



Socorro SWCD
Annual Report – FY 2017

Socorro Soil & Water Conservation District
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Socorro SWCD Board Members:

Richard Ritter, Chairman
Eddy Harris, Vice-chairman
Chris Lopez, Secretary/Treasurer
Gordon "Corky" Herkenhoff, Supervisor
Jose "Lencho" Vega, Supervisor

Staff:

Nyleen Troxel Stowe, Director of Special Projects, Program Manager
Will Kolbensschlag, Range Technician, Noxious Weed Specialist

SOIL & WATER CONSERVATION:

The Socorro Soil & Water Conservation District's Cost Share Program remains the top priority of the fiscal year. It is designed to assist landowners in implementing water conservation measures on their farms, ranches, and urban residences. The following is a summary of the available programs and the combined benefits of the District's multifaceted programs:

This year \$33,752.45 was reimbursed to landowners for installing beneficial agricultural and residential conservation projects.

Agricultural Projects:

Agriculture is perennially the most active segment of our cost share program. This year we assisted landowners with six land leveling projects moving 42,686 cubic yards of dirt on 92 acres; with replacement and upgrade of three irrigation turnouts benefitting 45 acres; with sub-soiling, the practice of digging past the clay layer of soil into the sandy layer and mixing the soil on two tracts totaling 43 acres; three livestock well solar panel conversions and 1,526 feet of internal fencing for pasture management.



Sub-soiling in San Antonio, NM.



Solar panel conversion, livestock well, Bingham, NM.

Residential Projects:

We assisted three landowners with rainwater harvesting systems with a total of eight rain barrel collection systems installed. We also assisted one landowner with replacing three old water guzzling toilets with three new low flow toilets.



Rain barrel collection system in Socorro, NM

Conservation Technical Assistance with numerous other individuals resulted in many practices being applied on the agricultural land within our district. For example, we worked with landowner Phillip Gallegos for several weeks, surveying his new farm and designing an irrigation system that turned 18 fields into 3, moving over 140,000 cubic yards of soil to increase irrigation efficiency. We also surveyed over 160 acres at the Boys & Girls ranch to help the US Fish & Wildlife Service Partners for Fish & Wildlife Program establish a year-round wetland habitat for native and migratory birds. These are examples of the non-financial services we make available to landowners in our district.

The application of resource management systems in conjunction with the benefits of this versatile program has resulted in significant water and soil savings in the Socorro SWCD this fiscal year. Other benefits derived from the application of these conservation practices include improved water quality in the irrigated valley as well as the grazing lands in the district, improved wildlife habitat, improved watershed health and an overall improvement in the quality of life for the residents in our area. Our programs for drip irrigation, low flow water devices and rain harvesting barrels have expanded our cost share to reach more urban residents and have a greater overall impact on our community.

RIO GRANDE RESTORATION FUNDING:

This year the Socorro SWCD used its recurring treatment and restoration funding to remove the noxious Salt cedar and Russian olive trees from thirty-five acres of fallow farmland in Las Nutrias, NM. The landowner, Mr. Frank Dean, has two plots of land on Las Nutrias road; one is twenty acres and the other is fifteen acres. The Socorro SWCD contracted with Double Arrow Bar for the treatment of all thirty-five acres. They began work in January 2017 and finished both tracts in March 2017. The Salt cedar and Russian olive trees were extracted and piled. The contractor then used his bulldozer to root plow and rake the majority of the remaining root balls and lateral roots. Piles were kept away from other landowners houses and away from the old growth Cottonwood trees so that the landowner would then be able to burn these piles. Once the landowner has burned the piles, he plans to go back into agriculture by planting permanent pasture. The Socorro SWCD will assist him by surveying the land and providing a detailed cut and fill map for the land leveling. Once that is done, he will plant pasture seed on the acreage.

The Socorro SWCD was also able to have the contractor stop in Bosquecito while taking his equipment home and bulldoze a stand of Salt cedar on USDOJ Bureau of Land Management acreage. He knocked down ten acres of Salt cedar that has burned many times. Range Technician Will Kolbensschlag continues to clear this tract using our Bobcat mini-excavator. This is now much easier with the above ground gnarly scraggs of burnt Salt cedar on the ground.



