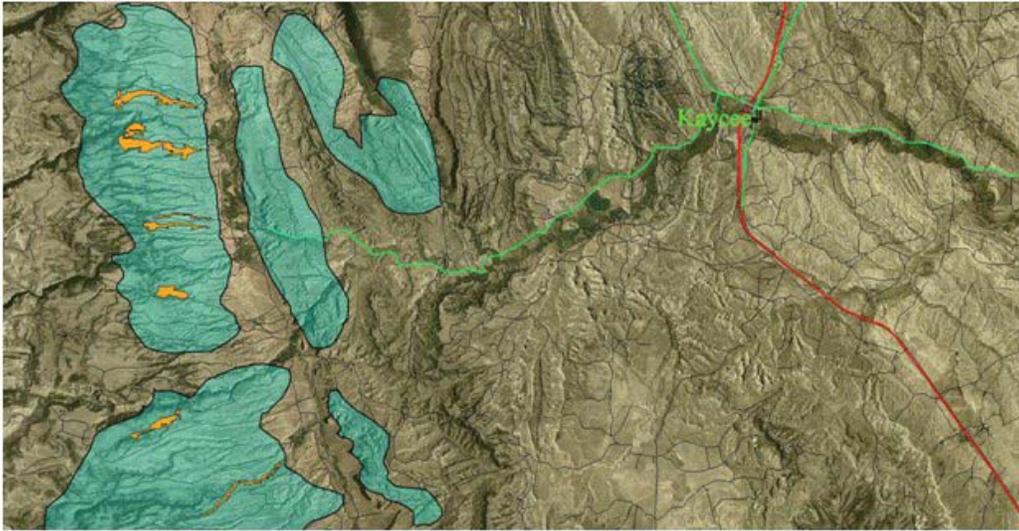


Figure 7. Mountain mahogany treatment sites (orange polygons) were established within crucial mule deer winter ranges (blue polygons). These sites are located along the eastern foothills of the southern Big Horn Mountain range near Barnum, Wyoming. The town of Kaycee is approximately 17 miles east of the project area.



Figure 8. Limber and ponderosa pine trees are encroaching into curlleaf mountain mahogany communities for the first time. Despite the recent short-term drought, Wyoming is experiencing a long-term wet period. This might explain the expansion and increased density of coniferous trees.

Figure 9. Because conifer trees are small, this condition provides an opportune time for killing encroaching limber and ponderosa pine trees.



Figure 10. Juniper trees are also encroaching into mahogany communities. Individually igniting juniper trees during the months of January through March may be feasible because these plants contain significant amounts of oil and are at their lowest moisture content. Individual junipers will need to be ignited because curl-leaf mountain mahogany responds negatively to fire, regardless of burn intensity.



Figure 11. In many areas, both pine and juniper species are encroaching mahogany communities. This might require crews to cut and burn. The most cost effective technique will be employed, depending on local conditions.



The encroachment of conifers in the region will be a constant threat to the success of mahogany. Although the proposed treatment will not remove this threat it should prove sufficient to preserve the stands. Future treatments may be necessary if conifers re-establish post treatment. Although the conifers in the region appear to be expanding in range, they are exhibiting signs of stress, particularly limber pine. Several factors leading to the mortality of limber pine in the region include white pine blister rust, mountain pine beetle, and mistletoe. Prolonged drought throughout central Wyoming may have exacerbated the mortality of limber pine in the region.

Mechanical treatment is the preferred management technique for limber pine. Prescribed fire, however, may be used to treat encroaching juniper trees. Individual juniper will need to be ignited because curl-leaf mountain mahogany responds negatively to fire, regardless of burn intensity. Mechanical treatment will be accomplished using a hand crew with chain saws. This treatment method is thought to be the most feasible method given the topographic variation and density of vegetation within the project area.

Sheridan County Conservation District Fish Passage Block Grant (Goal 2) - Travis Cundy

Cost-share assistance was provided to the Sheridan County Conservation District to improve channel stability and function at, create fish passage past, and where practical, exclude fish from entering irrigation diversions. Four diversion projects were included in the block grant.

