The Badger Creek Watershed Project - Improving Fisheries on the Arkansas River

Badger Creek, a tributary of the Arkansas River, is an important spawning stream for brown trout. However, this approximately 135,000-acre watershed also has a history, a reputation, for dumping sediment-laden flood waters into the Arkansas River. Working together, landowners, local governments, special interest groups, and state and federal agencies have made progress to improve the conditions of the watershed and reduce nonpoint source pollution.

The project's goals are to:

- Improve water quality in the Arkansas River,
- Improve fisheries in the creek and river; and
- Protect and improve the creek's historical significance as a brown trout spawning stream.

To ensure the success of these larger goals, the project includes the following objectives:

- establish flood and sediment controls throughout the watershed,
- stabilize stream channels,
- improve the vegetation in riparian areas, and
- improve water and land management.

A work in progress

A section 319 grant gave ranchers the incentive to install fencing, alternative livestock watering places, and erosion control structures on state and private land. The U.S. Forest Service constructed 124 erosion control dams and installed 344 miles of stockwater pipeline, four stockwater tanks, and 8.6 miles of fence to facilitate grazing. The Forest Service also closed and revegetated 7.9 miles of unneeded roads. The Bureau of Land Management completed a land exchange for 80 acres of important riparian area, which included the primary source of perennial waterflow to the creek. With other partners they established a riparian grazing demonstration area to show land managers and owners how varying the number of livestock and grazing seasons can improve a riparian area.

Reduction in sediment

Monitoring results indicate general upward trends in characteristics of vegetation, soils, and stream channels in areas where management actions have changed. Increased vegetative cover and species diversity provide shade and protect soils, which exhibit increased microorganism activity, more consistent temperatures, and greater moisture. Willows are growing once more, with increasing vigor.

As controlled grazing produces more vigorous vegetation on the streambanks, the stream channel begins to narrow and deepen at the monitoring sites. The vegetation helps to catch sediment and litter and build up streambanks. Sediment transport changes are also apparent, indicating a reduction in sediment transport per volume of water.