

## STREAM RESTORATION

### RIO GRANDE RIPARIAN STABILIZATION PROJECT: PHASE 2

Conducted by: Rio Grande Headwaters Restoration Project  
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Project Partners: USDA Natural Resources Conservation Service, Colorado  
Division of Wildlife, San Luis Valley Water Conservancy District  
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In 2008, Phase 2 of the Rio Grande Riparian Stabilization Project was completed in the San Luis Valley of Southern Colorado. The 2004 Riparian Stabilization Project was a cost-share program with 17 landowners on approximately 8,300 feet of streambank on the Rio Grande in Rio Grande County, Colorado.

The lateral movement of the channel caused the primary water quality problem in the project area. This movement resulted in loss of stream bank stability, degradation of the riparian habitat, sedimentation in the channel, and deposition of the bed load material downstream. These actions had caused deterioration of the riparian habitat and contributed an excessive amount of woody debris to the system through the degradation and loss of large herbaceous plant materials.



Typical streambank in the Phase 2 Riparian Restoration Project before riparian stabilization.

Additionally, human activity such as poor irrigation practices, building directly adjacent to the riverbank, and poor grazing management have also significantly modified the river system.

The primary goal of the riparian stabilization project was to stabilize the stream banks, enhance the fisheries and improve the riparian habitat

A secondary goal was to reconfigure the stream channel to improve the natural ability of the stream to move sediments through the river system.



*The Mission of the Rio Grande Headwaters Restoration Project is to restore and conserve the historical functions and vitality of the Rio Grande in Colorado for improved water quality, agricultural water use, riparian health, wildlife and aquatic species habitat, recreation and community safety while meeting the requirements of the Rio Grande Compact.*

Typical streambank in the Phase 2 Riparian Stabilization Project after riparian stabilization

A multi-faceted approach to riparian stabilization was used. Rock weirs were used in conjunction with bioengineering to stabilize the banks and to disrupt the secondary velocities against the bank that caused the erosion. Where livestock grazing was involved the vegetation in the uplands and the riparian corridor was enhanced through implementation of improved grazing management practices. The area directly adjacent to in stream improvements was fenced out and grazing occurred on a very limited basis.

The benefits of the completed project include: reduced sediment loading, improved fish habitat and reduced damage during flood conditions. An additional benefit was education of the public on stabilization practices and land stewardship.