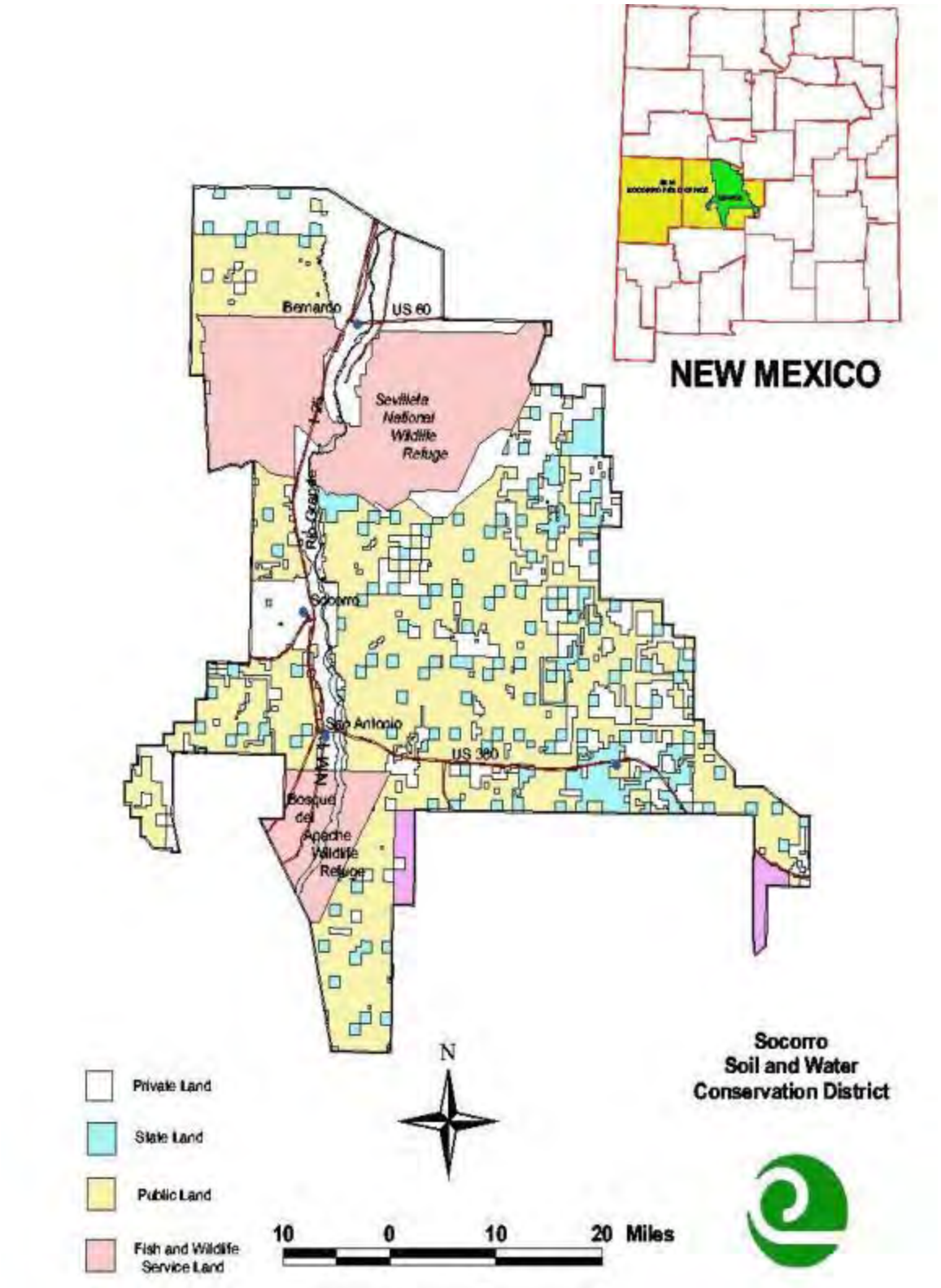

Socorro SWCD
Annual Report – FY 2016

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Eddy Harris, Vice-chairman
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Gordon "Corky" Herkenhoff, Supervisor
Jose "Lencho" Vega, Supervisor

