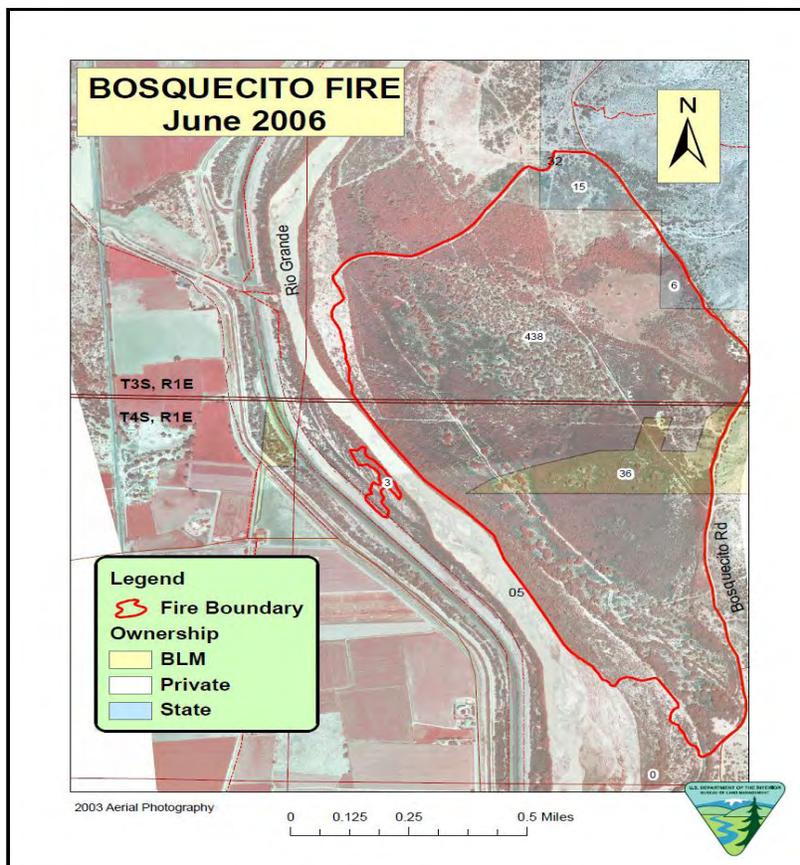


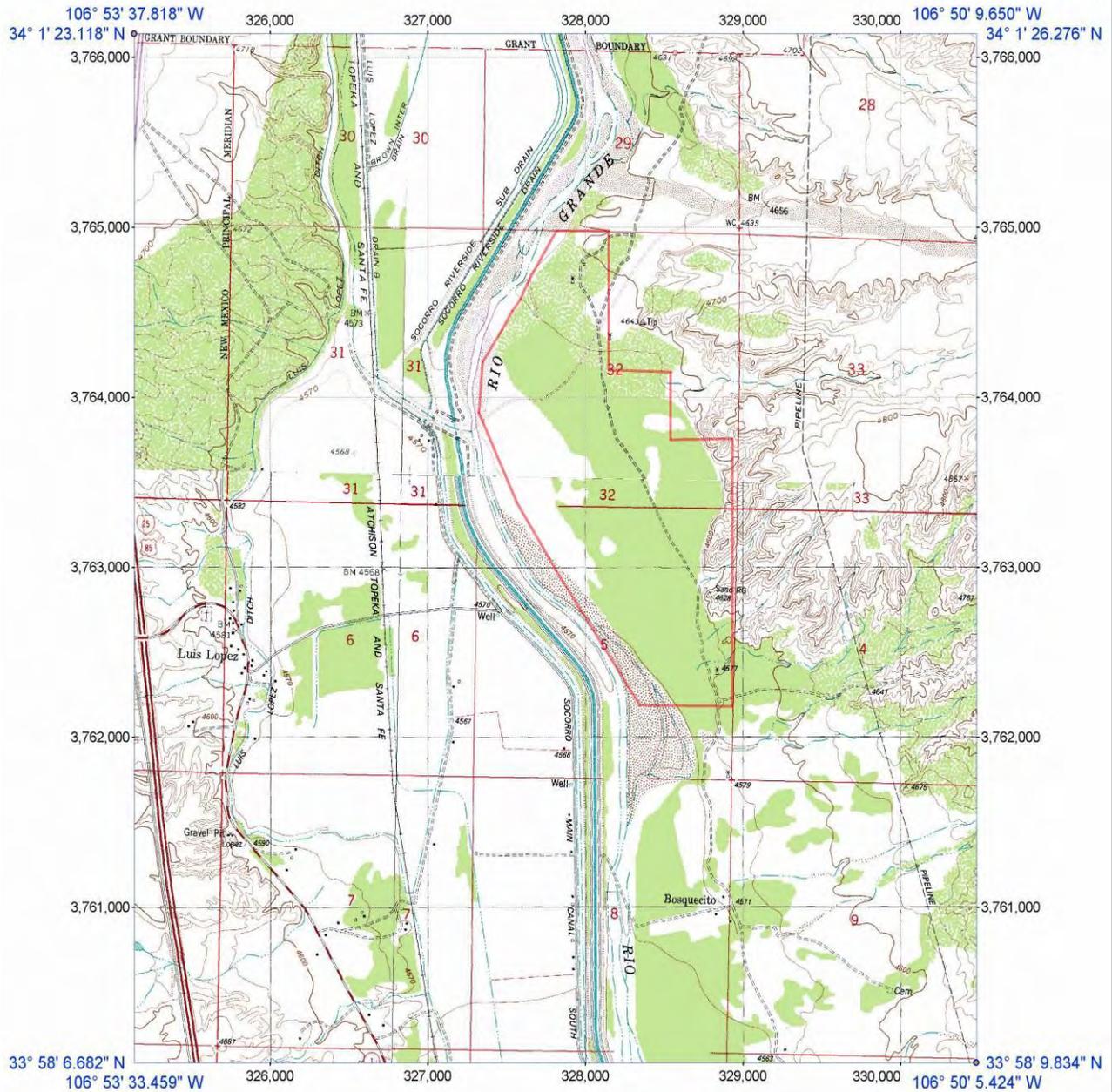
Subject: Final Report
Rhodes Estate Restoration Projects (MERES)
To: Cynthia Abeyta
Bosque Improvement Group/MERES Coordinator

The following restoration project has been completed by the Save Our Bosque Task Force in its ongoing effort to control non-native phreatophytes and restore the native riparian plant community in the Socorro Reach of the Rio Grande.

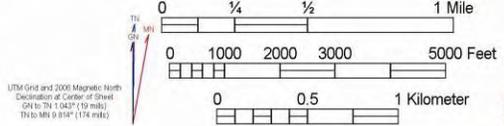
BACKGROUND

The Rhodes property is located on the east side of the Rio Grande across from the point where Brown Arroyo enters the river channel. The majority of the property is private land owned by the Rhodes Family. Small tracts of BLM and other people’s private lands are located within its boundaries. The Salt Cedar was aerially treated in the fall of 2003. The property has been in the family for several years and various forms of management activity (from farming to livestock grazing) have taken place over the years. A lightning-caused wildfire burned much of the property in the spring of 2006, destroying much of the mature cottonwood forest which was present on the property and burning the treated Salt Cedar which was aerially sprayed 18 months earlier. Labeling on the pesticide (Arsenal) used to spray the property recommended that the target species be left standing for 36 months after treatment in order to insure the root system is dead and that re-sprouting is kept to a minimum. Since a significant amount of re-sprouting occurred on the property after the premature burn, additional control before restoration was necessary.





1927 North American Datum; UTM grid zone 13
 Generated by BigTopo7 (www.igage.com)
 Map compiled from USGS Quads: Socorro;
 NM Loma De Las Canas; NM Luis Lopez;
 NM San Antonio, NM



OPPORTUNITIES

A new U.S. Fish and Wildlife Grant Opportunity, called Management of Exotics for the Restoration of Endangered Species (MERES) opened up an opportunity for the Save Our Bosque Task Force (SOBTF) to apply for funds to assist the landowner with restoration following the fire. The grant deadline had been just before the start of the wildfire that burned on the Rhodes property that summer. The SOBTF submitted a grant proposal for over \$1,000,000 to complete the restoration work needed after the aerial spraying by the Socorro Soil and Water Conservation District (SSWCD) in 2005. The Grant funds were awarded at a reduced total of \$433,000, much less than the \$1,000,000 that was asked for but a sum sufficient to begin work. Additionally, working with the Natural Resources Conservation Service (NRCS), Socorro Field Office, and the Wildlife Habitat Improvement Project (WHIP), an additional \$68,000 was secured. Coupled with a Severance Tax Grant from the NM EMNRD Forestry Division for a total of \$150,000, the cooperative group (now consisting of many partners) had \$651,000 to start actual restoration work.

