

Final Report
Curry County Playas Restoration and Protection
Assistance Agreement No. CD # 966857-01-0D)
December 2014

(This project is Part D of a larger 2008 grant award to NMED Wetlands Program entitled “NMED 2008 Wetlands Awards Project.”)



New Mexico Environment Department
Surface Water Quality Bureau
Wetlands Program

Wetlands Project Goals and Objectives

This project focused on an important goal of the SWQB Wetlands Program to target vulnerable isolated wetlands for restoration and protection. The playa wetlands in the Southern High Plains region of New Mexico are the principal source of surface water in the area, important recharge zones for the Ogallala aquifer below, and integral for many animal species. The project aimed to protect more than 150 acres of playa watershed and restore 60 acres of playa wetland and buffer areas through partnerships with The Nature Conservancy (TNC), the Natural Resource Conservation Service (NRCS), and private landowners. Integral to the goal of restoration and protection of these vulnerable wetlands was engaging community members, schools and other stakeholders regarding the importance of these wetlands.

Project Outcomes and Results

This project was funded in January of 2009 and a Steering Committee was assembled and began meeting by March of 2009. This committee included members from the NRCS and NMED, The Nature Conservancy, and members from the City of Clovis, including the Mayor. Most of these committee members were residents of Curry County and very familiar with working with local landowners.

A landowner questionnaire and potential restoration ranking sheet were developed based upon existing NMED and NRCS templates. The NRCS and TNC assisted with developing a listing of playa landowners already enrolled in conservation programs and a list of remaining landowners that were potentially interested in participating in the project. Through interviews and the potential restoration ranking sheet, five landowners were selected out of the thirty (30) landowners initially identified.

David Haukos, Ph.D. met with the Steering Committee early in the project to discuss playa ecology, hydrology, soils, and potential restoration ideas. Through his expertise and current conservation programs in the area, passive restoration techniques such as Best Management Practices (BMPs) for livestock grazing, and active restoration techniques for restoration of “pits” in playa bottoms were developed. The active and passive restoration techniques for each of the five landowners were selected and negotiated contracts were authorized in June of 2013. One of the BMPs selected for this project was one full year of livestock grazing deferral. A major outcome of this project is the voluntary deferral by all five landowners from the time of their initial selection in November 2012 while they awaited contract execution in June of 2013.

A significant outcome of this project was engaging local landowners and their local NRCS agents to develop Ten-year Conservation Plan specifically geared toward playa protection. Best management practices and conservation practices outlined in these plans include the following:

- **Prescribed Grazing** – grazing will be managed according to a schedule that meets the needs of the soil, water, air, plant and animal resources and the objectives of the resource manager. Grazing will be implemented in a manner which maintains a vegetative buffer to protect and improve playa water quality, reduce sediment load, and provide cover for wildlife. During years when water is present in the playa, grazing cattle in an alternate location is recommended. Maintaining and improving the ecosystem can be achieved by implementing a rest/rotation grazing schedule during the growing season with no more than 50% of the current year’s growth removed by livestock or wildlife.

- **Wetland Wildlife Habitat Management** – Retain, create, or manage wetland habitat for water fowl, fur bearers, or other wildlife. Resource manager will use alternative water facilities for livestock watering to reduce impacts to playa water quality.
- **Herbaceous Weed Control** – Remove or control of herbaceous weeds including invasive, noxious or prohibited plants.
- **R and M of Rare or Declining Habitats** - Restore and conserve rare or declining native vegetated communities and associated wildlife species.
- **Upland Wildlife Habitat Management** - Create, maintain, or enhance area(s) to provide upland wildlife food and cover.

Active and passive restoration techniques were utilized to restore 200 acres of playa wetland and buffer area and place more than 1,100 acres of Playa wetland watershed into 10-year Conservation Plans. Private landowners utilized upland livestock watering facilities and fencing to manage grazing in pastures containing playa wetlands and buffer areas and the pastures were completely deferred for one year. Historic excavated pits in playas were filled with the appropriate soils to restore a more natural hydrology and hydro-period to the playa.

