



ADVANCING THE LEGACY

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Ag Water NetWORK

WEBINAR #12 Highlights – Ag Infrastructure Improvement Projects and Grant Funding

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Presenters: Gretchen Rank, Executive Director, Mancos Conservation District, and Dave (“DK”) Kanzer, Deputy Chief Engineer, Colorado River Water Conservation District

I. Mancos River Diversion Improvement projects - Gretchen Rank

A. The Mancos River irrigation diversion structure survey and inventory found diversions functioned poorly and the annual maintenance required was also degrading the river channel and riparian area.

A phased approach was taken for the project:

- Phase 1: Planning and Design - field data collection, designs, costing, mapping, analysis for instream flow support opportunities, and overall project management visioning.
- Phase 2: Implementation - Four (4) diversions.
 - Improvements - Diversion channel, overflow channel, new headgate, waste (sluice) gate, and measuring device. Found that assessing during Spring high flows and Fall low flows created an adequate baseline for future diversion improvement designs.
- Phase 3: Implementation - three (3) more structures in a significantly degraded area.
 - Improvements - improvements listed above plus incorporation of low maintenance rock stepped pools to enable fish passage and debris to pass by new headgates.



B. Several milestones led up to the 2011 Mancos Watershed Plan

- 2002 – East Mancos River was added to the 303(d) list for Copper and Selenium impairment.
- 2003 – The area was designed as a Salinity Control Area
- 2005 to 2010 – Several studies were conducted in the watershed
- 2006 – Formed Mancos Valley Watershed Group
- 2010 – Diversion structures on the Mancos River were surveyed and inventoried.

C. Funding Sources: NRCS, US Bureau of Reclamation (BoR) WaterSmart grants and Salinity control funds, Colorado Water Conservation Board Water Plan Funds, Water Supply Reserve Fund, and Watershed Restoration fund. Southwest Water Conservation District provided matching funds, CDPHE funds addressed 303(d) impairment, Trout Unlimited, River Network, stakeholder in-kind support.

D. Lessons Learned – start slow, get a strong understanding of what the community needs, have a plan, involve all stakeholders.

II. Lower Gunnison Project – 5 projects total (in progress) - Dave (“DK”) Kanzer,

A. The project is an approximately \$50M cooperatively funded series of five (5) irrigation improvement projects that are being implemented over a 10+ year period. The project area is underlain by Mancos Shale, which releases salt and selenium when flood or furrow irrigated. The Lower Gunnison has been providing about one-third of the salt and 60 percent of the selenium entering Lake Powell.

The project:

- Increases irrigation efficiency and improves water quality, river flows, and aquatic habitat.
- Includes re-regulation ponds and reservoirs, and lining and piping of canals and ditches to bring about improvements from the source to the point of use.
- Includes on-farm conversions of flood and furrow to sprinkler and drip irrigation.
- Encompasses \$50M project with funding from US Bureau of Reclamation, NRCS Regional Conservation Partnership Program, CWCB, CDPHE, NGOs, local stakeholders.
- Has coordinators from the River District and CSCB that provide oversight and technical assistance.
- Reduces salt and selenium discharges to the Gunnison River by reducing mobilization.

B. Fire Mountain Canal Improvement Project - included piping 30 miles of earthen canal in Phase 1. Piping ditch water enabled distribution of gravity pressurized water, creating water on demand and enabling more efficient pivot and drip irrigation. The increased efficiency extends water availability later in the irrigation season.

- The project cost approximately \$5M and was split into two sections in order to access two federal funding sources (BoR and NRCS RCPP). For the two major funders, benefits are attributed separately, i.e.. salt reduction is attributed to BoR funding, and irrigation efficiency and conservation is attributed to the NRCS Resource Conservation Partnership Program (RCPP).
- The Colorado River District collaborates with local stakeholders (irrigation districts, water conservation district, conservation district) to combine and help manage the projects. Cash and in-kind contributions and state funding are used to provide non-federal match funds. Additional funding came from state and local stakeholders.
- Documentation and reporting is shared by the local stakeholders and the River District.
- Other partners include USFWS (fish habitat) and CDPHE (interested in Selenium control).
- Extensive master planning was done which enabled the projects to be covered by one large Environmental Assessment. A completed watershed plan was also required for federal funding.
- The combined projects have significantly lowered Selenium loading into the river. The Colorado Water Quality Control Commission is considering removing from the 303(d) list the Lower Gunnison River in the section between the confluence of the Uncompahgre and Colorado Rivers.

C. Lessons learned - think big to accomplish big things, combine and leverage funding and programs, learn and match funder and stakeholder needs.

D. Access www.gunnisonriverbasin.org for other details