

Section 319 Final Project Report

Martinez Ranch Water Quality Improvement Project

Greenlee County, Arizona

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EVO2-0047
4-073

EXECUTIVE SUMMARY

The non-point source issues on the Martinez Ranch were related to turbidity of the San Francisco River, erosive forces of water in high flow events, causes of sediment movement from the irrigated river flood plain, lack of mature riparian trees and canopy, insufficient riparian vegetation, recreational travel, and livestock overuse of some upland areas.

Livestock were removed from all upland areas of the allotment during the growing season, and allowed limited use of uplands and lowlands during the dormant season. Taking advantage of extended drought conditions, we cleaned a number of stock tanks while water levels were so, so when rain returns the tanks will be better able to catch sediment and precipitation.

We build porous check dams and did other erosion repairs on the uplands to reduce active erosion and allow sediment deposition. The FS does not allow planting seed on lands they manage, so we were unable to plant native grass seed to help with restoration. However, with the low levels of precipitation that fell during the grant period, it is unlikely much seed would have been able to germinate without supplemental water anyway.

We build livestock exclusionary fencing to assure cattle will not access the SF River from the west side of the FS allotment. This fencing was frequently monitored by ranch employees, and repaired as necessary when cut by recreationists seeking to access the river through the private land, even though an access road was provided outside the fence.

The irrigated fields of the ranch were deeply plowed for the first time in over 20 years. It appears the plowing broke the sealed surfaces of the soils, reduced the invasion of poisonous plants, and will now be able to produce sufficient forage during the long growing season. The fields are now planted is a mixture of warm and cool seasons grasses that livestock will be able graze, even during the spring and fall, so the uplands will get full rest. In addition, we had a sprinkler irrigation system for the field designed to replace the ditch irrigation that was in place.

We planted several hundred dormant poles during the winter of 2003-2004. We have noted at least a 20% survival rate through the first growing season. We will continue dormant, and perhaps live plantings, when we have installed a more secure means of providing supplemental water to the riparian plants, especially during the spring and early summer.

We did not note any significant change in water quality during the grant period. Severe drought has reigned throughout the grant period, and there were no flood events. We expect the erosion control improvements in the uplands, higher quantities of residual vegetation in both upland and lowland pastures, and better water usage in the irrigated fields will incrementally improve water quality over the years.

Public presentations of grant goals and accomplishments were made during the June, 2002 Clean Water Days celebration in Nutrioso, Ariz., and in June, 2004 at Hannagan Meadows Days, south of Alpine, Ariz.

1.0 INTRODUCTION

The Martinez family land encompasses both sides of the San Francisco River above its confluence with the Blue River, and they have long-standing rights to the waters of the River and Dix Creek. Although their reach of the SF River is not specifically included on the Arizona 303(d) List, nearby sections of the river above and below the ranch are listed for turbidity. Some sediment probably moved to the river from the irrigated field, and the FS indicated some sheet and gully erosion was occurring from upland areas of the allotment. Monitoring of the Martinez Ranch reach of the SF River indicated ADEQ turbidity standards occasionally were exceeded from 1991 to 1998. The SF River provides a hydrologic connection between all the tributaries of the Lower San Francisco River watershed and the Gila River. The reach of the river that passes through Martinez land occasionally carries a high sediment load, especially during flood events.

In addition, overall watershed health in this reach of the river is important because the area is designated as critical habitat for the federally-listed threatened spikedace (considered extirpated from the SF River drainage system since 1961) and loach minnow which are sensitive to suspended sediments. Furthermore, sections of the Martinez SF River riparian area may be approaching "potential" habitat for the endangered Southwestern Willow Flycatcher, although the area is not included in critical habitat nor have surveys indicated their presence.

When the FS did proper functioning condition (PFC) assessments of the river in March 1999 and Dix Creek in November 1998, they found most reaches were functioning, but were at risk of additional damage. The PFC risk factors included: inadequate vegetative cover to protect banks and dissipate energy during high flows; inadequate amounts of coarse and/or large woody debris; release of stored sediment during large flow events; and reduced channel structure, complexity, pool numbers and pool volume. We hoped that adding the vegetative and dead and down woody components would improve sediment-holding capacity in the long term, slow erosive water, and contribute to vegetative and aquatic recovery.