Placement and construction of county roads were identified as a large impact on playa wetlands and their watershed. One of the properties in this project contained a 124.4 acre playa that was

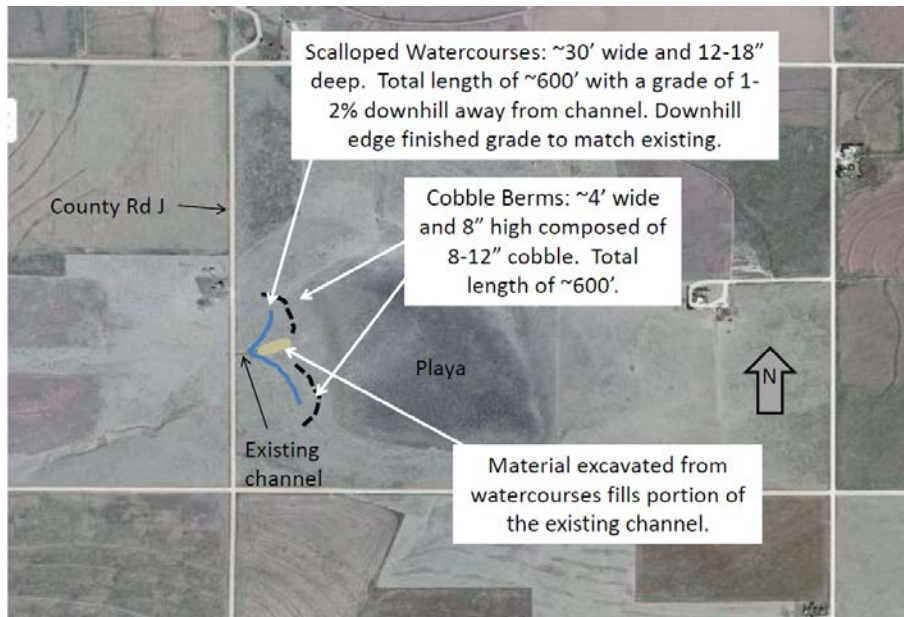


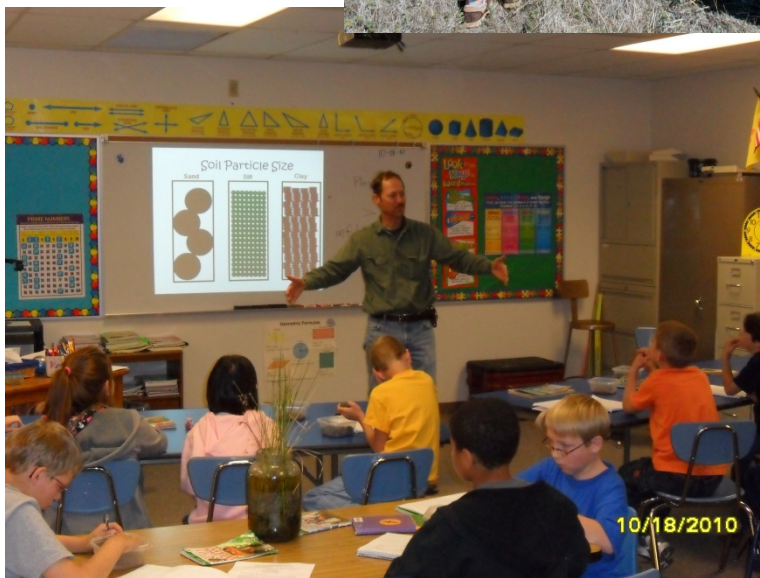
Figure 1. Overhead Image with Prescribed Treatments