Staff:

Nyleen Troxel Stowe, Director of Special Projects, Program Manager
Will Kolbenschlag, 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 $39,454.47 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 fourteen land leveling projects moving 29,877 cubic yards of dirt on 113 acres; replacement and upgrade of two irrigation turnouts benefitting 28 acres; and 618 feet of concrete ditch lining benefiting 9.7 acres. This year we also began a noxious weed spraying cost share program for non-irrigated lands. We had one landowner apply who hired a commercial applicator to treat thirty acres of Salt cedar re-sprouts.

Land leveling in Sabinal, NM.

Turnout replacement, Lemitar, NM.

Residential Projects:

We assisted five landowners with rain water harvesting systems, reimbursing a total of $2,959.08; we assisted one landowner with $600 in cost share for a drip irrigation system; and one landowner with $449.96 of assistance for water saving low flow toilets in an apartment complex.

Set of four connected rain barrels. This type allows you to plant on the top of the rain barrel and moisture wicks up to the plant roots.

Conservation Technical Assistance with numerous other individuals resulted in many practices being applied on the agricultural land within our district. Staff assisted one landowner with survey and design for land leveling on 168 acres to move over 150,000 cubic yards of dirt as an example. 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:

The Socorro SWCD contracted with Double Arrow Bar Construction, a New Mexico contractor, to eradicate the Salt cedar on the 31.2 acre Gonzales tract South of San Antonio, NM. The property is owned by brothers David and Phillip Gonzales, and has been owned by their family for the better part of the last century. Extensive flooding in the 1940s destroyed much of the family's farmland in the area, and while most of was rehabilitated, the family simply could not

afford to fix it all, and this piece has remained fallow, while growing a thick, monotypic stand of Salt cedar. Following removal, the brothers intend to return the land to productive agriculture.

Southwest corner of the Gonzales property, pre-treatment, October 2015

Double Arrow Bar started on the project in February of 2016 and finished in less than a month. A bulldozer was used to remove the above ground vegetation and push it into piles. The landowner worked on burning the piles while the bulldozer began root plowing, a process which pulls a large steel "blade" up to 24 inches below ground, severing roots from the root crowns and pushing the larger material to the surface. These root crowns and large roots are then pushed into piles with the bulldozer and burned. This process is very effective at removing most of the material from the ground, while breaking the soil up and making it easier to establish crops in the future.

Bulldozer flattening and piling Salt cedar, February 2016

Salt cedar piles being burned, February 2016.

Bulldozer pulling the root plow through the soil, February 2016

When the project is completed, Socorro SWCD employees verify its completeness by using their Bobcat Mini-Excavator to travel around the property while scooping through the dirt to make sure no large material has been left undisturbed.

Socorro SWCD's excavator, checking for root crowns that may have been missed

As always, larger native trees are left unharmed and the landowners will farm around them. This encourages survival of the native vegetation in the area and helps to prevent the Salt cedar from returning.

Freshly root plowed soil and native Cottonwood & Willow trees left unharmed (left), and last year's project on the adjacent property, now laser leveled and planted in oats (right).

The Gonzales family intends to apply for our cost share program to assist in laser leveling the land so that it can once again be farmed, for the first time in a generation. The Socorro SWCD will survey the property and prepare a contractor-ready cut/fill map with our GPS based Topcon Hyper V RTK survey equipment. We will then verify the project by re-surveying upon its completion, and the property will be planted in permanent pasture for grazing.

This funding has allowed us to take over 60 acres from Salt cedar forest to productive farmland, just in the past two years. This also eliminates the last large stand of Salt cedar in the area, thereby drastically reducing the seed source and ensuring the overall health and future economic productivity of the land.

The Socorro SWCD spent the remaining funding on the purchase of native riparian grasses and shrubs which will be planted in the fall of 2016.