Martinez livestock have been excluded from the riparian areas of the SF River contiguous with their holdings and on FS lands since the mid-1990s to allow natural regeneration of the area. However, recovery has been slow and the family wanted to more quickly improve the riparian condition of their deeded land and contribute to improved watershed and downstream conditions.

This project was designed to contribute to several improvements in the watershed:

1. Isolate the northern section of Dix Creek, in the area where it joins the SF river, to prevent 4-wheel recreational travel (soil disturbance) up and down the creek bed. Because of recreational travel in the river corridor, fences there require frequent surveillance and constant repairs. Fencing and fencing repair also will allow them to restrict livestock from the area and promote faster riparian condition improvement. Replant native grasses to stabilize damaged soils.
2. Improve riparian condition in the Dix and SF River flood plains by adding roughness, planting riparian poles during the dormant season, revegetating the stream banks, and continuing livestock exclusion.

3. During the continuing drought, clean accumulated sediments from several stock ponds/tanks so the tanks can collect and hold more water. Use sediments to stabilize tank walls and spread excess to fertilize grass revegetation effort.
4. Improve the fertility of four irrigated pastures by deep plowing and replanting both cool and warm season grasses so livestock can be moved from the upland federal pastures to private land, reducing the impact of growing season grazing on the allotment.

2.0 PROJECT GOALS, OBJECTIVES AND ACTIVITIES

BUILD/REPAIR FENCE TO RESTRICT RIPARIAN ENTRY BY LIVESTOCK AND VEHICLES

- 1 Goal: Block motorized recreation access and exclude livestock from Dix Creek and San Francisco River systems.
 - 1.1 Objective: Eliminate most human-caused soil disturbance and reduce sediment and organic waste moving into the surface water system.
 - 1.2 Activities: Build and maintain exclusionary fence to keep livestock out of riparian areas. Fence Hayes Field to prevent vehicular traffic from crossing revegetated area. The FS would not allow the Martinez family to block vehicle access to the SF River, even though that traffic reached the River through private land. Not using grant or matching funds, the family built an access road outside the field so vehicles could reach the River and revegetation goals for the field could be reached.

LEVEL AND REPLANT IRRIGATED PASTURE

- 2 Goal: Restore fertility of irrigated pastures and reduce ditch erosion.
 - 2.1 Objectives: Reduce amounts of bare soil and sediment movement, reduce/eliminate invasive plants without using chemical herbicides; improve water distribution system; and replant fields in a mix of warm and cool season native and hybrid grasses.
 - 2.2 Activities: Using heavy equipment, we ripped, plowed, and planted one half of the irrigated fields during the summer/fall 2003. The remaining two irrigated fields were plowed, disked and planted in the spring 2004, and the first two fields were re-planted to assure maximum grass coverage. A sprinkler system was designed to replace ditch irrigation in the future.

INSTALL EROSION CONTROL STRUCTURES WHERE SOILS ARE ERODING (UPLAND SITES)

- 3 Goal: Reduce upland soil movement and improve water infiltration, especially near roads where existing erosion is worst.
 - 3.1 Objective: Build check dams, divert water flow, and revegetate bare soil on upland sites where accelerated erosion exists, especially near roads.
 - 3.2 Activities: The FS would not allow us to re-plant eroded areas, even with FS-approved native grass seed. However, we used other native materials (rocks, slash, dead woody material) to slow water flow on and near roads to begin repair of head cuts, and reduce soil movement on upland sites. Before and after photos at eroded/repared sites are included in data. Additionally, some repair work was done along the irrigation return ditch.

INCREASE COARSE AND/OR LARGE WOODY DEBRIS IN CREEK AND RIVER

- 4 Goal: Increase volume of coarse and woody debris in Dix Creek and the San Francisco River adjoining the Martinez Ranch.
- 4.1 Objective: Improve roughness of shallow stream waters to dissipate erosive energy and hold additional sediments, reduce downstream turbidity and facilitate vegetative recovery.
- 4.2 Activities: We cut and moved shrubs and brush, and moved rocks in the Dix Creek flood plain to move toward long-term improved conditions. There were no high flow events during the term of the project, so it was not possible to determine effectiveness. Large, mature sycamores, cottonwoods and other native riparian trees were not disturbed, although dead branches and slash from mesquite, juniper and salt cedar was piled to improve water infiltration. Photos were used to document pre- and post-activity conditions.

