Careless Creek Watershed Project:
Sediment Delivery Reduced by 25 Percent

Local initiative and voluntary participation contributed to the success of the Careless Creek Watershed Project. Careless Creek is a 100-mile-long tributary to the Musselshell River in central Montana. Agriculture is the main economic activity and land use in the 500,000-acre watershed. About a quarter of the land in the stream corridor is irrigated; the rest is mostly forest and rangeland. Lower Careless Creek was classified as "moderately to severely impaired" in the 1988 state water quality assessment. Sediment and salts from return irrigation flows and other agricultural activities were the main pollutants. Artificially high summer flows were causing severe streambank erosion.

Broad-based collaboration

Local landowners, working with the Lower Musselshell Conservation District, began a process to address local resource concerns. In 1990 a 319-funded study led to the formation of a local steering committee. The steering committee brought together a broad coalition of private landowners and water users; federal, state, and local agencies; and private organizations to address resource concerns in the watershed. Collaborators include the Lower Musselshell Conservation District; Musselshell and Golden Valley County Commissions; U.S. Department of Agriculture's Natural Resources Conservation Service; Deadman's Basin Water Users Association; Upper Musselshell Water Users Association; U.S. Bureau of Reclamation; Montana Watercourse; Deadman's Basin Cabin Owners Association; Montana's Fish, Wildlife and Parks Department, Department of Natural Resources and Conservation, and Department of Agriculture; local schools; and the Montana Conservation Corps.

The steering committee developed a number of restoration goals for Careless Creek, including the following:

- Reduce artificial flows down Careless Creek.
- Reduce streambank and channel erosion on the lower 7 miles of Careless Creek.
- Apply voluntary best management practices (BMPs) in the watershed above Deadman's Reservoir.
- Improve native fisheries in the lower watershed.
- Establish weed control plans for the watershed.
- Restore Franklin Lake to a wetland.

Remediation approaches

Local buy-in was crucial to the project's success. Complex resource issues, involving water rights and allocations, had the potential to create conflict within the community. The watershed committee emphasized a nonregulatory, collaborative approach that attracted the participation of a majority of landowners and interest groups. Irrigation discharges to Careless Creek were voluntarily limited to 100 cubic feet per second. This flow reduction was made possible by infrastructure improvements to the water delivery system.

Severe bank cutting and loss of fencing were common on Careless Creek before streambank restoration.

A number of agricultural BMPs were also implemented, including the installation of 56,000 feet of fencing to manage livestock grazing in critical areas and the installation of a 15,195-foot pipe and two tanks to provide off-stream livestock watering.

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Measurable results

At the outset the watershed group established a tracking program to monitor implementation. As of summer 2000, the project had resulted in the restoration of 37,000 feet of streambank and a 19 percent increase in riparian habitat. Fifty-four percent of the stream corridor is no longer eroding. So far, prescribed grazing practices have improved rangeland management on 18,000 acres. These restoration activities have reduced sediment delivery to the Musselshell River by 25 percent.

The comprehensive monitoring plan uses a combination of water chemistry analyses, biological indicators, and physical habitat evaluations to measure progress. One indication of progress is obvious: fish populations have rebounded in the first 5 years of the project.

Phase II

To further reduce nutrient and sediment delivery in Careless Creek and the Musselshell River, 319 funds are being used to restore another 14,632 feet of degraded streambank by improving livestock waste systems, moving corrals off the creek, developing alternative livestock watering systems (solar pumps), excluding livestock from damaged riparian areas, and continuing to plant willows and grass. Other contributors are the Montana Renewable Resources Grant and Loan Program, the Deadman's Basin Water Users Association, and the Department of Natural Resources and Conservation.

Widespread recognition of success

In 1995 the steering committee organized a "Know Your Watershed" workshop, which marked the beginning of the committee's outreach and education program. The project's bimonthly newsletter, Careless Creek Country, won a state award for excellence. Other components of the outreach program have included outdoor classrooms and watershed tours.

Montana's governor and the Montana Watershed Coordination Council recognized this collaborative effort last summer with a Montana Watershed Stewardship Award. In November 2001 the project will receive a CF Industries National Watershed Award.

After sloping and revetments, outdoor classes were held and willows were planted at the site.

Primary Sources of Pollution:
- **Agriculture**

Primary NPS Pollutants:
- **Sediment and Nutrients**

Project Activities:
- agricultural BMPs (including fencing, rangeland management)
- reduced irrigation discharges

Results:
- 19 percent increase in riparian habitat
- 25 percent reduction in sediment delivery
- fish populations rebounded

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