OBJECTIVES

The major goals of the project as stated in the MERES proposal were to:

- remove and control the Salt Cedar,
- reestablish at least 3 willow stands that eventually could be used by Southwest Willow Flycatchers as habitat,
- reestablish as much cottonwood/willow habitat as possible, and
- establish a viable stand of the Pecos Sunflower, an endangered species that recently had been found growing at Bernardo State Game Refuge to the north.

FIRST STEPS

The SOBTF hired *Keystone Associates* to complete an environmental assessment (EA) and Biological Assessment (BA) on the project prior to any work being done on the ground. This document was completed and signed by the required reviewers during the winter/spring of 2007 and is on file in the SOBTF project files located at the NM EMNRD, Forestry Division, Socorro District Office as well as being posted on the SOBTF website (www.sobtf.org). The next step, prior to implementing the actual conservation measures, was a soil survey which would provide soils data detailed enough to plan the needed restoration practices. This was completed in the spring and summer of 2007. The SOBTF also hired retired NRCS District Conservationist Darrel Reasner to serve as a project inspector/coordinator.

PHASE 1 OF ACTUAL RESTORATION

Elements:

Salt Cedar removal

1st willow plantation establishment

Exterior Fencing

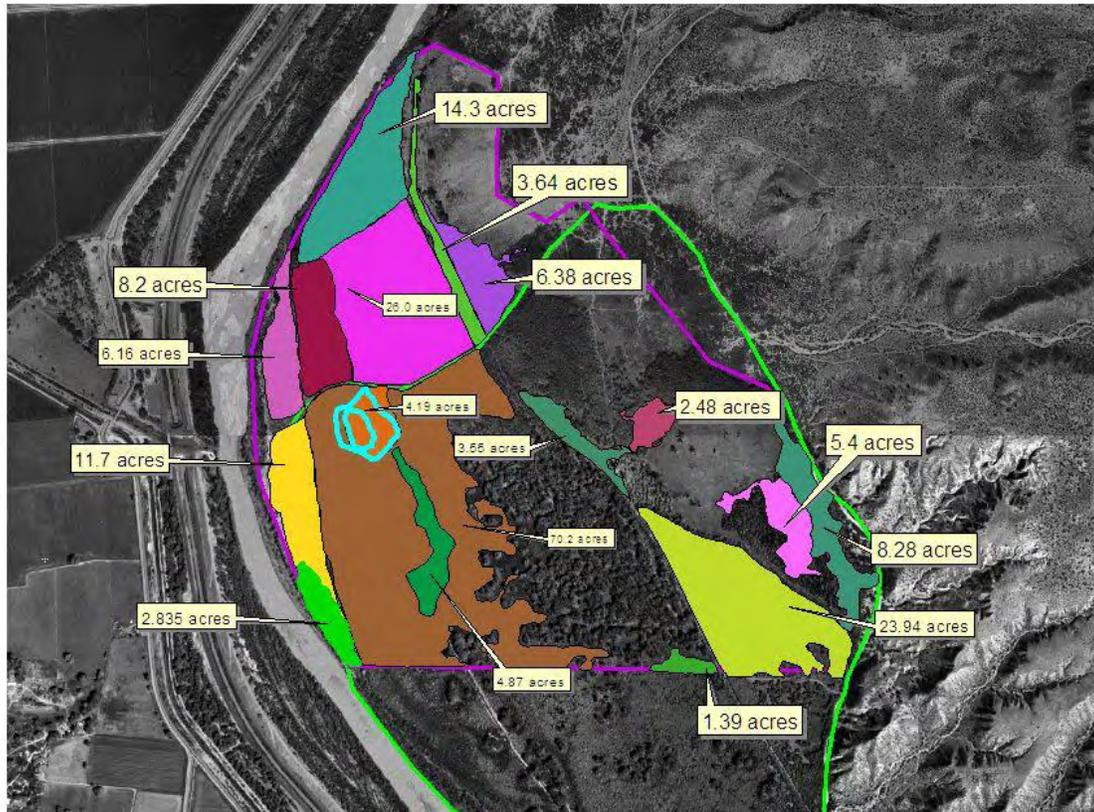
Broadcasting Pecos Sunflower seeds in suitable areas

