Ed Sturgis (left), NRCS soil conservationist technician, chats with Lee Maughan (center), producer and project partner, and Dennis Sonnenberg, project lead, about the pipeline installation.

“Nothing Small About Panaca’s Mighty Community Pipeline Project”

Founded as a Mormon colony in 1864, Panaca was the first permanent settlement by European Americans in southern Nevada. The first year they arrived, they built an irrigation ditch that ran from Panaca Spring to the town. A concrete pipeline followed in 1968 to support the rapid growth and development of the town, supplying water for domestic and agricultural purposes.

At just under 1,000 residents today, about 10 percent of Panaca’s residents are water users—or shareholders—of this irrigation system that was built over a century ago. For years, the pipeline was leaking, and a lot of the water was not even reaching their land, and to compensate, they would need even more water. Each year, the townspeople drain Panaca Spring to check the water flow and enable them to crawl through the pipes to clean out the tree roots and other debris invading the cracks in the pipes, a dangerous and laborious effort.

The town—along with the pipeline—had reached a breaking point. Ten shareholders stepped forward and obtained Environmental Quality Incentive Program contracts. They held their first meeting to address the resource concerns of inefficient use of the irrigation water. What’s going to see the full allotment of the water through the pipe. To me, we’ve put the new main line in,” said Kevin. “That water just really flows nice and well. I’ve seen a big difference in the volume and delivery of the water down to us since we’ve put the new main line in”, said Kevin. “That water just really flows nice and smooth and we have very little loss. The volume is almost scary.”

“They’re going to see the full allotment of the water through the pipe. To me, we’ve addressed the resource concerns of inefficient use of the irrigation water. What’s going on is going down, and they’re going to get their shares and not have to take more to make up for what they were losing,” said Cory. “As we say, putting conservation on the ground.”

Get the whole story by watching the video on the NRCS Nevada YouTube channel!
NRCS uses EQIP WSI funds to complement Reclamation WaterSMART funded projects by helping eligible farmers and ranchers make improvements that align with the paired Reclamation WaterSMART project.

EQIP practices being implemented with the Plymouth Canal project:
- Irrigation Pipeline
- Irrigation Sprinkler
- Structure for Water Control
- Irrigation System Micro-irrigation
- Pumping Plants
- Irrigation Water Management

Plymouth Canal WaterSMART Initiative project area map

The two black outlined areas below indicate where project plans will be implemented:

WaterSMART Initiative: Plymouth Canal in Smith Valley
Managing water resources in the American West can be challenging. Drought, aging infrastructure, and environmental requirements can strain existing resources. Through NRCS’s WaterSMART Initiative (WSI), we collaborate with the Bureau of Reclamation (BOR) to coordinate investments in priority areas for improving our cumulative impact in water conservation and drought resilience. NRCS and BOR have been coordinating Environmental Quality Incentives Program (EQIP) and WaterSMART investments since a pilot by California NRCS in 2011.

A Priority Area in Lyon County, Nevada Selected NRCS selected 31 priority areas in 10 states to receive $13 million in EQIP funding through the WSI in Fiscal Year 2021. These investments will help producers on private working lands better conserve water resources in coordination with investments made by water suppliers.

The NRCS Yerington Field Office obligated four contracts worth $627,442 for the Plymouth Canal users in Smith Valley. The BOR has an existing project there, called the Lower Plymouth Pipeline Implementation Project, where the Walker River Irrigation District is installing pipeline in the open channel of the lower Plymouth Canal. NRCS efforts align with this project to reduce source water depletion and improve irrigation efficiency.

How does the WaterSMART Initiative work?
The BOR makes their WaterSMART programs available across the Western U.S. to help states, tribes, and local entities plan for and implement projects that increase water supply by providing funds to modernize existing infrastructure and otherwise build drought resilience.

Watershed Programs in Nevada
Under the Watershed Program, NRCS carries out work to improve soil conservation and for other purposes including flood prevention; conservation, development, utilization and disposal of water; and conservation and proper utilization of land. The Emergency Water Protection (EWP) Program safeguards lives and property from floods, drought, and the products of erosion on any watershed whenever fire, floods or any other natural occurrence is causing or has caused a sudden impairment of the watershed. The Watershed and Flood Prevention Operations (WFPO) Program provides technical and financial assistance to entities of state and local governments and Tribes (project sponsors) for planning and installing watershed projects. The Watershed Rehabilitation Program offers technical and financial assistance to rehabilitate dams constructed through NRCS Watershed Programs. This program extends the service life of dams to meet applicable safety and performance standards or decommissions the dams so they no longer pose a threat to life and property.