impacted by a low water crossing on a county road. This impact resulted in an erosional feature leading from the road toward the playa and a large sediment plume in the playa bottom. Reineke Construction, in partnership with Zeedyk Ecological Consulting, were contracted to design and implement a demonstration restoration technique to address this type of impact. The design

utilized the excess sediment in the playa as fill for the channelized ditch and leveling the ground surface of the buffer around the playa. The ditch was split into to “wings” that leveled incrementally to the buffer surface level with a “media luna” made of rock at the end point of each wing. The “media luna” acts as upon the water to slow velocity and spread the water over a larger surface area, allowing the water to flow over the buffer zone and enter the playa bottom as it would in an unaltered watershed.

A Wetlands Action Plan for Curry County was developed that identified data gaps and future restoration and protection initiatives.

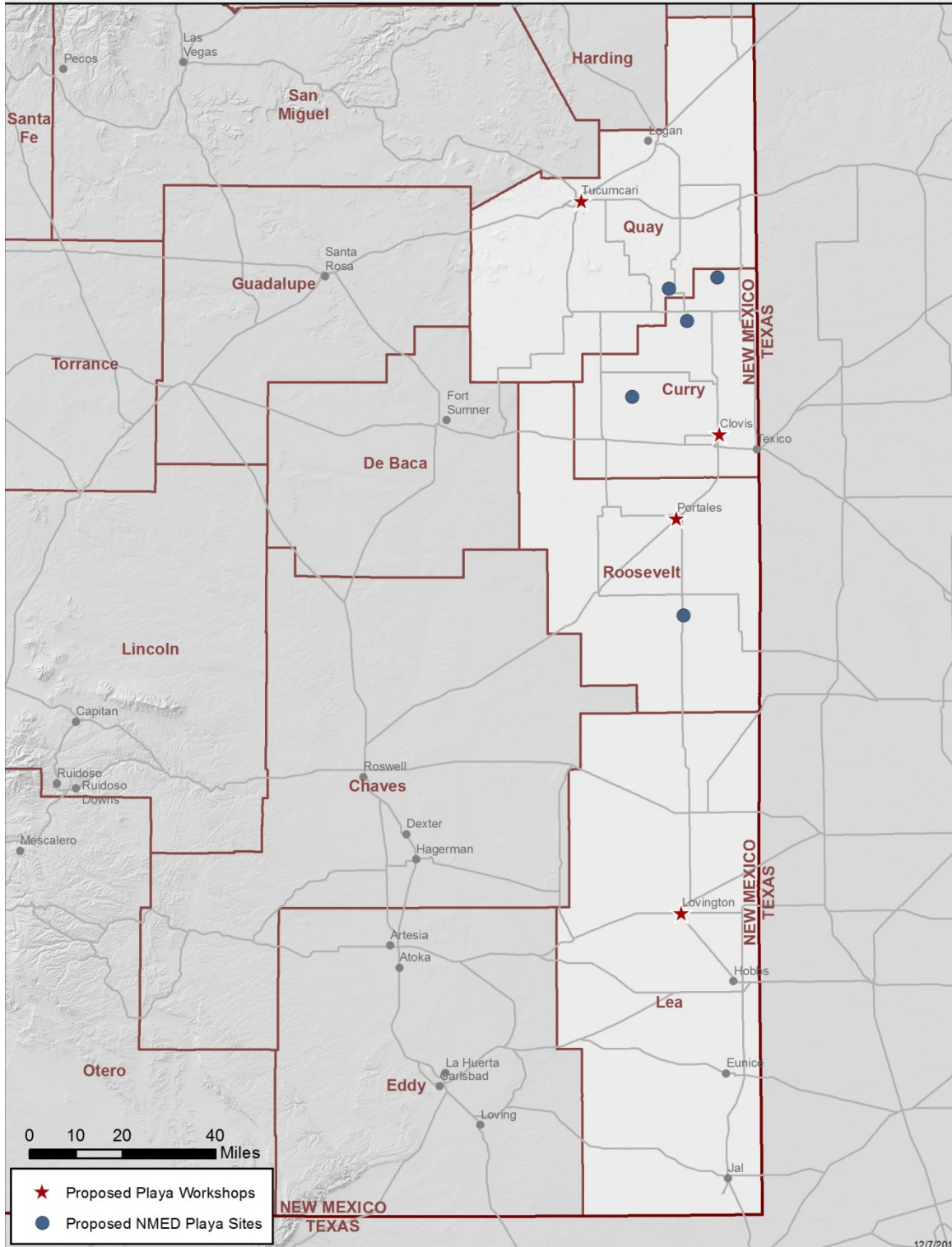
Another successful outcome of this project was the engagement of local communities to communicate the importance of playa wetlands in the Southern High Plains area of New Mexico. Ogallala Commons was identified by the Steering Committee for their work in West Texas on playa education and