Dean tract pre-treatment.



Post-treatment.



Post treatment.



Dean tracts outlined in red.



Salt cedar pushed over using bulldozer on the BLM tract.

Budget:

| Tract | Acreage | Cost per acre | Total |
|------------------|---------|---------------|----------|
| Dean-1 | 20 | \$950 | \$19,000 |
| Dean-2 | 15 | \$825 | \$12,375 |
| BLM-Rhodes tract | 3.625 | \$200 | \$725.00 |
| Total: | | | \$32,100 |

Following is a summary of the acreage that we have completed to date using NM Legislative funding.

| Tract and Practices | Acreage | Funding Year | Funding Amount |
|--|-------------|--------------|----------------|
| Thomas tract, Whitaker tract, Lawrence tract/extraction and mulching | 17.17 acres | FY 2008 | \$42,000 |
| NM Department of Game & Fish Extraction and mulching | 26 acres | FY 2009 | \$42,000 |
| Valdez tract, Pepllar tract Root plowing/raking into burn piles | 73.1 acres | FY 2010 | \$38,558 |
| NM Department of Game and Fish-Ladd S Gordon Refuge Extraction, piling, seeding | 102 acres | FY 2011 | \$36,549 |
| Carangelo tract Root plowing/raking followed with reveg planting Herkenhoff tract Paddle scraping | 119.1 acres | FY 2012 | \$34,720 |
| Bourne/Babcock tract Extraction and piling, grass seeding | 23 acres | FY 2013 | \$34,720 |
| Armijo tract Extraction/windrowing | 51.8 acres | FY 2014 | \$34,720 |
| Bruton tract Root plowing/raking Armijo/Gonzales and Bourne/Babcock tracts Fencing and Noxious weed treatment | 101 acres | FY 2015 | \$34,625 |
| Gonzales tract Root plowing/raking Shrub purchase for follow up plantings | 31.2 acres | FY 2016 | 34,417.25 |
| Dean tracts Extraction/root plows Extraction/root plow/rake into piles for burning | 35 acres | FY 2017 | \$31,375 |

SOIL & WATER CONSERVATION COMMISSION GRANT FUNDING:

The Socorro SWCD staff ordered one hundred forty shrubs-seventy New Mexico olive and seventy Baccharis (seep willow) from Hydra Aquatic Inc. in Albuquerque. These were picked up and watered with our drip system in our greenhouse. We also picked up sixteen New Mexico locust, sixty Screwbean mesquite, two hundred forty-one New Mexico olive and fourteen Four-wing salt bush from the New Mexico Plant Materials Center. We were able to get these at no cost to the project. We added another fifty Golden currant, fifty False indigo bush, and eighty-nine Giant sacaton grass plugs that were purchase last fiscal year with our Salt cedar restoration money from the State of New Mexico.

On October 12, we had five volunteers go out to the Rhodes tract with us. We were able to plant all six hundred and sixty shrubs/plants in one day. We had selected an area on this tract where all of the underbrush in a cottonwood gallery had burned clean. We used our three foot long twelve inch diameter auger bit on our Bobcat E35 mini-excavator to drill the holes for the shrubs and grasses to be planted in. With the help of the volunteers, the Socorro SWCD staff was able to get this done in one day.

October 17-19, Socorro SWCD staff used the three hundred gallon water dog to water all of the recently planted grasses and shrubs. We will follow up this winter with watering as necessary. In January, we will harvest poles for planting. Dependent upon the final budget amount given to us by NMDA, we may purchase grass seed to see in between the shrub plantings.



Volunteers planting shrubs.



Volunteers planting shrubs.



Socorro SWCD water dog with hose for watering in shrubs.



Will Kolbenschlag watering shrubs on Rhodes tract.





Bobcat and auger used for drilling holes for planting.

On February 8, 2017 we planted two hundred Gooding's willow poles. These were planted in clusters around the shrubs that were planted in October of 2016. This was followed with seeding of grass in and around the poles and shrubs.