After careful planning, the Rhodes property treatment began in February of 2008 using Restoration Solutions Inc. This multifaceted project started with Salt Cedar removal followed by native vegetation restoration. The following is a summary of the work which has been completed. Because the vegetative types present on the Rhodes property are varied, several different treatment methods were planned and applied. These included:

1. Hand cutting and stump treatment of Salt Cedar
2. Mulching of dead standing Salt Cedar
3. Extraction and mulching of Salt Cedar re-sprouts and other live Salt Cedar

A total of 203.52 acres of Salt Cedar was treated in this phase.

Rhodes Property



0.3 0 0.3 0.6 Miles

- Rhodes_treatment_2_middle.shp
- Rhodes_treatment_2_southeast.shp
- Rhodes_treatment_1a_south.shp
- Rhodes_treatment_1a_north.shp
- Rhodes_treatment_3_east.shp
- Rhodes_treatment_3_south.shp
- Rhodes_2a.shp
- Rhodes_area_3_addition.shp
- Rhodes_area_4_exclusion.shp
- Willow_pole_plantings.shp
- Rhodes_treatment_4.shp
- Rhodes_area_3.shp
- Rhodes_outstump_north.shp
- Rhodes_outstump.shp
- Rhodes_treatment_10n.shp
- Rhodes_treatment_7n.shp
- Rhodes_treatment_2_west.shp
- Rhodes_treatment_2_east.shp
- Rhodes_new_fence.shp
- Fireboundary.shp



Acres treated as of 8/1/2008, End of Phase 1

Approximately 5,500 Gooddings and Coyote Willow poles were harvested and planted on 3.2 acres in order to create the first willow thicket to be available as future southwestern willow flycatcher habitat. Survival rate was approximately 70%. Three thousand more tube-grown Gooddings Willows were produced from seed by the Plant Material Center in Los Lunas to be planted in the fall of 2008.

A four (4) wire (top 3 barbed and bottom smooth) fence was constructed by L & J Construction around the perimeter of the Northern 1/2 of the Rhodes property. This excludes all livestock from the treated area and protects the vegetative restoration projects from grazing. The fence is 9,795 feet long and enclosed approximately 350 acres (the portion of the Rhodes Property restored with available funding).

Pecos Sunflower seeds were collected at the Bernardo Wildlife Area and broadcast around a small wetland by Bosque del Apache NWR and New Mexico EMNRD State Forestry staff.



Examples of extracted and mulched area underneath cottonwoods on the Rhodes property



Gooddings and Coyote Willow pole planting on Rhodes Property (February 2008)



Perimeter fence, south boundary of Rhodes treatment area (May 2008)

Perimeter fencing



Aerial views of Rhodes treatment area after treatment (May 2008)

As can be seen on the treatment map (page 5), there was a large (60 + acre) tract in the center bottom part of the treated area that was not treated in Phase 1. This was due to lack of funds. Funds to treat this tract were secured in late fall 2008, using New Mexico Severance tax funds provided by the NM EMNRD, Forestry Division.

PHASE 2 OF IMPLEMENTATION

Establishment of 2nd willow plantation

Planting of various understory species

Treating the large dead cottonwood gallery forest and removing the sprouting Salt Cedar

Re-treating all areas with 2nd application of herbicide by hand

Planting of the 2nd willow stand started in September, 2009. The Gooddings Willow seed had been collected in Spring 2008 and delivered to the Plant Material Center, which was under contract to grow the seedlings in plastic tubes. The seedlings, picked up in June 2009, averaged 4 feet tall. They were planted in the extreme southwest corner of the project by Project Manager Reasner along with his crew in late September/early October, 2009. Survival rate was approximately 70%.