Item:	Cost:	Total:
Extraction/root plow/rake	$900/acre	$28,080.00
Shrubs-1,440	$0.75 and $7.50	$6,345.00
Total Project:		$34,417.25

SOIL & WATER CONSERVATION COMMISSION GRANT FUNDING:

The Socorro SWCD has finished construction on the greenhouse. The greenhouse is kept in place with sonotubes filled with concrete and anchors sticking out of the concrete. Two by twelve treated lumber was inserted into the anchors and the greenhouse is bolted to this wood on all four sides. Weed barrier and gravel were installed first. The end walls were then installed using Pro-panel as the siding. We were able to order clear panels that matched the ribbing profile for the top half of the end walls to allow light in for the plants. Each Pro-panel piece was attached to the framing and then the curve of the arch was marked. Each piece was taken down, cut and then re-installed. Rain gutter was installed just above the Pro-panel on the north and south sides to collect rain water. The gutters go into stock tanks that are plumbed into stock tanks in the greenhouse for watering the plants. Aluminum shutters with automatic openers were installed on the west and east sides. They are low on the west side and at the top on the east side to push hot air out of the greenhouse. Each shutter has an automatic opener attached to it. The opener has a paraffin wax center that softens at the temperature of 70 degrees and begins the opening of the shutter. At night, when the temperature goes below 70 degrees, the shutters close all the way.

Four inch flashing was used to trim the arch of the greenhouse on the west and east sides. This was done to keep cold air out in the winter and to keep moisture off of the framing of the end walls.

West side of greenhouse. Aluminum shutters open every morning once the temperature goes above 70 degrees F. French doors allow access to inside of the greenhouse.

South side of greenhouse. Gutter is just below the black shade cloth covering the greenhouse. Gutter pours into large round stock tank that is hooked to stock tanks inside greenhouse.

East side of greenhouse. Current plant stock in outside shrub cages, where they are watered each morning.

West side of greenhouse. Aluminum shutters are elevated on this side of the greenhouse.

East side of greenhouse, Golden currant, False indigo bush and Wolfberry in shrub containers.

North side of greenhouse. Gutter and stock tank to collect rainwater on this side also.

Inside of greenhouse (east wall). Stock tanks that will hold water to run micro-sprinklers.

Due to higher than average temperatures this summer, the greenhouse stock has been kept outside and is watered by a drip system every morning. These plants are doing well and will be planted this fall when temperatures have decreased and water if flowing in the Rio Grande again. They will be planted on several of our Salt cedar restoration sites. We were also able to get one thousand and five various native shrubs and tree species at no charge from the Los Lunas Plant Materials Center. They are needing to liquidate their stock. Staff will continue to make trips to the Plant Materials Center to get stock. Now that the greenhouse is finished, it will be easy to add more stock.

The final part of the greenhouse will be internal plumbing. Plumbing was installed for the outdoor drip system for the plant stock and capped at the northeast corner of the greenhouse to add the internal plumbing. The PVC, misters, drippers, timers, etc were all donated with the greenhouse to the Socorro SWCD by Bosque del Apache National Wildlife Refuge. Staff will continue to work on this to have it completed by the beginning of November. Staff is working on a secure post/frame structure for the solar panel which will be used to run fans and swamp coolers to keep the plants cooler in the spring and fall.

Item:	SWCC Grant:	Socorro SWCD:
Greenhouse frame-donated by Bosque del Apache to the Socorro SWCD		5,000.00
Pre-hung French door	349.95	
Al shutter windows (4)	512.44	
Al shutter window operators	256.80	
Lockset/shims	41.47	
Solar panel set up for electricity for fans/ac in greenhouse	338.90	
Stock tanks for rainwater harvesting/distribution to plant materials	501.68	231.76
Water pumps to pump rainwater into greenhouse watering system	119.98	
Irrigation parts, timers, valves, drip tubing, emitters, pvc parts		600.00
Pro-panel siding	1,242.64	
Concrete, sono-tubes, block, screws, clamps, wood, penofin, brushes, nuts, bolts, washers, flashing for trim and edging.	865.24	1,250.64
Gravel/weed barrier/stakes	398.00	1,286.66
Donated plant stock		7,537.50
Staff time for construction (45 days-2 people)		20,595.60
Total:	$4,627.10	$36,502.16

POLE PLANTING:

The Socorro SWCD continues to aid landowners with restoration post Salt cedar treatment with the planting of cottonwood and willow poles.