conservation. Ogallala Commons was selected to assist in the development of Playa Festivals and Conservation Education Days for Eastern New Mexico. Seven Playa Festivals and two Conservation Education Days in schools and communities in Curry and Roosevelt Counties were held in 2010 and 2011. Overall, 886 students, 55 teachers, and 10 private landowners participated in these events

Project Location and Map

Playa Conservation in Eastern New Mexico



Timeline

This project was initially funded in January of 2009 as a four-year project with an expected completion date of December, 2012. The workplan was amended in September of 2009 to reallocate budget and add a task to include restoration of and an outreach/education component of an urban playa in the City of Clovis. NMED and the Steering Committee conducted more than a year of negotiations with the City of Clovis and the City Planning Board to include stormwater ordinance changes to remove this playa from their stormwater storage plan. This use is inconsistent with the Wetland Program Development Grant goals, therefore, this playa was removed from consideration from the project. The workplan was amended in April of 2011 to remove this task from consideration. The workplan was amended again in November of 2011 to reallocated budget categories to allow for contracting TNC to assist with the remaining restoration tasks.

The outreach and wetlands water festival portion of this project was successfully completed by the end of 2011.

The workplan was amended in November of 2012 to extend the timeline of the grant through December of 2013. This time extension allowed for a full year of livestock deferral and completion of all restoration tasks with five separate private landowners. All restoration tasks were completed by December of 2013. The grant was awarded a no-cost extension through June of 2014. This additional time was utilized to finalize the Wetland Action Plan and Final Reporting for the project.

Cooperators

Many cooperators and stakeholders participated including:

The Nature Conservancy

NRCS

City of Clovis

Central Curry Soil and Water Conservation District

Playa Lakes Joint Venture

Ogallala Commons

Private landowners

NMED, The Nature Conservancy, and Ogallala Commons conducted 2 Conservation Education Days and 7 Playa Festivals that were highly successful in engaging local landowners, grade school teachers, and several grade school classes of students. Overall, 22 teachers and 10 landowners participated in the Conservation Education Days. An additional 886 students and 33 teachers participated in the seven Playa Festivals.

Prairie Partnership meetings hosted by the El Llano Estacado RC&D, in cooperation with the Playa Lakes Joint Venture, National Fish & Wildlife Foundation, The Nature Conservancy, and The First National Bank of New Mexico were utilized to reach a broad audience of Federal, State, and local agencies as well as private landowners in the region. A series of four Playa Lakes Workshops were hosted by The Nature Conservancy in partnership with the Playa Lakes Joint Venture in separate counties in the region to further engage private landowners including presentations on funding mechanisms for wetland conservation provided by the NRCS.

Five private landowners out of the thirty landowners initially identified were selected for playa restoration, monitoring and 10-year conservation plans. Their cooperation was pivotal in the success of this project.

Funding

This project remained within the original federal budget allocation and exceeded the required match by \$30,991.