At the same time that the 2nd willow stand was being planted, Socorro SWCD staff planted about 500 shrub seedlings, which included Jemez Stretchberry, Bighorn Skunkbush Sumac, Golden Currant, Squawthorn, False Willow, Desert False Indigo, and New Mexico Olive.

As mentioned above, funds were secured from the NM Forestry Division to treat the cottonwood gallery forest in the center of the project. Boss Reclamation was selected from over 10 contractors to extract the Salt Cedar sprouts and remove about 75 % of the cottonwood snags. This work was done during the spring of 2009. The Boss contract was supposed to also include piling of the extracted material but, due to various circumstances, the material was not piled correctly and only 45-50% of the snags were removed. This required a second contract with ASAP Wildfire, who, starting work in July 2009, piled and burned the extracted Salt Cedar and cottonwood snags to meet specifications of the contract.



Four examples of cottonwood stand after work was completed by Boss Reclamation



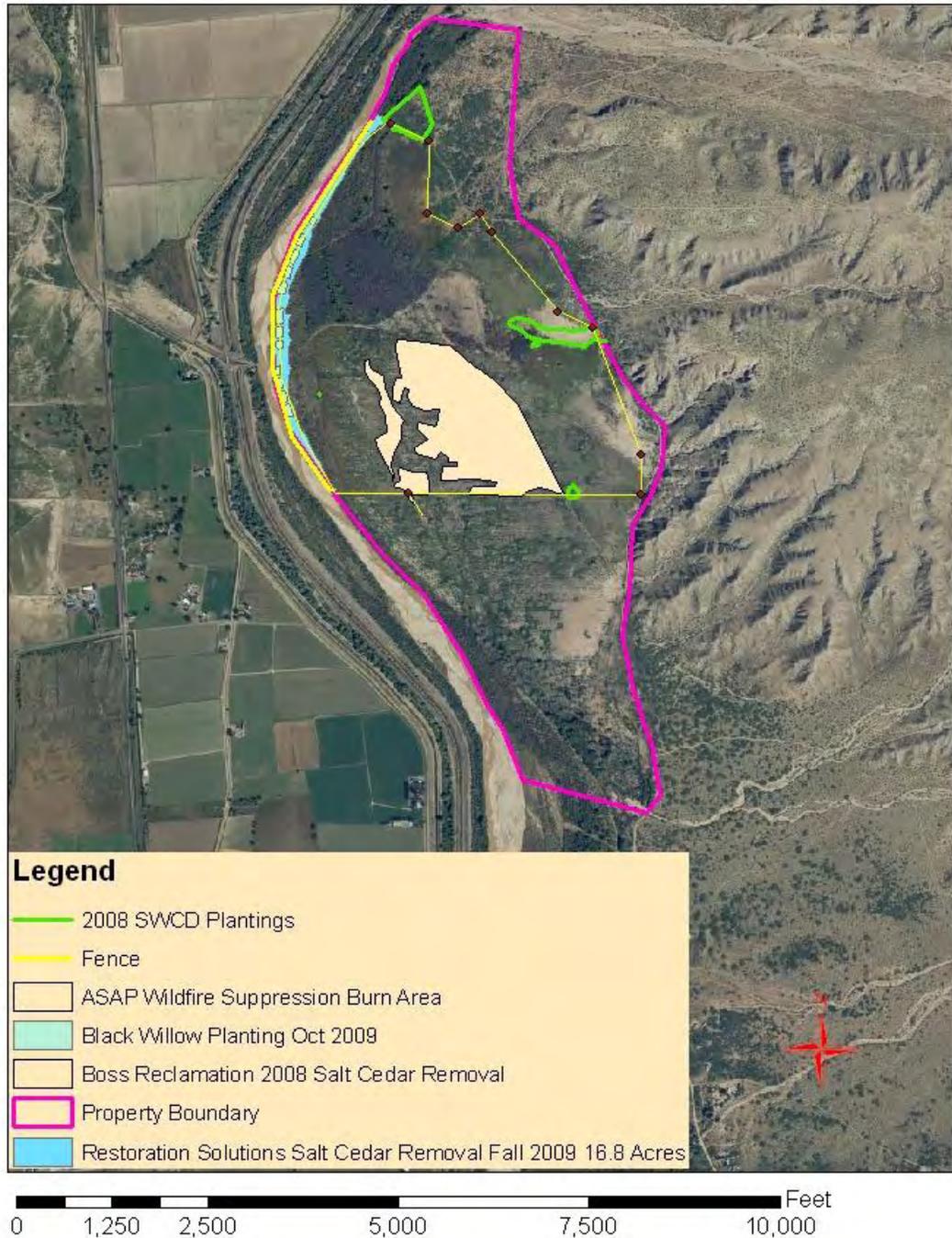


Treatment examples during and after stand cleanup by ASAP Wildfire, July & August, 2009



The site is now ready for planting of 24 cottonwood/willow thickets, to be between $\frac{1}{4}$ and $\frac{1}{2}$ acre in size.

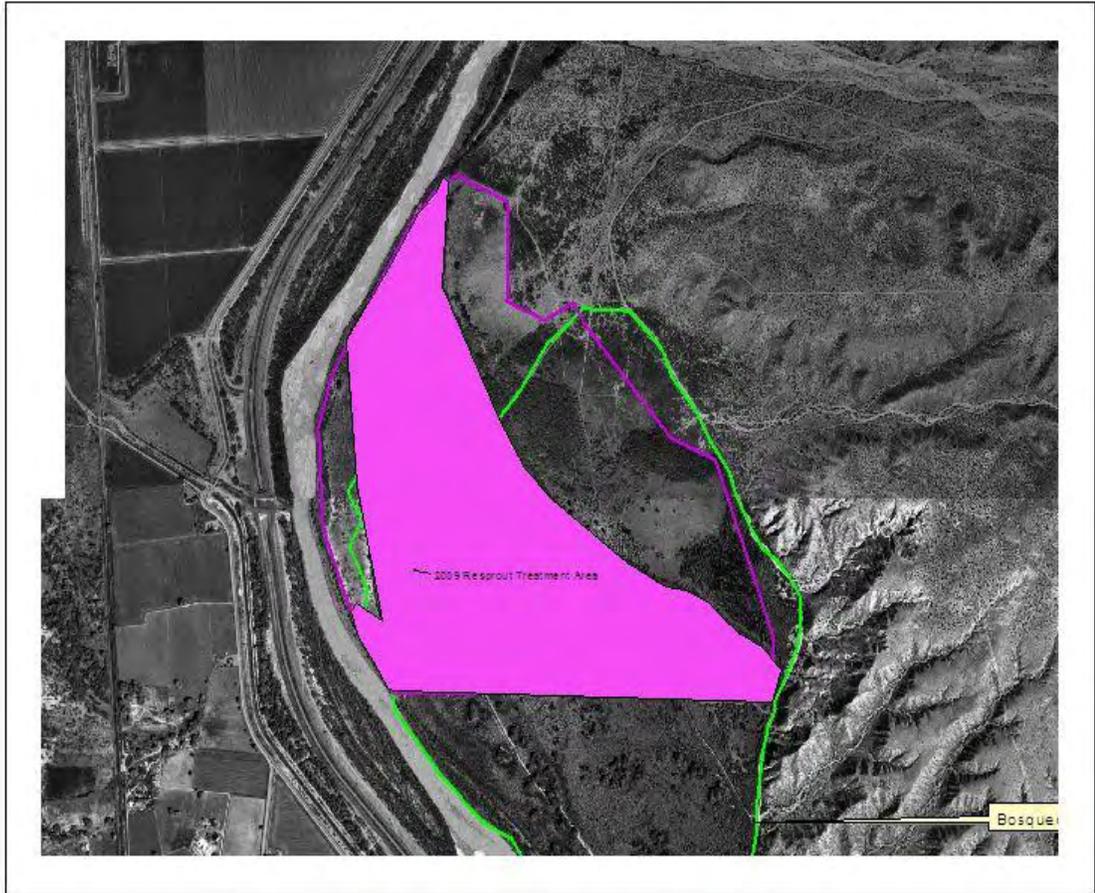
Rhodes Property 2009 West Side Work



Data & Map created by Will Kolbensschlag, Socorro SWCD
Guaranteed to be complete and accurate.