The Bosque del Apache National Wildlife Refuge has been an instrumental partner in our pole planting activities from the very beginning. They allow us to harvest as many Rio Grande Cottonwood poles as we need for our projects, and, when available, Gooding's Black Willow poles, the tree species preferred by the endangered Southwestern willow flycatcher.

This year, in cooperation with the Partners for Fish & Wildlife Program and the Save Our Bosque Task Force, we harvested 100 Rio Grande cottonwood poles. Along with volunteers, these were planted on Zach Saavedra's property. This added to the cottonwoods he had planted on his property last year. We also assisted the County of Socorro by planting 30 cottonwoods around the perimeter of Escondida Lake, Socorro's local fishing hole.

Using the Bobcat to auger holes-Saavedra.

Escondida Lake pole planting with County.

NOXIOUS WEED CONTROL:

In FY2016, the Socorro SWCD continued to assist the public with noxious weed and tree species, and also continued our long standing partnership with the BLM in using Integrated Pest Management techniques on federal lands in Socorro and Catron Counties.
Private landowners have the opportunity for training and education through our office's licensed herbicide applicator. We assist landowners with identification, proper herbicide selection, and training application techniques. Additionally, we own a Bobcat E35 excavator that we will use to remove small noxious trees such as Salt cedar and Russian olive. Landowners may request one day per year for the Socorro SWCD to supply the machine and an operator.

Large Salt cedar trunk before removal.

After removal.

The Socorro SWCD has been working closely with the BLM to eradicate noxious weeds since 1999. Using their funding, we treat breakouts on their land and permitee's land in Socorro and Catron counties. We treat weeds for the BLM at Box Canyon Recreation Area, the Socorro Nature Area, Ft. Craig, the El Camino Real trailhead, the Quebradas Back Country, and several arroyos and draws that are contaminated with Salt cedar. We also treat land that is leased from the BLM, including many earthen water retention dams throughout the district, and arroyos that become infested with everything from Tree of Heaven to Spiny cocklebur. This year even included a treatment of Malta starthistle, which has never previously been identified in Socorro County.

An infestation of Silver leaf nightshade at the El Camino Real Heritage Center.

A watering trough on ranch land near the Sevilleta that has been successfully treated for Salt cedar.

A new component of weed treatment was added to the district this year, which was the addition of noxious weed treatment to our cost share program. Non-farm land is eligible for this cost share program, which reimburses half the cost of treatment by a licenses commercial herbicide applicator.

Salt cedar resprouts, following mechanical removal on the Rhodes ranch.

Salt cedar re-sprouts on the Rhodes property following treatment. The contractor uses blue dye to identify which plants have been treated.

PUBLIC OUTREACH:

The Socorro SWCD staff had a booth at the Socorro County Fair over Labor Day Weekend, September 4-5, 2015. The cost share program for agricultural practices and for urban water conservations projects is promoted at this event.

Socorro SWCD booth at the Socorro County Fair, September 4-5, 2015

EDUCATION:

On April 19, 2016, the Socorro SWCD did a watershed exercise with the 3rd and 4th grade students who attended. They went through the watershed cycle and had an interactive diagram for the kids to identify the parts of the watershed cycle. Students also received soil stewardship materials to take home with them. The Socorro SWCD paid to bus the students within the District to Kids, Kows and More.

FISCAL YEAR 2016 BUDGET:

Item	Amount
Income:	
State funding	54,750
Mil levy	158,310
Grant Income	52,560
Loan repayment	2,000
Total:	259,820
Expenditures:	
Staff	125,130
Cost share program	39,454
Audits	4,168
Office supplies, postage, meetings, dues, telephone, travel, trainings	33,454
Auto	9,128
Grant expenditures	61,395
Conservation activities	5,648
Loan repayment to ISC	1,604
Total:	279,981