The projects were in various stages of completion at year's end. The Hanover/Oz Diversion project on the Tongue River was completed, though some additional work at the head gate and sluiceway structure is expected in 2010 (Figure 12).



Figure 12. The Hanover/Oz Diversion project improved the ability of fish to move between a 2-mile segment of the Tongue River below the diversion and 1.5-miles of stream above the diversion.

The South Piney Prairie Dog Diversion project was completed in 2008. Additional work to readjust the sluiceway occurred in 2009.

The Tongue River Diversion project in Ranchester was broken into two phases to provide time to secure additional cost-share funding. The first phase, screening the ditch, was initiated in winter 2009, and will be completed in spring 2010. The conservation district is pursuing additional funding to complete phase-2, which involves replacing the coffer dam with a stepped structure to provide fish passage.

The Flume Diversion project on Big Goose Creek is expected to occur in spring 2010. It will involve replacing a coffer dam with a stepped instream structure and stabilizing eroding streambank.

Big Willow Creek Restoration- USFS Bighorn National Forest (BNF) (Goal 2) - Bert Jellison

On the BNF, beaver populations have plummeted from approximately 1,200 individuals in the 1950s to less than 200. In response, the RMEF, WGBGLC, Bow Hunters of Wyoming, WGFD and USFS have cooperated to restore beaver to unoccupied habitats. It's hoped that beaver can use residual willows to build dams and restore the hydrology needed to support these water-loving plants.

So far, the introduction of this keystone species has enhanced habitats for elk, mule deer, moose, water birds and cold-water fish. Some transplants, however, have not been successful. In the majority of cases, transplants have failed because the beaver-aspen-willow state has been converted by wild and domestic ungulates to a grass-dominated state with unhealthy or dead willows.

The absence of beaver dams has allowed streams to run faster and straighter, cutting more deeply into the substrate. Where dramatic changes have occurred in stream morphology and function, it's difficult for beaver to successfully dam the primary stream channel.

The objective of this project was to construct weed-catcher structures within an incised section of Big Willow Creek (as shown in Figure 13). Weed-catchers are expected to form the structural support to enable beaver to dam the incised channel. This stream section was selected because the livestock-grazing lessee had voluntarily reduced stocking rates, resulting in the recovery and release of willow resources. It was also selected because it's a broad floodplain with significant willow resources.

If successful, we will duplicate efforts during the summer of 2010. We hope to restore the complex of historic beaver dams within the 178-acre willow community, thus restoring stream morphology and function. The elevated water table will re-hydrate the riparian zone, encourage willow growth and vigor, create seedbeds for new willow establishment, keep water on the land longer and extend the green-growth period of most vegetation.



Figure 13. Ten weed-catchers were installed in an incised channel of Big Willow Creek. In addition eleven beaver were transplanted in hopes they would use the structures to secure dams. Willows were placed in front of the structures to encourage their instinct for dam building.

Black Hills National Forest Beaver Transplants (Goal 2) - Travis Cundy

In cooperation with the Black Hills National Forest, seven and nine beaver were transplanted to the Beaverdam (Figure 14) and East Fork Blacktail Creek watersheds, respectively Figures 14 and 15). The WGBGLC covered some of the costs associated with live-trapping and health inspections. Additional in-kind contributions were provided by the Black Hills National Forest and South Dakota Game, Fish and Parks. The ponds established by beaver colonies provide holding areas for fish, waterfowl, and other wildlife. Further, the dams raise riparian water tables thus detaining more water in alluvial streambanks during runoff periods and releasing it to augment stream flows later into the year.



Figures 14 and 15. Beaver were transplanted to the headwaters of Beaverdam (left) and East Fork Blacktail (right) creeks on the Black Hills National Forest. Both watersheds provide suitable, vacant beaver habitat. Beaver dams will raise streamside water tables and increase late season stream flows.

South Tongue River Boy Scout Reach Stream Rehabilitation (Goal 2) - Travis Cundy

Rehabilitation efforts were completed at the Boy Scout reach stream project on the South Tongue River. The project was a collaborative effort led by the BNF. The goal was to rehabilitate about one mile of stream. Additional funding assistance was provided by the WWNRT.