INCREASE VEGETATIVE COVER TO PROTECT BANKS AND DISSIPATE ENERGY

- 5 Goal: Improve quantity and health of plants in the "green belt" along the creek and river.
- 5.1 Objective: Help plants establish more widespread and deeper root systems. Increase water infiltration, improve the area's ability to catch and hold more sediments, and reduce turbidity and excess nutrient flow into the creek and river.
- 5.2 Activities: Planted dormant willow and cottonwood poles during winter. Planted native grass seed to improve soil cover and retention.

CLEAN EXISTING EARTHEN TANKS

- 6 Goal: Clean existing upland earthen tanks.
- 6.1 Objective: Increase upland water and sediment catchment capacity; reduce soil movement into Dix Creek and the San Francisco River; reinforce tanks; provide nutrient rich sediments to stimulate grass growth around stock waters.
- 6.2 Activities: Cleaned several stock tanks/ponds when water levels were low. Used removed sediments to reinforce tanks and lightly worked excess sediments into bare soil to provide natural fertilizer.

REDUCE TURBIDITY

- 7 Goal: Collect baseline data on turbidity in the San Francisco River.
- 7.1 Objective: Measure turbidity above and below the Ranch in the San Francisco River and perennial portions of Dix Creek to provide baseline information. We expected to see turbidity readings decline after implementation of activities on the ground.
- 7.2 Activities: Initial turbidity measurements made in August, 2002 indicated high turbidity in the SF River both above and below the ranch. There was no difference in turbidity due to ranch activities. However, the 2002 and 2003 summer monsoon storms were late and below average; as a result, turbidity coming from upstream remained high throughout the project. In fact, flow from the Martinez Dix Creek irrigation diversion through the ranch actually provided much clearer water, but the inflow improved turbidity for less than five feet of the SF River. When we could not determine a difference in turbidity due to ranch activities, further turbidity data was not collected until June, 2004.

OUTREACH

- 8 **Goal:** The goals of the outreach program were to let the ranching community know about how the grant program would help meet watershed improvement goals, encourage youth to visit the ranch and volunteer to help with some aspects of the watershed improvement, and present project goals and accomplishments to visitors and ranchers.
- 8.1 **Objective:** Encourage interest from neighboring ranchers to participate in similar watershed improvement projects, to provide educational experience for youth participating in restoration activities, and to report to the public about the project.
- 8.2 **Activities:** We attended the Clean Water Celebration during June 2002 and provided a poster display of the project area and goals. We presented a similar poster session during the 2004 Hannagan Meadows Day in June 2004. We invited several youth groups to visit the ranch. Youth volunteer efforts allowed us to initiate erosion repairs and plant several hundred dormant poles during December 2003. We submitted several articles to the local newspaper upon project initiation and completion.

2.1 PLANNED AND ACTUAL MILESTONES, PRODUCTS, AND COMPLETION DATES

Table 1
Planned and Actual Milestones

Task	Projected Date	Projected Quantity	Actual Date	Actual Quantity
1 - Execute ADEQ Contract	2/2002	1	2/2002	1
2 - ADEQ Approval of QAPP	4/02	1	4/02	1
3 - Obtain permits, clearances, authorizations, registrations	5/02	Unknown	5/03	None required
4 - Dig 2 wells, install pumps	5/02; 3/03	2	Deleted	0
4a - Design sprinkler system	Added 12/03	1	6/04	1
5 - Collect data	Ongoing	N/A	6/04	N/A
6 - Revegetate Dix riparian area	6/02	Unknown	4/04	8 acres
7 - Level and replant first half of irrigated fields	6/02	30 acres	8/03	34 acres
8 - 1 st Quarter report	7/02	1	7/02	1
9 - Erosion control Dix Mesa	7/02	2	8/03	4
10 - Information kiosk	7/02	1	10/02	1
11 - Clean winter use tanks	8/02	2	8/02	2
12 - Quarterly report	10/02	1	4/03	1
13 - Erosion control Lightning Mesa	10/02	2	12/03	2
14 - Dix Creek debris piles	11/02	4	10/02	8
15 - Build exclusionary fence	11/02	½ mile	11/03	1.5 miles
16 - Quarterly report	1/03	1	4/03	1
17 - Erosion control PV pasture	3/03	3	5/04	6
18 - Repair exclusionary fencing	Ongoing	N/A	5/04	2 miles
19 - Quarterly report	4/03	1	4/03	1
20 - Revegetate SF riparian	5/03	½ mile	4/04	0.75 mile
21 - Level, replant irrigated fields (second half)	6/03	40 acres	6/04	44 acres

