

STREAM RESTORATION

RIO GRANDE RIPARIAN STABILIZATION PROJECT

Conducted by: Rio Grande Conservation District

On the Web:

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Project Partners: USDA Natural Resources Conservation Service, Farm Service Agency, US Fish & Wildlife Service, US Army Corps of Engineers, Colorado Division of Wildlife, Colorado State University Cooperative Extension, Colorado Division of Water Resources, Rio Grande Headwaters Restoration Project, San Luis Valley Water Conservancy District, San Luis Valley Wetlands Focus Committee, San Luis Valley GIS/GPS Authority, Rio Grande Water Conservation District, Ducks Unlimited.

Contract Period: December 2001 through May 2006

NPS Funding: \$222,020

Matching Funds: \$139,716

The Rio Grande Riparian Stabilization Project goal was to restore a Category 1 river back to a more naturally functioning state by stabilizing the banks, enhancing fisheries and improving the riparian area. The benefits of the project are reduced sediment loading, improved fish habitat and reduced damage during flood conditions. An additional benefit was educating the public on good stewardship of the land through use of existing BMPs for grazing and irrigation water management and unifying the landowners in a watershed approach to a mutual problem.

Located in the San Luis Valley, the project is about 100 miles downstream from the source of the Rio Grande.

The primary water quality problem was caused by the lateral movement of the channel resulting in loss of stream bank stability and degradation of the riparian habitat, sedimentation in the channel and the resultant deposition of the bed load material down stream. Channel movement had resulted in 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.



Humans also have significantly modified the river system. The number of irrigation diversions, housing developments and roads and bridges made it impossible to return to a natural stream. Unrestricted grazing practices had also adversely impacted the riparian area over a long period.

Poor irrigation regulation resulted in saturated banks that created a loss of bank stability. Other problems encountered were sedimentation, constriction of the floodplain because of the demands of housing and inappropriate fence locations.



The primary goal of the 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 systems.

Where livestock grazing was involved the vegetation in the uplands and the riparian corridor was enhanced through improved grazing management practices. The area directly adjacent to in stream improvements was fenced out and grazing was on a very limited basis. Irrigation water management was required and tail water return flows were controlled so the banks were not saturated. 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.