The Socorro SWCD used their Bobcat E35 mini excavator with auger head attachment and an eight foot fully flighted auger to drill into the shallow groundwater table to plant the poles. Almost of the holes had standing water at the top after planting the pole and refilling the hole. The staff checked the shrubs that were planted last fall and they were all still in moist soil.



Drilling holes for the Gooding's willow poles to be planted in.



Pole planting.



Seeding areas around pole and shrub plantings.

| Item | SSWCD IN-kind | SWCC Grant Cost |
|---|---------------|-----------------|
| 140 shrubs-Seep willow and NM olive | | \$1,050.00 |
| 520 shrubs-NM olive, NM locust, screw bean mesquite, Four-wing saltbush, False indigo bush, Golden currant, Giant sacaton | \$3,300.00 | |
| Volunteer assistance for shrub planting | \$735.00 | |
| 200 Gooding's black willow poles | | \$3,600.00 |
| 222.3 lbs of Native grass seed--Sideoats grama, Blue grama, Alkali sacaton, Western wheatgrass, Buffalograss | | \$1,595.35 |
| Planting | \$2,000.00 | |
| 45 lbs of Blue grama grass seed | \$200.00 | \$357.15 |
| Total: | \$6,035.00 | \$6,245.35 |

NOXIOUS WEED CONTROL:

Since 2003, the Socorro SWCD has partnered with private landowner Doris Rhodes, along with nearly every other land management agency in the area, to eradicate noxious tree and weed species and re-establish native vegetation on her 700+ acre historic ranch, much of which is active Rio Grande floodplain. The BLM owns land that traverses the center of this property, connecting the upland with the Rio Grande. Range Technician Will Kolbenschlag has begun clearing more of this property using the SWCD's mini-excavator. As shown in the pictures, sometimes this works out well, and sometimes it doesn't. We had the opportunity to hire a bulldozer for a good rate to have the above ground vegetation knocked down. Kolbenschlag will then pile the trees for future BLM burning, and finish extracting the remainder of the root crowns after Southwestern Willow Flycatcher nesting season. Once this project is complete, the SWCD has shrubs and native grass seed set aside in our greenhouse to begin re-vegetating this property.



Extracting and piling salt cedar on the Rhodes-adjacent BLM property



Salt cedar stuck in the tracks sometimes causes them to come off.

The SWCD has also continues to work with Jeff Fassett and the NM Association of Conservation Districts to complete the Quebradas Backcountry Byway improvement project, Torreon allotment fencing project, as well as Chupadera Mesa and Polvadera Mountain thinning projects.



The Socorro SWCD greenhouse with a variety of native trees and shrubs that will be used in re-vegetation.

In nine months, we have achieved our targeted *annual* goal of a minimum of seventy-five acres treated, currently standing at seventy-nine. The annual goal of one hundred acres of monitoring on previously treated sites currently stands at twenty-seven , although the majority of the monitoring is performed in the fourth quarter of the Federal fiscal year (September), and the target will be surpassed. Taylor Canyon has received the bulk of the treatment, due to several nasty outbreaks of Spiny cocklebur, which is toxic to cattle

at one percent ingestion of body weight. These areas need to be treated multiple times as seeds continue to germinate. Following is a chart showing third quarter activity.