22 - Clean summer use tanks	2	6/03	8/03	2
23 - Quarterly report	7/03	1	7/03	1
24 - Public presentations	8/03	Unknown	6/02; 6/04	2
25 - Quarterly report	10/03	1	10/03	1
26 - SF debris piles	11/03	Unknown	11/03	4
27 - Quarterly report	1/04	1	1/04	1
28 - Quarterly report	Added 12/03	1	4/04	1
29 - Final report	4/04	1	7/04	1

2.2 EVALUATION OF GOAL ACHIEVEMENT AND RELATIONSHIP TO THE STATE NPS MANAGEMENT PLAN

- 2.2.1 The Arizona Department of Environmental Quality (ADEQ) explains their NPS Mission as: To preserve, protect, and enhance water quality and public health for the citizens of Arizona by minimizing the impact of pollution discharged to surface water and ground waters from nonpoint sources. Further, ADEQ says the Nonpoint Source Discharge program addresses water pollution from irrigated agriculture, concentrated animal feeding operations, rangelands, agriculture, urban runoff, construction, mining (sand and gravel), and recreation activities. The nonpoint source program depends upon a combination of regulatory controls and cooperatively-based implementation, including use of extensive public outreach and education as well as community-based watershed advisory groups.
- 2.2.2 Long-term residents and the USFS say the San Francisco River tends to be subject to occasional flash flooding, although not as badly as the Blue River, which the SF joins about a mile downstream from the Martinez Ranch. Flash floods scour the riverbanks and carry an enormous load of rock, sediment, woody detritus, and other material. No flash floods occurred on either Dix Creek or the SF River during this project. In fact, precipitation throughout the project was lower than average and the area has been considered to be in severe drought throughout the term of this project.
- 2.2.3 Restoration of the fertility of the irrigated fields, and the eventual change from unlined ditch irrigation to a sprinkler system, has improved the quantity and quality of vegetative cover of the fields, allowing less organic and sediment run off, contributing to reducing the turbidity of the SF River. Repairs to the dikes and irrigation return ditches also will reduce sediment runoff into the River.
- 2.2.4 Repairs to upland accelerated erosion, especially along roads, reduced the speed and erosive power of water. Cleaning stock water tanks allowed the tanks to continue to catch and hold water and sediments in upland areas for use by both livestock and wildlife.
- 2.2.6 Fencing the SF River and the Hayes field to exclude livestock from riparian areas also contributed to increased residual vegetative growth, helped assure woody establishment,

and reduced animal waste deposits in the flood plain. Successful revegetation with native willow and cottonwood along the deeded portions of the SF River already have captured water for growth and began trapping sediments during the unusual spring precipitation in 2004.

3.0 BEST MANAGEMENT PRACTICES DEVELOPED OR REVISED

No BMPs were developed or revised during this project.

4.0 MONITORING RESULTS

1 TMDL implementation effectiveness

No TMDL has been prepared for this area.

2 BMP effectiveness evaluation

No BMPs were developed, revised or monitored during this project

3 Surface water improvements

Monitoring of the SF River gave results indicating little change from the start throughout the end of the project period. Water levels began low and decreased because of the continuing drought. Turbidity in the river appeared to come from upstream; water returning to the river from irrigation use was quite clear but when entering the river, the clear water soon blended with the muddier water of the river. "Excess" nutrients evidently were used by plants during the growing season because we never obtained any N readings.

4 Groundwater improvements

The livestock and wildlife tanks that were cleaned did capture a small amount of precipitation runoff during the short rainy season in August, 2003 and in early spring, 2004. Tank levels remained low throughout the project period.

5 Other monitoring

Despite livestock removal, but probably because of very low precipitation during the project period, upland monitoring did not show improvement in the composition, quantity, or quality of vegetation present in the Pleasant Valley, Dix Mesa, or Lightning pastures.

Monitoring of the irrigated fields indicated a significant increase in warm and cool season grasses planted, compared with the pre-plowing baseline data.

Monitoring of dormant pole plantings (accomplished during December, 2003), indicated a 40% survival rate through May, 2004. The survival rate decreased to about 20% during the late spring and early summer months.

6 Quality Assurance Reporting

Although a QAPP was prepared for this project, advice from ADEQ indicated it was not required.

