

Tongue River Watershed Management Plan

Stream Restoration

October 2007

Project Spotlight—Kaser Stream Channel Restoration

In 2006, the Natural Resources Conservation Service (NRCS) and Sheridan County Conservation District (SCCD), worked with Mick Kaser to complete a stream channel improvement project on the Tongue River, just north of Connor Battlefield State Park. Over time, the river cut into the existing bank and formed an island adjacent to the landowner's property. The resulting island caused much of the water during high peak flows to be directed into the east bank, causing lateral and vertical channel erosion. The eroding bank consists of fine textured soils that, when saturated, are easily eroded and are a source of sediment to the river. In addition to the impact to water quality, the continued encroachment would also impact an irrigated meadow and field ditches.

The NRCS/SCCD sought a cost-effective solution to mitigate the erosion, stabilize the streambank, and allow the channel to heal itself over time. This was done by using natural materials obtained from the property, which also contributed to maintaining the natural setting of the landscape. Large, pre-cut trees were used to create eddy pools, impede the current, and catch sediment. Other large trees were placed to stop further undercutting of the bank. The bank was sloped, seeded with a grass mixture, and further stabilized with willow shoots. Cottonwood, ash and locust shoots were also planted at the high water line.



"... Early this June (2007) the project came under attack by mother nature. A pretty good flow washed and hammered at the rehabilitated stream bank. The willows were under water and we thought they were lost., but they weathered the action and survived quite well. Overall, the stream bank rehabilitation held very well and is rebuilding the riverbed. The project was a cost share project, which made it feasible for a small operator like myself. I enjoyed working with the staff and I commend the NRCS and SCCD for a job well done. . . ." —Mick Kaser

Thinking about sediment sources. . .

Periods of heavy run-off, such as in the spring with rain and snow-melt, are good times to think about where we locate our sediment sources. While unstable stream channels are a significant source of sediment in our streams, there are others which can and should be controlled. Material and sediment from construction sites and roads, particularly those within and adjacent to floodplains, need to be contained with sediment fences or other devices. Locate corrals and winter feeding areas with bare ground away from waterbodies or use well-vegetated buffers. Off-channel stockwater can be considered to prevent erosion and sediment contributions from water gaps. Off road vehicle use can be managed and located away from streams and floodplains.

The SCCD/NRCS Water Resources Improvements Program

The SCCD/NRCS offers technical and financial assistance for projects benefiting water quality in the Tongue River Watershed. Projects typically include septic system replacements, corral relocations, stockwater developments, riparian fencing/management, and stream restoration. Financial assistance comes from a combination of federal and state grants administered by the SCCD along with USDA program funds. The primary factor determining a project's eligibility is the potential benefit to water quality.



Sheridan County Conservation District

1949 Sugarland Drive, Suite 102
Sheridan, Wyoming 82801

Phone: 307-672-5820

Fax: 307-672-0052

sccdofwyo.org

SCCD is an equal opportunity employer and offers all programs, services, and assistance on a non-discriminatory basis. Funded with a grant from the Wyoming Department of Environmental Quality and the US Environmental Protection Agency.

A healthy stream owns the floodplain. Healthy, well-vegetated floodplains dissipate erosive energy from high streamflows and preserve streambanks and riparian areas. Erosion is most likely to occur where a stream has been straightened or where the floodplain has been restricted by development.

Stream Corridors and The Tongue River Watershed Management Plan

Excess sediment can affect the aesthetic quality, aquatic life habitat, and fish reproduction in the Tongue River watershed. An increase in sediment may also contribute to an increase in water temperature and cause a decrease in aquatic organism diversity. Excess sediment may aggravate a bacteria problem by providing an environment where bacteria can live and reproduce. Sediment enters a waterbody through run-off carrying eroded material or through erosion of unstable stream channels.

In the updated **Tongue River Watershed Management Plan (May 2007)**; unstable stream channels/banks and poorly managed riparian areas are identified as contributors of sediment and other water quality impacts. The Plan includes action items to address this concern, including technical and financial assistance for voluntary stream restoration, irrigation upgrades, and riparian improvement projects and education activities.

We want to hear from you. . .

This is the third in a three-part brochure series highlighting improvement projects in the Tongue River Watershed. Please give us your feedback on whether the information was useful. You can contact us at 672-5820 x. 3 or sccdofwyo.org.

If you own/manage areas adjacent to and containing live streams . .

- **Maintain natural channels** with functioning floodplains.
- **Understand regulatory implications** for manipulating stream channels (including adding and removing material such as rip-rap, concrete, car bodies, etc.) Generally, a section 404 permit is needed from the US Army Corps of Engineers for any type of stream channel work.
- **Install fish-friendly irrigation diversions** that provide for fish passage, prevent sediment accumulation, and eliminate the need for annual entry to the channel.
- **Develop and implement a grazing management plan** that encourages healthy vegetation in riparian areas.
- **Maintain vegetated buffers** between waterways and closely cropped, mowed, or disturbed areas. Buffers filter and infiltrate run-off before it reaches the stream. They also cool the water and stabilize the banks and provide some of the highest quality wildlife habitat in the County. A good riparian buffer will have a mix of grasses, forbs, and woody plants and a variety of age and structural classes.

