



Section 319

NONPOINT SOURCE PROGRAM SUCCESS STORY

Wyoming

Coordinated Efforts Reduced Sediment Input and Restored Waterbody

Waterbody Improved

Excess sediment in Wyoming's East and West Forks of Smiths Fork degraded the habitat to the point that the streams could no longer achieve their designated use of aquatic life. Landowners, federal grazing permit holders and state and federal agencies collaborated to implement various best management practices (BMPs) that reduced sediment input. As a result, water quality improved, and Wyoming removed both waterbodies from its 2004 303(d) list of impaired waters for sediment.

Problem

East Fork Smiths Fork (27 miles long) and West Fork Smiths Fork (9 miles long) combine to form Smiths Fork, which in turn flows into Blacks Fork. The Blacks Fork subbasin is located near the mouth of the Green River Basin of southwestern Wyoming. Wyoming placed both East and West Forks of Smiths Fork (Figure 1) on its 1998 Clean Water Act section 303(d) list because excess sediment physically degraded the stream channels and impaired aquatic life use support. Excess sedimentation negatively affected the streams' biota by blanketing gravel and cobble streambed substrates, often reducing important habitats and algal food resources for many benthic macroinvertebrate groups and limiting the reproductive success of fishes such as the endemic Colorado River cutthroat trout. Sources of sediment included grazing, vehicle traffic on nearby roads, recreational use, logging, irrigation return flows, riparian area deterioration and streambank destabilization.

East and West Forks of Smiths Fork are classified as a Class 2AB waters, which are those known to support game fish. Excess sediment impaired aquatic life by degrading in-stream habitat, violating the state's narrative standard, which states, "floating and suspended solids attributable to or influenced by the activities of man shall not be present in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life, or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife."



Figure 1. Photos showing East Fork Smiths Fork (top) and West Fork Smiths Fork (bottom)



Project Highlights

To improve water quality in these two streams, the Uinta County Conservation District (UCCD) addressed some of the pollution sources using funding from a Clean Water Act section 319 nonpoint source control project. UCCD worked with farmers to reduce sedimentation from streambanks by repairing or replacing livestock water tanks that provide off-channel water sources. The farmers also constructed snow fences to divert spring snow melt to these tanks and lessen sediment input to the two streams from overland flow. The Uinta County government improved the surrounding infrastructure by repairing aging roads and bridges adjacent to the two streams. Volunteers planted assorted trees, shrubs and forbs in riparian zones to help stabilize stream banks and create a sediment buffer. Farmers constructed fences along the streams to protect these newly establishing plant communities, stream banks and channels from the effects of livestock grazing. The farmers also adopted grazing BMPs that both promote the recovery of these two streams and allow for continued grazing.

Results

The project efforts were successful. Physical, chemical and biological data collected by Wyoming Department of Environmental Quality in 2003 indicate that sedimentation was minimal and that riparian vegetation was thriving. Both the East Fork Smiths Fork and West Fork Smiths Fork are fully supporting their designated uses, and their water quality threats have been mitigated. Wyoming subsequently removed these two pollutant/segment combinations from its 303(d) list in 2004.

Partners and Funding

The project's funding included \$123,300 from the U.S. Environmental Protection Agency, \$66,333 from a nonfederal cash match and \$16,000 from an in-kind nonfederal cash match. The project was successful in large part because of the close cooperation of a diverse Coordinated Resource Management Team including local landowners, federal grazing permit holders, U.S. Forest Service, the Bureau of Land Management, Wyoming Game and Fish Department, and the Natural Resources Conservation Service.



U.S. Environmental Protection Agency
Office of Water
Washington, DC

EPA 841-F-08-001R
September 2008

For additional information contact:

Jack Smith

Wyoming Department of Environmental Quality
307-673-9337 • jsmith@wyo.gov

Kerri Sabey

Uinta County Conservation District
307-787-3794 ext. 102 • Kerri.Sabey@wy.nacdnet.net