

## **LITTLE MOUNTAIN WATERSHED ENHANCEMENT PROJECT**

### **Information Sheet 2008**

- The project was initiated in 1990 because of concerns with declining Colorado River Cutthroat trout populations in Currant Creek due to deteriorated stream habitat conditions, and poor recruitment of mule deer into the South Rock Springs Herd attributed to low quality birthing and fawn rearing habitat.
- The project quickly expanded focus by designing and implementing habitat improvements that addressed restoration of ecological relationships through watershed management. Watershed management involves improvement and maintenance of both upland and stream side habitats and recognizes that both of these habitats function together as an ecological unit.
- A watershed management approach reaches beyond habitat management for one or two wildlife species by enhancing vegetative quality/productivity and habitat diversity for all terrestrial and aquatic wildlife species. Successful watershed management must consider human needs and all land uses, and then dovetail management towards a common goal of improving the condition of the land.
- The Little Mountain project was expanded in 1995 to include the Red Creek Watershed.
- This collaborative landscaped scale watershed restoration effort has involved 16 groups/agencies/organizations, and numerous members of the local public. Local hunters, anglers, teachers, boy scouts, and wildlife enthusiasts have participated with on the ground habitat projects and monitoring efforts.

#### Summary of habitat improvements and wildlife benefits:

- Approximately 57,624 total acres of sagebrush-grassland, aspen, mountain shrub, juniper, riparian, and aspen-conifer mix habitat has been treated using prescribed fire to promote healthy and diverse vegetative communities and improve ecosystem function of the Little Mountain Watersheds.
- A total of 216 instream habitat and grade control structures have been constructed in Currant, Trout, Red, and Little Red creeks since 1990 to improve stream habitat. These structures function to elevate water tables and improve streamside vegetation, improve stream stability and function, and provide pool habitat and gravel substrate for cutthroat trout and other native fish.
- Trends in mule deer fawn/doe ratios for the South Rock Springs Herd have improved; 1991= 49 fawns/100 does, 1992 = 45 fawns/100 does, 1993 = 53 fawns/100 does, 1994 = 59 fawns/100 does, 1995 = 69 fawns/100 does, and 1996 = 83 fawns/100 does. This trend was likely due to a combination of favorable precipitation during those years and the habitat improvement activities. The average annual mule deer fawn/doe ratio between 1997 and 2007 was 79 fawns/100 does, suggesting landscape level habitat improvements are contributing to healthier does and improved fawn production.
- Range improvements and modified livestock grazing management such as fencing, upland water developments, pasture rest, and rotation grazing systems have been implemented in 3 grazing allotments affecting approximately 214,218 total acres as an integral part of the watershed enhancement effort.
- The Colorado River cutthroat trout population in the Jane's Meadow area of Currant Creek recovered from an estimated 7 per mile in 1990 to 223 per mile in 1996. The average cutthroat population in the Jane's Meadow area of Currant Creek between 1997 and 2006 was estimated to be 213 per mile, but has declined in recent years due to competition with brook trout for available habitat. The native mountain sucker population in Currant Creek near Dry Hollow increased from an estimated 0 per mile in 1992 and 1994 to 332 per mile in 1996. These fish population improvements are largely a result of better water years, instream habitat structures, and improved grazing management along the stream allowing progress towards restoration of the entire watershed and stream system.

- Habitat restoration efforts that have improved or stabilized Colorado River cutthroat trout populations in Currant, Trout, Red, Gooseberry, and Sage Creeks contributed to the USFWS decisions not to designate Colorado River cutthroat trout as threatened or endangered under the Endangered Species Act during the last three times the species was petitioned. These streams are far from being restored to ecological potential, and energy development activity in these watersheds could easily jeopardize habitat for current and future Colorado River cutthroat trout populations.
- Monitoring of treated aspen stands in the project area revealed excessive elk browsing of young aspen regeneration. Elk were stripping and killing the re-growth. This was preventing successful aspen regeneration and threatening project goals and objectives. This information was presented to the public and used to justify an adjustment in the South Rock Springs Elk Herd population objective. The adjusted population objective is more appropriate for existing habitat conditions and the needs of all other wildlife. The WY Game and Fish Department will continue to manage this herd towards the population objective.
- Beaver habitat improvements began 12 years ago, and have contributed to restoring sound watershed function and stream system stability. Beaver trapping seasons were closed in the area during the mid 1990s to protect beaver populations. Unwanted and surplus beaver have been live trapped and transplanted to key locations along Currant, Trout, Sage, Daniels, Red, and Little Red creeks in an effort to reestablish colonies and pond complexes to enhance riparian habitat. Numerous freshly cut aspen trees have been trailered or slung by helicopter to existing and transplanted beaver along these streams to encourage the beaver to build stable dams and create pond complexes. Stable beaver pond complexes store and elevate watertables, trap and remove sediment from stream flows, improve riparian habitat for terrestrial wildlife, and provide needed pool habitat for trout.
- Hundreds of young willows, aspen, and other riparian shrubs have been planted by agencies and volunteers during the past 13 years to assist in restoring riparian habitat integrity along Currant, Red, Little Red, Gooseberry, and Sage creeks.
- 35 acres of conifer encroached aspen were clear-cut to rejuvenate aspen stands on Little Mountain.
- BLM expanded the project north in 2004 and 2005 to include the upper Firehole Basin on checkerboard lands administered by BLM and Rock Spring Grazing Association. Approximately 6,800 acres of sagebrush, mountain shrub, and juniper habitat were treated with prescribed fire. Sagebrush stands were treated at a fine scale to meet the immediate habitat needs for sage grouse. Sage grouse and other wildlife benefited from the diversity and edge effect created by interspersed small patches of grass/forb within larger intact stands of sagebrush.
- Collaborative conservation partners are developing a conservation easement with the owners of Currant Creek Ranch to prevent future subdivision and development of ranch property to maintain wildlife habitat integrity. The lands involved in the conservation easement include approximately 1,400 acres of the main ranch along Currant Creek, and isolated 40-80 acre parcels of land scattered around Little Mountain.
- Approximately 71,000 continuous acres burned as a result of two lightning caused wildfire events during 2000. These fires burned on both the west and east sides of Little Mountain. Vegetative recovery of these burns has been favorable, however invasive species such as cheatgrass occur in these burn areas and remain a threat to complete reestablishment of native herbaceous vegetation. Soil disturbances caused from energy development activities likely will encourage the further establishment and spread of cheatgrass in this area.