The objectives were several-fold. First, the efforts focused on improving sediment movement dynamics to eliminate sediment bars from forming in channel. This was accomplished by re-creating riffle to pool transitions and narrowing over-widened channel segments (Figure 16). The project also emphasized stabilizing eroding streambanks. This was accomplished by transplanting riparian plants and placing woody debris jams to buffer erosive forces against streambanks, and strategically placing deflective instream structures to reduce erosive energies along streambanks (Figure 17). The woody debris also increased cover for trout. Lastly, the project reconnected a cut-off oxbow channel, and enhanced flows to shallow wetland habitats within the oxbow by creating a small side channel. These collective measures to restore stream function and improve habitat diversity will improve water quality and create and maintain holding areas for trout and amphibians.



Figure 16. Before (above) and after (below) photos of a South Tongue River segment where the channel was narrowed and riffle to pool transitions were re-created to increase sediment transport and build point bars rather than mid-channel bars.



Figure 17. Before (above) and after (below) photos depicting rootwad and woody debris jams to buffer bank erosion and provide instream cover, willow and sod transplants to stabilize streambanks, narrow the channel and develop floodplain terraces, and log and rock instream structures to deflect erosive energies toward stable pools and away from streambanks.

Sage-Grouse Habitat Analysis and Conservation (Goal 2) - Bert Jellison

The Sheridan Terrestrial Habitat Biologist participated in statewide initiatives involving sage-grouse and their habitats. The State is working with University of Wyoming's WyGIS Department, Audubon Wyoming, USGS, energy industry representatives and their consultants, and other federal and state agencies to remotely sense and map sagebrush communities and develop habitat suitability models to predict sage-grouse nesting, brooding and winter habitats. This assignment originated from the Governor's Sage-Grouse Implementation Team.

USGS predictions of sagebrush attributes were validated and issues were mapped and communicated to WGFD administrators, as well as partners. The BLM Buffalo Office has a parallel process underway and assistance was provided with their efforts too. The BLM and the University of Montana are attempting to correct major miscalculations errors where image analysts have incorrectly predicted sagebrush to be present- thus overstating the extent of suitable sage-grouse habitat. The BLM is also fine-tuning predictions of sage-grouse winter habitats and attempting to map the extent and progression of annual brome infestations.

Other sources of landcover predictions (e.g. ReGAP and University of Montana's SPOT5 landcover classification) were assessed and ground-validated to determine if they would make suitable masks for identifying sagebrush free landscapes- thus improving USGS sagebrush predictions. Sheridan habitat personnel also assisted with similar validations in other regions.

We also partnered with the Lake DeSmet Conservation District (LDCD), Audubon Wyoming and NRCS to determine if NRCS Ecological Site Descriptions (ESDs) could be used to predict the value of nesting habitat for sage-grouse. Depending on the outcome, this could have statewide implications for refining and improving predictions of sage-grouse nesting habitats. The LDCD and NRCS have extensive rangeland survey information for northern Johnson County, where sage-grouse had been researched by the University of Montana. These two data sets were analyzed to determine if soil type, ESDs and the ecological condition of these sites can be used to predict sage-grouse nesting preferences and success. Audubon Wyoming will conduct the research.

Regional habitat staff also worked with USDA Agricultural Research Service researchers, to prepare a method to use LIDAR, and other remotely-sensed data to improve mapping capabilities for predicting sagebrush communities. Mapping this community continues to be an Achilles Heel for remote sensors.

Other statewide issues involved working with administrators and the NRCS State Office concerning NRCS practices that allowed the treatment of sagebrush within the Governor's core sage-grouse habitats WERs 11618.03, 11617 and 11618.04).

Bever Habitat and Benefit to Fisheries (Goal 4) - Travis Cundy

The Aquatic Habitat Biologist compiled an article on the benefits of beaver activities to other wildlife for the Sheridan region angler newsletter and responded to a columnist regarding questions for an article on the benefits of beaver activities to stream fisheries.