BLM Spraying & Monitoring 2017

Agreement#: L14AC00274

Applicator License# 54016

| Location | Species | Herbicide | Acres Treated | Acres Monitored | Date |
|----------------------------|--------------------|----------------------|---------------|-----------------|-----------|
| Bernardo Area Dirt Tanks | Salt Cedar | | | | |
| Socorro County Fairgrounds | African Rue | n/a | | 0.2 | 5/26 |
| Zeke Armijo Allotment | African Rue | Polaris AC, Dyneamic | 0.3 | | 5/10,26 |
| Zeke Armijo Allotment | Salt Cedar | Polaris AC, Dyneamic | 3 | 3 | 5/10,26 |
| Datil Well Campground | Mixed | Ranger, Weedestroy | 0.5 | | 5/4 |
| Taylor Canyon | Spiny Cocklebur | n/a | 48.78 | 22.5 | 4/28 |
| Cat Mountain Ranch | Tree of Heaven | n/a | | 0.4 | 5/4 |
| Fort Craig | Mixed | Ranger, Weedestroy | 3.93 | | 5/1 |
| El Camino Real | Mixed | Ranger, Weedestroy | 0.3 | | 5/2 |
| Fite Ranch | Tree of Heaven | | | 0.1 | 5/26 |
| Box Canyon Recreation Area | Tumbleweed, Elm | Ranger, Weedestroy | 0.7 | | 5/26 |
| Pie Town, HWY 60 | Pepperweed | n/a | | 0.5 | 5/30 |
| Socorro Nature Area | Kochia, Tumbleweed | Ranger Pro | 2.6 | | 4/27, 5/2 |
| Dale Muncy Dirt Tanks | Salt Cedar | Ranger, Weedestroy | 2.7 | | 4/28 |
| Arroyo del Tajo | Salt Cedar | | | | |
| Rhodes Ranch | Salt Cedar | n/a | 14 | | 4/13 |
| Harliss Ranch | Salt Cedar | | | | |
| Quebradas Backcountry | Salt Cedar | | | | |
| MRGCD Yard | Malta Starthistle | Polaris AC, Ranger P | 2.1 | | 6.19.17 |
| | | | 78.91 | 26.7 | |



This picture shows one of the Spiny cocklebur infestations in Taylor Canyon. The majority of what is seen here are the skeletons from last year's plants. The new weeds grow underneath this canopy, making treatment more difficult.



Range Tech Will Kolbensschlag treats a new infestation of Spiny cocklebur.



The Spiny cocklebur is not always contained to one spot. This is an infested area that rambles over several acres. Everything green under three feet tall in this picture is Spiny cocklebur.



Treated Spiny cocklebur, struggling to survive. Spoiler alert: it did not make it.



The picture above shows the real struggle to eradicate this weed. Every time I go back to monitor the previous treatment, the weeds are dead, and new ones are popping up right next to them. A total of eight trips to Taylor Canyon so far this year have made a significant impact.



Treated weeds in the parking lot at the Socorro Nature Area.



Above, preparing to spray weeds at Fort Craig. This is one of many spray projects that require both the UTV to cover the large areas, and the backpack sprayer to complete the areas requiring more care, i.e. around interpretive signs and picnic tables.



The Datil Well Campground Visitors Center, pre treatment.



Treated Salt cedar on the Dale Muncy allotment. Some grass is starting to grow in this area, now that it is receiving sunshine.



Treated Tree of Heaven at the Fite Ranch. This infestation has been completely eradicated and has now been removed from the monitoring list.

PUBLIC OUTREACH:

The Socorro SWCD staff had a booth at the Socorro County Fair over Labor Day Weekend, September 2-3, 2016. The cost share program for agricultural practices and for urban water conservations projects, as well as technical assistance is promoted at this event.



Nyleen Troxel Stowe with Shadow manning the booth at the Socorro County Fair.

EDUCATION:

On April 18, 2017, the Socorro SWCD had the second, third and fourth grade students attending Ag Literacy Day act out the watershed cycle. The kids took turns being clouds, lakes, condensation, evaporation, and precipitation. Two very lucky kids got to operate the squirt bottles and be rain drops.



"Clouds" at the top, right hand side



Cottonwood Charter School second graders acting out the watershed cycle.

FISCAL YEAR 2017 BUDGET:

| Item | Amount |
|--|---------|
| | |
| Income: | |
| State funding | 52,401 |
| Mil levy | 155,300 |
| Grant Income | 57,591 |
| Total: | 265,292 |
| | |
| Expenditures: | |
| Staff | 127,998 |
| Cost share program | 33,752 |
| Audits | 2,532 |
| Office supplies, postage, meetings, dues, telephone, travel, trainings, rent, utilities | 32,310 |
| Auto | 8,338 |
| Grant expenditures | 40,500 |
| Loan repayment to ISC | 1,604 |
| Total: | 247,034 |
| | |