Curry County Playas Restoration and Protection Budget Details	
Federal funds allocated	\$246,500
Federal funds expended	\$228,634
Non-federal match expected	\$123,985
Non-federal match actual	\$154,976

Project Highlights and Chronology

Project Tasks and Deliverables

Task 1: Project Administration. A budget and work plan amendment was requested in September of 2009 to include restoration of Goodwin Playa, an urban playa, in the City of Clovis. Funds were moved between tasks and budget categories but not changed in total. After more than a year of negotiations and extensive effort by the Steering Committee and City of Clovis personnel, it was determined that restoration of the Goodwin Playa portion of the project would be withdrawn due to programmatic inconsistencies. The workplan and budget were amended on 11/7/11 to remove the Goodwin Playa project and to allow for contracting with The Nature Conservancy (TNC) to assist in the remaining restoration tasks. On 9/27/12, a no cost extension was requested to extend the grant through December of 2013 to complete the project. The timeline was extended due to lengthy negotiations in the contractual process between NMED and TNC which caused delays in the progress of securing agreements with private landowners. All budget and workplan amendments were submitted to and approved by the EPA.

The Steering Committee researched outreach and educational options and were introduced to Ogallala Commons by the TNC. Ogallala Commons hosts Playa Festivals in western Texas and were selected to assist with the development of similar events in Eastern New Mexico. The Steering Committee developed a scope of work and NMED contracted the organization in September of 2010 to host two Outreach and Wetlands/Water Festivals and four Playa Festivals.

It was determined by the Steering Committee, most of whom were Curry County residents and very familiar with working with local landowners, that a local contractor who already had a good working relationship with private landowners would be more successful in engaging private landowners in participating in playa restoration. These tasks were also beyond the ability of a Steering committee to complete. The Steering Committee developed a scope of work and awarded a contract to the Nature Conservancy (TNC) to expedite completion of Task 3 Landowner Interviews; Task 5 Restoration Reconnaissance; Task 8, Wetlands Restoration

Design; and Task 10 Developing Curry County Wetlands Action Plan. The rationale for recruiting TNC to complete these tasks under contract was based on their expertise and experience restoring playa lakes in this region. They have worked independently and in cooperation with the Natural Resources Conservation Service to restore playas through the Environmental Quality Incentives program (EQIP) and North American Wetlands Conservation Act (NAWCA) grant programs. These experiences and their local presence provide them with an extensive stakeholder network, proven track record, and a more direct/consistent interaction with the local agricultural community.

In the fall of 2012, Shelly Barnes replaced the Wetlands Project Officer, Chris Cudia, when he took a position outside of the SWQB.

Significant coordination was required between the Wetlands Project Officer (WPO), Wetlands Program Coordinator (WPC), SWQB Financial Staff and the State Purchasing Office to develop procurement procedures in order to directly contract with private landowners without impinging upon state anti-donation laws. Once procurement procedures were developed, five private landowners entered into contracts with NMED to perform active and passive restoration techniques on playa wetlands and their watersheds. Reimbursement requests and match documentation were compiled by WPO and reported to the SWQB Financial staff.

One demonstration restoration project was selected on the John Wood's property. WPO hosted site visits with prospective contractors and requested bids that included design ideas for addressing the erosion and sedimentation issues involved with this playa. Two quotes were received and Reineke Construction, LLC was selected to complete the project. WPO developed a scope of work and a contract was authorized on June 5, 2013.

Archaeological surveys for Cultural Resource permitting was procured through a three-quote system and contracted with Townsend Archaeological Consulting.

WPO collected three quotes and contracted directly with King Ag Aviation to treat invasive species on the Jack Tarver property.

An unexpected well failure occurred on the John Wood's property due to the extended drought conditions and drop in ground water table. The well was intended to supply upland livestock watering facilities in order to defer the pasture containing the largest playa in the project. NMED collected three quotes and contracted directly with Doyle Rush to install a new well on the site to complete the project.