The 2nd herbicide application was completed in September-October, 2009 on all areas inside the fenced perimeter identified on the following map.

Rhodes Property



0.3 0 0.3 0.6 Miles

- Resprout_treatment_2009.shp
- Rhodes_new_fence.shp
- Fireboundary.shp



PHASE 3

Remove and rebuild old fence along west boundary, adjacent to Rio Grande

Extract Salt Cedar and Russian Olive along bank of Rio Grande

Establish suitable planting sites for 3rd willow thicket

Plant 3rd willow thicket.

Phase 3 projects started in August, 2009 when Restorations Solutions LLC received a contract from the Socorro Soil & Water Conservation District to remove the old dilapidated barbed wire fence along the west side of the project area and to extract and mulch the Salt Cedar/Russian Olive stands along the river's edge for an average width of 100 feet and a distance of 5,750 feet, north and south (13.2 Acres). This work was completed as scheduled by September 2009 in order to be ready to plant the final 3,000 willow seedlings in this freshly cleared area.



Completed work along rivers edge ready for replanting of willow stand

Once the extraction and mastication was complete, L & J Construction was contracted to rebuild the fence along the west side to specifications used the year before on the 3 other sides of the project footprint. These fences were required to make sure that cattle and other livestock would not trespass on the site and destroy the seedlings planted in the other phases.



Examples of vegetative response due to cattle exclusion along the east boundary of the project footprint.

Planting of 3rd willow thicket.

When the project coordinators met to identify where to establish the 3rd and final willow thicket, it was determined that, due to the depth of the masticated material, there was no way to plant all the willows in one large thicket. It was decided that the best procedure would be to find areas where the mastication material was thinnest and then plant in those areas. Twelve ¼- to ½-acre areas were flagged out, the contractor (Lopez 5 Farms) then scraped the masticated material into windrows, and planted the willows in between in clumps each 4-5 feet apart. The result is 12 small thickets, or paddocks, along the river bank that, if needed, can be lightly fenced to protect from grazing while the seedlings establish themselves.



The seedlings were planted in late November/early December by Lopez 5 Farms employees. Coincidentally, many of these employees were high school students who play on the Socorro High football team. With that in mind, we have named this willow stand the “Warrior Willows”. It was a very educational experience for these young men, many of whom had never before planted anything, not to mention over 3,000 willow seedlings!



Rhodes Property 2009 West Side Work



Location of the 12 ¼- to ½-acre paddocks of black willow seedlings (Warrior Willows).

PHASE 4

Establishing twenty-four ¼- to ½-acre cottonwood thickets throughout the treated area. Final retreatment of sprouts by herbicide.

Phase 4 of the project was completed during the winter of 2010. Twenty-four ¼ to ½ acre cottonwood thickets were planted by Lopez 5 Farms with cottonwood poles donated by Bosque del Apache National Wildlife Refuge. These poles were planted throughout the project footprint to re-establish small cottonwood bosques (mimicking the historic floodplain habitat) and provide a seed source for future natural populations.

Final treatment of Salt Cedar and Russian Olive sprouts will be completed in August/ September, 2010, using funds secured through the Severance tax grant to the SSWCD.

Pecos Sunflower establishment

During the summer and fall of 2009, project managers were able to identify a significant population of Pecos Sunflowers that were established from seed in 2008. These stands are located along the far eastern boundary of the project and will be mapped and monitored for population numbers, density, and viability.



PHASE 5

Future management

The SOBTF is working with the property owner to protect the treatment area using a conservation easement. This was the original intent of the landowner as formalized in a letter of agreement with the SOBTF. Other future management tasks will include continued monitoring of Salt Cedar and native plantings, and assuring that trespass cows are kept from the treatment area for a period of years to allow establishment and growth. At that time, a management plan will be developed in cooperation with the landowner and SOBTF representatives to assure continued health of this amazing cooperative project. It is a unique parcel on the Middle Rio Grande and a special mix of habitat types in the river ecosystem.