Rehabilitation in Squaw and Baldwin Creeks
A Local Effort

Varied and abundant vegetation once lined the streambanks and overflow channels of Squaw and Baldwin Creeks. But years of cattle and horse grazing, burning and clearing for agriculture, and urban subdivision sprawl have stripped vegetation from a 14-mile stretch of Squaw Creek and a 17-mile section of Baldwin Creek.

This area, located in central Wyoming around the town of Lander, contains most of the surface water from the upper reaches to the confluence with Middle Fork of the Popo Agie River. But the Baldwin and Squaw Creeks tributaries are the worst contributors of silt and contaminants to the Popo Agie River.

This situation has occurred over many years as large grazing areas were subdivided into many small ranchettes. Squaw Creek's badly eroded banks were further damaged by an open irrigation ditch that continually ruptured under pressure. In the spring, water from heavy thundershowers and melting snow flush the unstable channel with high, fast stream flows. The rushing water carries tremendous amounts of sediment to the Popo Agie River and eventually to the Boysen Reservoir, which irrigates over 15,000 acres. In 23 years, sediment has filled 17,000 acre feet of permanent reservoir storage capacity.

The Squaw Creek/Baldwin Creek Watershed Rehabilitation project, begun in September 1990, aims to protect the streambank, restore riparian habitat, correct poor grazing practices, and improve irrigation.

An important part of the project was to replace a leaky, inefficient irrigation ditch adjacent to Squaw Creek with a new irrigation pipeline. In addition to delivering water, the system is more efficient, reduces runoff, and promotes deep percolation. Reduced runoff has decreased the amount of pesticides and fertilizers entering both surface and groundwater. Rock structures were used to stabilize eroding banks, revegetate the streambank, and reduce sediment. Rock riprap also protects the course of the meandering river, balances streamflow, and reduces sediment. Landowners were encouraged to erect fences to keep livestock out of the rivers, thus reducing nutrient loading in the streams. Squaw Creek's course through the grounds of Lander Valley High School presented a perfect opportunity. Working with a science teacher, students stabilized streambanks with rock riprap and special matting to hold back the stream until new plants are established. Students also planted riparian vegetation, built windbreaks, and established native species.

Overall, the project is successfully protecting the stream and streambank, maintaining a good flow in the remaining flood plain, establishing vegetation that can withstand spring floods, and providing a chance to reestablish a good riparian community.

Local initiative and teamwork are also at work. The state provided monitoring to measure water quality improvements for fisheries; SCS designed the best management practices; U.S. Geological Survey collected water samples; and local landowners and interested students gained invaluable insight through their involvement.