

ALAMOSA RIVER WATERSHED PROJECT



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INTRODUCTION

The Alamosa River watershed comprises 127,000 acres in the San Luis Valley of south central Colorado. The main stem of the river is 53 miles long. Several streams that spill off the east side of the Continental Divide join to form the Alamosa River, which eventually dissipates in wetlands near the Rio Grande.

Some of Colorado's oldest settlements are found in the Alamosa River watershed. Principal towns in or close to the watershed include La Jara (population 725), and Capulin, an unincorporated settlement of 150.

Over half the watershed is in public land managed by the U.S. Forest Service (Rio Grande National Forest) and the U.S. Bureau of Land Management.

Agriculture is the primary industry in the watershed. Close to 50,000 acres are irrigated. Principal crops include alfalfa hay, potatoes and barley. The area's many ranches raise cattle and sheep.

Portions of the lower Alamosa River were straightened (channelized) in the early 1970s to prevent flooding in Capulin. In the ensuing 25 years, straightening has created major problems for 40 ditch companies that divert water from the river to irrigate fields. The unstable, erosion-prone river threatens irrigation structures, homes, land, roads and bridges. Riparian areas have been degraded.

Stabilizing the river as it flows through straightened stretches is a priority for a watershed steering committee picked by the public at a meeting in La Jara in March, 1995. This meeting kicked off the Alamosa River Watershed Project which is sponsored by the Conejos County Soil Conservation District. The 13-member committee consists of local landowners, water users and government officials.

In addition to tackling erosion issues, the steering committee is seeking watershed-wide solutions to water quality problems, noxious weeds and economic concerns.

The watershed committee plans to install two projects that demonstrate techniques to stabilize the river and restore riparian habitat in the summer of 1996.

EROSION WORSENERD OVER TIME

After portions of the Alamosa River were straightened in the early 1970s, a chain of calamitous

events was set in motion. First, the river developed a steeper gradient. This caused the velocity of the water to increase.

Where flows once were slowed as the river wound its way through meanders and oxbows, water ripping through straightened areas began to erode stream banks and dig a deeper channel. Water tables dropped, dewatering adjacent riparian areas and wetlands.

Today, a quarter century later, the river channel has been lowered so much in places that stream banks resemble canyon walls. Irrigation headgates are useless because they now are perched several feet above the water, even during high flows.

Water users spend thousands of dollars each year in an effort to prop up failing diversion structures and move water into their headgates for one more growing season. The county government expends scarce resources to protect adjacent roads and bridges.

CURRENT PLANS

Late in 1995, the watershed steering committee identified two critical, highly-visible sites as potential locations for installing demonstration projects. At each site, the unstable river threatens irrigation diversion structures, and county roads and bridges. In addition, riparian areas at the two proposed sites are in poor condition.

Several river restoration experts have toured the river, met with the steering committee and given lectures to the public at meetings in Alamosa and La Jara.

Interest in restoring damaged rivers is keen in the San Luis Valley. Water users and officials from around the Valley have attended watershed committee-sponsored educational events and are keeping a close eye on developments along the Alamosa River.

Plans call for hiring two consultants to oversee the construction of the two demonstration projects. Dave Rosgen of Wildland Hydrology Consultants in Pagosa Springs, Colorado, will coordinate one project. Don Reichmuth, Geomax, Spokane, Washington, will supervise the other project.

The consultants use different designs in constructing rock drop structures. These structures deflect flows from vulnerable stream banks and dissipate the water's energy

by creating a controlled, stair-step drop in the river. The watershed committee wants to assess the different approaches before embarking on restoration of the entire straightened portion of the river.

Both consultants and the watershed committee realize restoring a healthy plant community along stream banks is vital to the long-term success of erosion control efforts. The combination of slower flows and management of livestock in riparian meadows should raise water tables and encourage the growth of a healthy plant community.

Landowner permission to install the demonstration projects has been attained. The Rio Grande Water Conservation District, Alamosa-La Jara Water Conservancy District, Conejos County, Gabino-Gallegos Ditch Company and Conejos County Soil Conservation District have already pledged support. Additional sponsors are being sought.

CONCLUSION

Addressing problems in the 127,000-acre Alamosa River watershed is a daunting task. The steering committee for the Alamosa River Watershed Project has made restoring portions of the river destabilized by channelization a high priority.

Plans are on track to install two projects demonstrating erosion-control techniques in the summer of 1996. These demonstration projects not only will show the use of structures built in the stream channel to protect erosion-threatened banks and headgates, they will also demonstrate methods for restoring adjacent riparian areas.

After construction, the demonstration projects will be monitored to assess their effectiveness as the watershed steering committee considers strategies to stabilize the Alamosa River throughout the entire straightened reach.

