SWCD
New Mexico Soil & Water Conservation Districts
Putting the Local Into Locally-led Conservation

Innovations Mark Locally-led Conservation Restoration

The Sierra and Socorro Soil & Water Conservation Districts (SWCDs) are introducing some innovative riparian restoration practices to the Armendaris Ranch at San Marcial, and in the process showcasing locally-led conservation at its best.

Salt cedar was originally treated on the Armendaris Ranch in the 1950s, and without riparian restoration it resprouted and reinfested the area. Then in 2003 it was again treated under the state of New Mexico's salt cedar program.

What happened next was not anticipated.

On May 3, 2006 a wildfire hit the area, burning 4,857 acres. This caused a number of problems. First, the manufacturer of the herbicide used to kill the salt cedar, recommended three seasons to get a full kill of the invasive species and the timing was short of that. Second, salt cedar is a fire evolved species – that is, while fire kills cottonwoods and willows, on salt cedar it only burns the tops and the pest will resprout from the roots.

Into the latest round of this complex situation entered the U.S. Fish & Wildlife Service, Sierra SWCD, Socorro SWCD, and Jornada Resource Conservation & Development (RC&D). NRCS provides an RC&D coordinator, Eugene Adkins, for Jornada, and key players in the project were the staff of the Sierra and Socorro SWCDs including Cody Cummings, resource management specialist for the Sierra SWCD.

Because the Armendaris Ranch is immediately adjacent to the Bosque del Apache National Wildlife Refuge that had also been hit by the fire, the area was eligible for Burn Area Rehabilitation funds because these monies can be considered for work on private land that will have a benefit to national wildlife refuges. The RC&D assisted in helping coordinate the effort, and the SWCDs received funding through the U.S. Fish & Wildlife Service's Partners for Fish and Wildlife Program.

Cody Cummings demonstrates success of Giant sacaton using zeolite

Then the real work began. Demonstration plots were planted first, followed by the creation of 32 "islands" of plantings throughout the site. Because the area only receives an average of eight inches in precipitation annually, and NRCS's Plant Material Center recommends at least 12 inches for planting of native grass seed, the concept was to instead plant "islands." Then when the area did receive a good monsoon season and there was adequate moisture, the islands could provide a seed source from which native materials could spread.

Some of the area being prepared for planting uses heavy machinery that cuts the roots of the resprouted salt cedar at least 18 inches below the ground. Then, again with heavy machinery, it is raked into windrows and disposed.

The SWCDs' unique work does not stop there. Since much of the area is separated from the river, the SWCDs needed an innovative way to water containerized shrubs and grasses they were starting in the islands. The answer was zeolite cores. After drilling a hole down to the eight-foot water table, the hole was filled with zeolite which has strong capillary action and draws water from the water table to the surface of the ground – thus watering the new plantings. In places, surface soil darkened from moisture can be seen where zeolite has pulled water up eight feet.

Another innovative feature that is being advanced is the use of V-shaped trenches that can help capture moisture for new plantings. In like vein, one area is being shaped with swales to bring the plantings closer to the water table in the dips and help capture moisture during precipitation events.

The impetus behind the riparian restoration was to reduce the possibility of catastrophic wildfire events by reducing surface fuel load since salt cedar provides enormous fuel loads compared to native vegetation. In addition, dense patches of Gooding's willows are being installed that provide habitat the Southwestern willow flycatcher prefers. This is an endangered species. In addition to Gooding's willows, cottonwoods, giant sacaton, wolfberry, New Mexico olive, and four-wing saltbrush are being planted. These will providing food sources, as well as shelter, for a variety of wildlife.

It is not uncommon to see a Gambel's quail scurrying across the landscape, and the area hosts turkeys and a bountiful supply of ducks.

Wildlife that is causing a problem for the conservationists are the rodents that are gnawing newly planted giant sacaton and shrubs down to the nubs. While screens were tested on the demonstration plots, to date no real solution has come forward to help the conservation measures.

New Mexico hosts landscapes supported by healthy native vegetation, bountiful wildlife, and prosperous agricultural ventures. And, it is exciting to see the Sierra and Socorro SWCDs advance concepts like seed islands, zeolite cores, and shaping to capture water. These SWCDs truly are reflecting the best in locally-led conservation and their capability to bring us a better New Mexico.