5.0 COORDINATION EFFORTS

1 Coordination with other State Agencies

- 1.1 A game manager of the Arizona Department of Game and Fish Department (AGFD), met with us at the ranch to discuss potential impacts of improvements and changes made as a part of this project, and about other on-going work on Martinez private land.
- 1.2 We contacted ADEQ about the need for various permits, but none appeared to be required.

2 Other State Environmental Program Coordination

- 2.1 We made a poster presentation of the project during a June, 2002 Clean Water celebration at the E.C. Bar Ranch in Nutrioso, Arizona. The presentation was viewed by at least 100 visitors to the open house, and we answered many questions from the visitors and other 319 grant recipients or proposers.
- 2.2 We made a second public poster presentation to the visitors at the annual Hannagan Meadows Day during June, 2004. Attendance at the event was low, due to the 2004 Three Forks fire in the area, but the presentation was viewed by about 60 visitors.

3 Federal Coordination

- 3.1 The United States Department of Agriculture, Forest Service, Apache-Sitgreaves National Forests, Clifton District Range (USFS) was given a copy of the initial and revised project proposals. They made no comments to us on the plan, but had suggestions for changes later. Staff members from the Clifton District, as well as the Forest's fisheries biology, hydrologist, and riparian specialists also met with us several times during the term of this project.
- 3.2 Because there is potential critical habitat for threatened and endangered species on the Martinez Ranch and private lands, representatives from the U.S. Fish and Wildlife Service (USFWS) met with us at the ranch to discuss habitat requirements and potential impacts to species.
- 3.3 We contacted the Army Corps of Engineers to determine if any permits were required for the work we planned to do as part of this project. Since most of the earth-moving work was done on private land, none appeared to be required.

4 USDA Programs

No other USDA programs participated in implementation of this project.

5 Accomplishments of Agency Coordination Meetings

None.

6 Resources/Coordination from Federal Land Management Agencies

No additional coordination was done.

7 Other sources of funds

- 7.1 The Martinez family provided cash resources as matching funds and paid for the cleaning of several wildlife/livestock ponds and tanks. Additionally, the family paid most of the material and labor costs for building the exclusionary fencing and repairing other sections of riparian fencing, and equipment operation and some labor costs for plowing and planting the irrigated fields. In addition, the family provided housing and food for visitors, volunteers and temporary laborers who worked on this project. They also paid all their own expenses (mileage, per diem, hotels, etc) for travel to the ranch to work on this project, or for meetings directly related to the project. Those expenses were significant for the Martinez brothers, because none lives on or near the ranch, and they made many trips.
- 7.2 HERO Consulting contributed the pro-rated in-kind value of equipment (computers, printers, GPS, digital cameras, cell phone and safety equipment). HERO also contributed the in-kind value of employee time for report preparation, some project management costs, travel per diem costs, and most office and presentation supplies.
- 7.3 Below is a matching budget table (Table 2) showing the budgeted amount, cumulative expenditures and remaining funds. We were able to provide a larger matching portion of the total budget than originally anticipated.

**Table 2
Match (Cash and In-Kind) Expenditures**

Purpose/Task	Contributor(s)	Budget	Cumulative Expenditures	Budget Remaining
Admin Overhead	HERO Consulting	\$4,775.00	\$5,969.00	\$-1,194.00
Permits & clearances	Martinez family	\$500.00	\$225.00	\$275.00
Design sprinkler sys.	Martinez family	\$12,000.00	\$100.00	\$11,900.00
Monitoring data	HERO Consulting	\$800.00	\$214.00	\$586.00
Level, plant irrigated fields	Martinez family	\$11,600.00	\$28,831.49	\$-17,231.49
Revegetate riparian	Martinez family, volunteers	\$6,800.00	\$2,789.00	\$4,011.00
Reports	HERO Consulting	\$1,600.00	\$8,001.00	\$-6,401.00
Erosion control	HERO Consulting, volunteers	\$8,000.00	\$2,950.00	\$5,050.00
Info kiosk/Outreach	HERO Consulting	\$184.40	\$981.40	\$-797.00
Clean stock tanks	Martinez family	\$2,750.00	\$2,750.00	\$0.00
Build debris piles	HERO Consulting, volunteers	\$3,400.00	\$4,415.00	\$-1,015.00
Build/repair fence	Martinez family	\$5,915.60	\$1,560.00	\$4,355.60