Coal Bed Natural Gas (CBNG) Development Outreach (Goal 4) - Bert Jellison

Although the exploration and development of CBNG has slowed, environmental consultants seem to be busy. Numerous calls are received from consultants relative to inventorying sage-grouse habitats and wildlife-friendly seed mixes for reclamation. Noteworthy activities included:

- Assisting an environmental consultant with developing a strategy for restoring a cottonwood-willow community;
- Helping another consultant with developing a habitat management plan for the 7-Brothers Ranch, which Fidelity Exploration and Production Company owns and on-site recommendation concerning cheatgrass and grasshopper control;
- Assisting the BLM with sagebrush change detection and cheatgrass mapping efforts; and
- Providing comments to the BLM concerning a proposal to analyze the viability of sage-grouse in the Powder River Basin.

Aquatic Habitat Information and Technical Assistance Requests (Goal 5) - Travis Cundy

The Aquatic Habitat Biologist provided information or technical assistance to landowners, managers, consultants, or agency representatives serving project proponents on 38 projects involving the management or rehabilitation of aquatic, riparian, or watershed resources. One consultation included pursuing cost-share assistance from the Department's Habitat Trust Fund, but the proposal was unsuccessful. One consultation included completing post project assessments to maintain a baseline for future comparisons. Most consultations involved projects that were funded or pursuing funding through other entities. Four consultations were coordinated through the Department's Habitat Protection Services section. Three consultations involved projects where the proponents are requesting additional assistance from Aquatic Habitat personnel.

Angle N Ranch, Weston County (Goal 1) - Erika Peckham

A wildlife and range inventory was completed to provide information to be used in the pursuance of a conservation easement. This property provides yearlong habitat for mule deer, white-tailed deer, elk and various other wildlife (Figure 20). The riparian areas along Plum Creek are considered crucial winter ranges for deer. The South Black Hills crucial priority and enhancement areas are located just East and Southeast of the Angle N ranch and the concerns/values of the Angle N are similar. Development pressure appears to be the largest concern for wildlife managers in the area with conservation easements being listed as a possible solution. As a result of the wildlife and range inventory, new grazing management will be put into effect, and future projects, in addition to the potential conservation easement, are planned to further enhance range conditions to benefit of wildlife.



Figure 20. Angle N Ranch, Weston County.

The Nature Conservancy (TNC) Collaboration (Goal 5) - Bert Jellison

Within this region, TNC is the leader in the long-term conservation of wildlife habitats. Consequently, substantial time is allocated to help the organization plan and implement projects. The terrestrial habitat biologist participates on the TNC Northeast Wyoming Advisory Board and assists their program director and partners to purchase and accept development-limited conservation easements. Several easements are being planned and one near Beckton, Wyoming, is underway. The details of this easement will be reported once completed. Other TNC-associated activities included:

- Helped them revise their ecoregional conservation plan for the NE Wyoming portion of the Northern Great Plains Steppe and attending a reconnaissance trip to the southern Big Horns to evaluate the area for priority status.
- Assisted with wildlife evaluations of proposed conservation easement properties.

Enhancing Hunter-Assessable Blocks of State of Wyoming (State) and Army Guard Local Training Area (LTA) Lands (Goal 5) - Bert Jellison

The WGFD Sheridan Regional Team identified specific State and LTA properties as a priority for enhancing hunting opportunities in the Sheridan area. Habitat personnel are working with the Wyoming Army National Guard and their contractor to assure proper management of the LTA. The WGFD would like to begin developing habitat enhancement plans and projects, once authorized. Habitat personnel are also working with NRCS and WGFD PLPW personnel to determine if lessees of State lands would be willing to work with the agency to enhance wildlife habitats.

Extension Services to Landowners, Organizations and Agencies (Goal 5) - Bert Jellison

This year, extension services provided by the regional habitat biologist did not result in agency-funded projects. Nevertheless, free advice was dispensed to 34 individuals. Noteworthy activities included:

- Touring the Hole-In-The-Wall Ranch with Dr. Roath, a semi-retired range management specialist from Colorado State University, and WGFD staff to examine management alternatives for enhancing rangeland and riparian habitats on mule deer and elk crucial winter ranges. Assistance will be provided in developing a livestock grazing plan.
- Providing recommendations to the Flying H Ranch concerning an interseeding project.
- Assisting Sheridan County administrators and their consultants with mapping important wildlife habitats and establishing protection measures for sensitive wildlife within their comprehensive plan.
- Examining opportunities on the TA and Welles ranches for riparian buffer strip protection via the NRCS's Conservation Reserve Program and WGFD's Wyoming Wildlife Habitat Incentive Program.
- Providing on-site assistance and management recommendations for a 500-acre property within the Big Goose watershed.