Task 2: Steering Committee. A project Steering Committee was assembled and met six times during the first year of the project, five times the second year of the project, and then three more times in 2011. The Steering Committee discussed the work plan tasks, timelines, and deliverables in detail and assigned tasks to members.

The Steering Committee, headed by the Mayor of Clovis, expended a significant amount of time and effort working with the City of Clovis on plans to restore the Goodwin Playa, an urban playa with a central location in the city of Clovis. The Mayor and other city personnel were very

interested in restoring Goodwin Playa and including a walking trail, outdoor education area, and interpretative signage to utilize this centrally located area to expand local playa knowledge. After extensive review, planning, and outreach, it was discovered that the City of Clovis' stormwater ordinance was incompatible with the programmatic playa restoration goals. Unfortunately, approval by the planning and department and an



affirmative vote by the County Commissioners is required to make the required changes to the stormwater ordinance. After more than a year of negotiations and planning, these approvals could not be attained.

Other rural playas were toured by members of the Steering Committee in Curry County in an effort to locate additional candidates for playa restoration. The tour highlighted an ongoing issue with erosion from county roads directly impacting playas. Road drainage is held and concentrated in bar ditches and then drained into the nearest playa rather than being drained at regular intervals into adjacent upland areas.

The Steering Committee met with three potential contractors to develop and host playa water festivals. The qualifications and capacity of the Ogallala Commons was unmatched by other bidders and their strategy is designed to reach a wider range of stakeholders than that originally envisioned. The Steering Committee worked with TNC and Ogallala Commons to develop a scope of work and contract to complete two Conservation Education Days and at least four Playa Festivals. The contract was authorized on September 14, 2010.

In 2011, the withdrawal of the Goodwin playa and the delay that these negotiations created, led to the development of a contract directly with The Nature Conservancy to take a larger role in the restoration tasks. The Steering Committee and TNC developed a Landowner Questionnaire and ranking sheet to assist in determining which private landowners to include in the playa restoration portion of this project. The relationship that TNC maintains with private landowners in the area made them the ideal candidate to successfully implement the restoration tasks. Also during 2011, Joe Whitehead, NRCS, retired and relocated to Texas and Tish McDaniel of The Nature Conservancy (TNC), was reassigned to a different TNC priority. Robert Martin (TNC) remained active in the project throughout its term.

Task 3: Landowner Interviews. The Project Steering Committee developed a Landowner Questionnaire based upon current NRCS and New Mexico SWQB examples. The City of Clovis was approached as a potential landowner partner in this project. The NRCS and TNC developed a list of landowners that are currently enrolled in other playa conservation programs and compiled a list of potentially interested landowners. According to the data received, 38 playas in Curry County were enrolled in three different conservation programs in 2009 (EQIP, NAWCA, and RPM).

In January 2012, TNC began interviewing landowners as part of their contract with SWQB. Thirty (30) playas were initially identified as being worth further investigation. A preliminary assessment of restoration needs/potential was conducted before landowners were approached directly. The NRCS Websoil Survey proved helpful for this process as it includes sufficiently high-resolution aerial imagery to identify pits and erosional features. It also delineates soil type which assisted with quantifying/mapping playa bottom acreage and acreage for buffer/upland.

By December of 2012, Robert Martin (TNC) had conducted interviews and ranking of playas sufficient to select five private landowners for restoration candidates. Robert Martin, WPO, and WPC toured these five selected sites and began negotiations with these landowners.

Task 4: Landowner Agreements. In the Fall of 2012, Shelly Barnes assumed responsibility of WPO for this project when Chris Cudia (previous Project Officer) left his position at SWQB. At this point, the landowners, Best Management Practices (BMPs), and restoration needs were selected for each property and landowner match obligations were identified. WPO began discussions with the SWQB Financial Staff and the State Purchasing Office on how to proceed into developing agreements with the five private landowners in November of 2012.

