

EROSION AND SEDIMENTATION CONTROL (HYDROLOGY): RIO BLANCO RIVER RESTORATION

Conducted by: San Juan Water Conservancy District
 On the Web: www.epa.gov/owow/nps/Section319III/CO.htm; www.waterinfo.org/rioblanco.html
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 Project Partners: Lower Blanco Property Owners Association, Southwest Water Conservation District, Wild Land Hydrology, Colorado Water Conservation Board, Colorado Division of Wildlife, Water Information Program, U.S. Bureau of Reclamation, Colorado Division of Water Resources
 Contract Period: 1996 to 2002
 NPS Funding: \$346,000
 Matching Funds: \$351,000



The Rio Blanco River Restoration Project is designed to improve overall water quality and aquatic life through channel and bank modifications. The project also increases public awareness and participation in river rehabilitation and water management practices. The final phase of the project includes the comparison of results with baseline data to evaluate success.

Essentially, a portion of the stream was rebuilt to “fit” its reduced flow.

The 1922 Colorado River Compact allocating Colorado River water led Congress to pass the Colorado River Storage Project in 1956. The San Juan-Chama Diversion Project to serve water users in New Mexico and Texas was authorized in 1962 as part of that project.

The San Juan-Chama Diversion Project — a 26-mile series of tunnels — opened for full use in 1971, diverting approximately 70% of

the Rio Blanco’s historic in-stream flow to the Rio Grande basin.

Unfortunately, the by-pass flow rates (water left in the river) established in the original legislation proved inadequate, and the streambed began to degrade.

The diversion of water, along with upstream sediment flushing, reduced the depth of the riverbed and increased water temperatures. The effect was a marked decrease in the fish population and an altered riparian zone.

In 1989 the Lower Blanco Advisory Committee (LBAC) was formed and chaired by former Colorado Water Conservation Board (CWCB) director Chuck Lyle. In response to concerned citizens and requests made by the LBAC, the Bureau of Reclamation authorized funding in 1991 for a complete river morphology study to be made by Wild Land Hydrology’s Dave Rosgen.

Rosgen’s work, completed in 1992, led Lyle to begin the process that resulted in the 1996 NPS grant for a rehabilitation demonstration project of 2.2 miles.

Construction of the demonstration project began in 1999 with heavy equipment being used to narrow and deepen the river channel. In addition, rock weirs and other bank stabilization measures were put in place. Pools that had become only inches deep were now 6-7 feet in depth.

By December of 1999, 1.1 miles of the project were completed. Data show the channelization and bank stabilization are creating a positive result. Initial water temperature data collected during the low-flow, high-temperature summer months show a reduction of

“While fruition of the total restoration effort is still years away, we remain confident that the Rio Blanco will once more be a usable stream for future generations”

– Jerry Curtis, San Juan Water Conservancy District

1.75 degrees in the demonstration area as compared to an area upstream, and fish populations appear to be on the rise.

The long-range goal of the project is to complete nine miles of river restoration on the Rio Blanco from Highway 84 (South of Pagosa Springs) to the confluence of the San Juan River.

A second NPS grant was awarded in 2001 to support the effort to restore an additional three miles of the Rio Blanco. The process is underway, and construction is expected to begin in 2003.

The project faces significant challenges — not the least of which is incomplete participation by private landholders. The U.S. Army Corps of Engineers permit regulations require that private property owners on both sides of the riverbank give their permission before work can begin. With hundreds of river front properties, it has been difficult to obtain 100% participation.

Ongoing education efforts include increasing public awareness of the watershed project with an emphasis on proper maintenance, controlling bank erosion and landowner responsibilities. Methods include public meetings, media releases and information published through the Internet.

Current work with water quality and temperature data, along with fish population information, is being incorporated with baseline data to measure stream improvement. The Division of Water Resources (DWR) and the Division of Wildlife (DOW) are conducting annual water quality and fish sampling reviews targeting the restored reaches of the river.



The Rio Blanco before restoration work.



The Rio Blanco after restoration work.

The five-year DOW study will determine the viability of regularly re-stocking trout populations in the restored areas of the Rio Blanco.