Purpose/Task	Contributor(s)	Budget	Cumulative Expenditures	Budget Remaining
Travel	Martinez family, HERO consulting	\$20,550.00	\$30,230.87	\$-9,680.87
Employee labor	Martinez family, HERO Consulting, volunteers	\$4,400.00	\$19,107.00	\$-14,707.00
Subtotals		\$83,275.00	\$108,123.76	\$-24,848.76

6.0 SUMMARY OF PUBLIC PARTICIPATION

The public was invited to participate in most aspects of this project. We used news releases to several local newspaper articles to let residents of the local area know of the grant award, to recruit monitoring volunteers, and to keep the community up to date on the progress of the project. Two youth organizations, one from Springerville and one from Nutrioso did help with dormant pole planting and upland erosion control. Members of the Martinez extended family (aunts, uncles, nephews, nieces, in-laws and grandchildren) from all over Arizona also volunteered and helped with many of the project tasks.

7.0 ASPECTS OF THE PROJECT THAT DID NOT WORK WELL

The roads into the Martinez Ranch are very primitive and require 4-wheel drive in the best of conditions. Although we explained that to well drillers when checking for estimates for the proposal, we couldn't find anyone willing to bring their equipment into the ranch. We had planned to use the wells to provide supplemental water to help establish vegetation planted as part of the riparian revegetation effort. We discussed the problem with our ADEQ project manager, and decided to replace task #4 with designing a ditch irrigation replacement system. Although there wasn't enough money in this grant to install the sprinkler system, we were able to get the project designed, and have submitted a grant proposal to another agency to fund the installation.

Although the area of the Martinez Ranch is frequented by many recreational visitors, the roads are quite bad and the ranch is 10 very hard miles from the highway, and some 150 miles from the nearest urban center. Even notices targeting recreationists posted on gates listing riparian restoration work days did not result in any volunteers coming forward. None of the federal agency people, who encouraged significant changes in our work plan, offered to help in any capacity. Additionally, vandals destroyed our information kiosk and removed the wood used in the structure.

The project manager had unexpected health problems in December 2003, and emergency surgery in January 2003, followed by an extensive recovery period. As a result, we could not meet our winter 2002-03 goals for dormant pole planting during the cold season. We did get the poles planted during the winter of 2003-04, but the delay meant we could only follow up during the first few months of 2004. We did plant additional poles during February, 2004, but would

have liked to see higher survival rates. The failure also may have been at least partially caused by very low precipitation during the winter and late spring.

We experienced several problems with Forest Service employees during the period of this grant. The issues generally were unrelated to the project, but resulted in a communication breakdown and a decision on the part of Abe Martinez, Sr., to minimize his contact with them. Furthermore, perhaps in retribution, the Forest Service would not allow our contractor to cross portions of the allotment with heavy equipment so he could clean additional stock and wildlife water tanks during the spring, 2004. The tanks cannot be reached by bringing the equipment he needed to use over existing roads.

8.0 Future Activity Recommendations

We submitted a proposal to the Arizona Water Protection Fund for a 2004-06 grant to continue riparian restoration work on the deeded land portion of the Martinez Ranch. If funded, it will include the project tasks of completing the installation of the sprinkler irrigation system; obliterating the irrigation return ditch and repairing erosion; repairing the Dix Creek pipeline and building a supplemental irrigation system for Hayes Field; salt cedar removal from the Dix and SF riparian areas; and additional riparian revegetation work and dormant pole plantings.

The Forest Service recently contacted Mr. Martinez to tell him they want to build approximately 10 miles of road leading from the highway, through Martinez private land, for recreational access to the SF River, and the old "river road" through the river to Clifton. The family will oppose the project, understanding that while it might increase visits, more vehicular traffic in the riparian areas will continue to cause damage to soils, vegetation and water. Since the land already is fenced, but they left the access road to the river outside the fence so visitors would not trespass, if the FS proceeds, the Martinez family may consider installing and locking a gate to their private property. We encourage ADEQ to participate in the planning of the project, and to block the effort to increase vehicle use across and up and down the San Francisco River.

This year, Martinez livestock have been removed voluntarily from the uplands of the Pleasant Valley allotment. We hope the rest from grazing will allow vegetation to recover from drought conditions and stock tanks to refill during the summer monsoons. Livestock have been moved to an adjacent allotment that has not been grazed for many years.

Eventually, we hope to convert the ranch to an environmental education center where children and students can visit to learn more about the importance of watershed health, functioning riparian areas, and a working ranch.