Rangeland Restoration - New Management Practices in the Otter Creek Watershed

Utah's Otter Creek watershed is a tributary to the Sevier River. Located largely in Sevier and Piute counties, Otter Creek provides municipal, industrial, and agricultural water to several thousand downstream water users. However, the watershed is also a source of nitrate and nitrites, phosphorus, sulfate, sediment, and coliform to the Sevier. Most of the riparian areas along Otter Creek were in poor condition before the restoration project began, and while some riparian areas have greatly improved, much of the watershed was not affected by the restoration and remains degraded.

Otter Creek watershed encompasses 240,000 acres. It is about 39 miles long and 12 miles wide, and drains into the East Fork of the Sevier River. Otter Creek is the main tributary to the East Fork, with six to eight tributaries feeding it. Three reservoirs are also located within the watershed: Boobe Hole, Koosharem, and Otter Creek.

Streambank erosion

Studies of the watershed identify several water quality problems, including sheet, rill, gully, and streambank erosion; streambank channel erosion; and degraded riparian areas. The loss of vegetation in the riparian areas and on rangeland increases erosion, which is aggravated by heavy grazing. Livestock and wildlife (deer and elk) have grazed this land for many years.

About 38,000 acres of highly eroded land within the watershed need special treatment to stabilize vegetative cover. This area contributes up to 18 tons of sediment per acre per year. About 80 percent of the affected land is managed by the Bureau of Land Management; the rest is private.

Stream-channel erosion also affects the riparian condition by lowering the water table along some reaches of the stream. When adequate water no longer reaches the root systems, riparian and other vegetation cannot survive to protect the streambanks from erosion, thus, changing both the water quality and quantity. Shrubs and other vegetation no longer filter the runoff that flows to Otter Creek. Without this important filter strip, agricultural chemicals and animal wastes can more easily enter the stream.

Irrigated acres and wet meadows

The watershed has about 2,800 acres of irrigated pasture/hayland and some 3,100 acres of wet meadows adjacent to Otter Creek. Heavy livestock concentrations in these areas are a potential source of additional sediment, nutrient, and coliform bacteria.

The objectives of the restoration project in the Otter Creek watershed follow from this analysis of historic and current land uses and their effect on the health of the watershed. Ongoing efforts will reduce rangeland erosion and stabilize streambanks to prevent further erosion. To reach these goals, landowners and other partners must begin proper management of wet meadows and pasture/hayland to prevent pollutants from reaching the stream, modify grazing practices to better manage erodible rangeland, and install irrigation systems to assist in irrigation water management.