Current watershed projects in Nevada:

- **Dam Rehabilitation Program**
  - West Wash Dam
  - Sponsor: City of Reno
  - Location: Horizon, NV
  - Description: Update structure to meet current NRCS and state standards to increase public safety downstream of the dam. Project funded for planning, design, and preparation of construction phases.
  - Funding: $3,004,000

- **Watershed and Flood Prevention Operations Program**
  - Walker River Watershed Project
  - Sponsor: Washoe River Irrigation District
  - Location: Yerington, NV
  - Description: Reduce and mitigate sediment deposition in key areas that has caused inconsistent delivery of irrigation water, an increase in flooding, increased operation and maintenance cost, poor water quality, declining riparian and wildlife habitat, and decreasing vegetation diversity. Project funded for Watershed Plan and Environmental Assessment completion.
  - Funding: $338,247

- **Quinn River Watershed Project**
  - Sponsor: Pershing County Water Conservation District
  - Location: Ft. McDermitt Paiute and Shoshone Indian Reservation
  - Description: Reduce flood damages and increase water supply availability for irrigation. Project funded for Watershed Plan and Environmental Assessment completion.
  - Funding: $285,000

- **Lower Hummock River Watershed Project**
  - Sponsor: Humboldt County Water Conservation District
  - Location: Lovelock, NV
  - Description: The purpose and need for the proposed project is to reduce the discharge from the project area in order to reduce the load of sediments that are transported to Humboldt Lake, and to provide public recreation, wildlife, and scenic benefits to the area. Project funded for planning, design, and preparation of construction phases. Total dollars: $550,000

- **Pawnee Creek - Truckee River Watershed Project**
  - Sponsor: Washoe County Water Conservation District and Orr Ditch and Extension Water Company
  - Location: Sparks, NV
  - Description: Project purpose and need is to increase agricultural water management, stormwater management, public recreation, fish & wildlife, and water quality within the Pawnee Creek-Truckee River Watershed, while providing flood protection and public safety to local communities and citizens. Project funded for a Pre-Pilot Investigation Report. Preliminary Investigation Report Funding: $50,000

NRCS Nevada’s Minden Field Office assisted NRCS California, working alongside the Eastern Sierra Land Trust and rancher Corky Illiman, to help secure 1,424 acres at the Ulman Ranch in Huntoon Valley outside Bridgeport, California this year. Through the Agricultural Conservation Easement Program (ACEP)-Agricultural Land Easement Grasslands of Special Environmental Significance, the agreement protects habitat for wildlife such as the Bi-State sage-grouse and mule deer.

Photo by Susanna Daniel, ESLT

Current Watershed and Flood Prevention Operations Projects

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Source Water Protection Contracts

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A Collaborative Effort
Nationally, states collaborate with:
- EPA Office of Groundwater and Drinking Water – Source Water Protection
- Association of State Drinking Water Administrators – state entities that are responsible for the Safe Drinking Water Act regulations
- American Water Works Association – the national association of public water supply utilities

In Nevada, NRCS also collaborates with:
- Nevada Division of Environmental Protection - Water Quality and Safe Drinking Water Bureaus
- Nevada Source Water Protection Task Force
- Carson Valley Conservation District
- Local Source Water Protection Stakeholders
- Carson Valley Watersheds Working with NRCS’s State Technical Advisory Committee and community water systems, the Carson River watershed was identified as the focus area for targeted source water protection practices. The Wellhead Protection Plan for Public Water Systems in Douglas County, 2012, and the Carson River Watershed Adaptive Stewardship Plan were used to: identify source water protection areas and potential threats, describe source water protection goals, identify conservation practices needed to address water quality concerns and include public education for community members.

Results
- Prioritize Projects Contracted: Irrigation Land Leveling, Irrigation Water Management, Prescribed Grazing, Structure for Water Control, Watering Facility Repair Concerns Addressed
- Inefficient irrigation use; Sediment transported to surface water; Surface water depletion
- Watersheds Addressed: Brockles Slough, Lower West Fork Carson River, and Town of Gerlach-Carson River

The 2018 Farm Bill includes language that requires changes to some NRCS programs related to Source Water Protection (SWP). It mandates addressing excessive nutrients and other impairments of drinking water sources (groundwater or surface water). Agricultural practices that contribute to the protection of source water are highlighted and tracked across the nation. States work with partners at a more localized level to engage with stakeholders and implement practices that support the source water mission, addressing water quality and quantity. For fiscal years 2019-2023, NRCS will dedicate 10% of funds to this effort on a nationwide basis.