USFS Bighorn National Forest (BNF), Tongue Allotment Management Plan (Goal 5) - Bert Jellison

Continued working with BNF officials concerning wild and domestic ungulate over-use of willow and aspen resources. Where heavy use is occurring, strategies need to be devised to rectify the problem. WGFD personnel are concerned about retaining quaking aspen and willow resources within these allotments, which contain valuable elk and mule deer habitats and a Blue Ribbon trout fishery. This year, personnel collaborated with the BNF and UW Extension Service to generate ideas about analyzing forage and browse where ungulates are over-browsing willow and aspen resources. We hope to identify minerals that may be lacking and determining if custom made supplements can be provided to reduce browsing.

I also met with the BNF range conservation supervisor about remaining Allotment Management Plans (AMP) and the need and techniques required for monitoring willow and aspen resources to help with EIS/AMP decision process.

Spellman Ranch, Campbell County (Goal 1) - Erika Peckman

Rangeland monitoring, using photo points and the Grazing Response Index (GRI), was conducted as a follow up to a change in management to benefit sage-grouse. This monitoring was done in conjunction with the Campbell County extension agent and will be continued in the future to assess the progress of the project. Additionally, the area was, and will be, monitored to document the presence or absence of sage grouse after having been affected by the West Nile virus in this area. The Spellmans have put effort into pasture and water development on their ranch to allow for using grazing as an even more positive management tool on the landscape (Figure 21). Further development and a new rotation is planned for 2010.



Figure 21. Spellman Ranch.

Oedekoven Continuous CRP (Goal 1) - Erika Peckham

A total of 19 acres was enrolled into the Farm Service Agency's Continuous CRP on Bitter Creek in North Campbell County (Figure 22). This important riparian area will be rested from grazing for a total of 15 years. Trees and shrubs will also be planted to further facilitate the regrowth of woody species. The landowner has also agreed to have a conservation plan completed by the NRCS. This plan will be completed in the summer of 2010 and will have a heavy emphasis on improvements that will benefit wildlife habitat. The owners of this property are committed to having a positive impact on the land and conduct their operations with wildlife in the forethought of everything they do.



Figure 22. Bitter Creek riparian enclosure.

Roy Roath Grazing for Sage grouse workshops in NE Wyoming (Goal 4) - Erika Peckham

In the Spring of 2009, 4 workshops were held in NE Wyoming to discuss sage grouse response to grazing management and developing grazing plans benefits to plans and livestock. Approximately 60 people attended these workshops. These workshops also resulted in 4 one-on-one landowner follow-up meetings with Roy Roath (Figure 23).



Figure 23. Discussing plant response to grazing at a workshop in Campbell County.

Sand Creek Public Access Area - Travis Cundy

Three hundred fourteen head of cattle or cow/calf pairs were grazed on the Sand Creek public access area from May 27 to June 6, with some stragglers remaining for a few more days. Actual use equated to about 119 animal unit months.

On the Ground Activities - Erika Peckham

Thirty-two individual landowner contacts were made. Of those contacts, there have been 12 projects of some sort. I was involved in 2 continuous CRP (riparian buffers, 1 incomplete at this point due to issues with Farm Service Agency), 1 sagebrush thinning project (incomplete, due to non-compliance with recommendations), WHIP, assistance with 5 EQIP and assistance with additional on-going EQIP projects.

I assisted with the planning of chemical treatment on 240 acres of Wyoming big sagebrush within a core area (Figure 24), 1 cCRP of 19 acres, 32,801 feet of fence, 20,000 acres of prescribed grazing, 4 water development projects, and conservation planning for the Angle N Ranch conservation easement.



Figure 24. Planning chemical treatment of Sagebrush in Crook County.