It was determined that based upon the precedent of the New Mexico Game and Fish Department’s ability to contract with private landowners for game hunting allotments, SWQB could enter into Sole Source Contracts with the selected landowners. After NM State Procurement procedures were followed, the five landowner agreements and work plans were executed on June 3, 2013.

Landowner	Pit restoration	Fence Installation	Livestock Watering Facility	Solar Panel & Pump or Electric Submersible Pump (ES)	Pipeline Installation	Wildlife Watering Facility	Invasive Species Control	Native Grass Recovery & 10-Year Conservation Plan
MacKechnie	\$3,518	\$2,990	\$300		\$1,436	\$1,100		\$4,430
In-kind Match in labor & equipment	\$932.31	\$576	\$810		\$594.15	\$540		
Miller			\$460	\$2,300 (ES)				\$4,610
In-kind Match in labor & equipment			\$918.35	\$127.18				

Landowner	Pit restoration	Fence Installation	Livestock Watering Facility	Solar Panel & Pump or Electric Submersible Pump (ES)	Pipeline Installation	Wildlife Watering Facility	Invasive Species Control	Native Grass Recovery & 10-Year Conservation Plan
Tarver*			\$214	\$5,758				\$8,940
In-kind Match in labor & equipment			\$190.33	\$1,919.56				
White	\$253.00	\$2,990.00	\$300.00		\$2,871.00			\$4,490.00
In-kind Match in labor & equipment	\$147.00	\$1,010	\$150		\$1,129			
Wood**		\$7,928		\$2,031			\$1,500	\$24,882
		\$3,793.67		\$1,902.39			\$1,663.50	

* King Ag Aviation was contracted with directly to provide invasive species treatment on the Tarver Playa upland and buffer. The contract was for \$2,372.50.

**Two additional contracts were secured for the Wood playa. One was for a demonstration restoration technique with Reineke Construction, LLC for \$21,069.13. The contractor provided \$5,300 in In-Kind Match in donated equipment and labor. The landowner provided an additional \$2,992.07 in In-Kind Match for this portion of the project. A contract for well drilling was also directly procured with Doyle Rush Drilling for \$7,184.53. The landowner provided an additional \$4,852.85 in In-Kind Match for this portion of the project.

Task 5: Restoration Reconnaissance. David Haukos, Ph.D., accepted an invitation to meet with the Steering Committee early in the project to discuss playa ecology, hydrology, and soils, and restoration potential. Dr. Haukos was employed by the U.S. Fish and Wildlife Service working with the Playa Lakes Joint Venture on the North American Waterfowl Management Plan. He is well recognized for his expertise as a migratory bird specialist and an expert on playa lakes.

He also attended a meeting and field reconnaissance of an urban playa, Goodwin Playa, located within the limits of the City of Clovis. This playa is pitted and would pose some special restoration challenges. However, the City of Clovis generally supports protecting the area and making it a venue for educating residents about the functions and values of these unique wetland systems. Its condition and urban setting placed some limits on restoration potential but greater public exposure would provide more educational opportunities for local citizens and schools than projects in isolated and/or rural area where transportation would be necessary. Unfortunately, after many meetings with the City of Clovis, the use of Goodwin Playa for either Playa Festivals or restoration was discontinued due to the City’s Stormwater Ordinance. The Ordinance allows for the use and excavation of playas as a preferred means of stormwater control. The Steering Committee spent a tremendous amount of effort trying to negotiate a compromise, but in the end there was no alternative other than to drop the Goodwin Playa from further consideration.

Many rural playas were scouted during a vehicle tour where it was discovered that County Road development is highly impacting the playas. There appears to be a long tradition of using playa lakes for stormwater control/drainage in Curry County. Draining a road at regular intervals is the obvious alternative but adjacent farmlands/landowners are generally not in favor of draining the road on their tilled fields. A review of road maintenance practices should be completed and

presented to stakeholders and the Curry County Road Department through a future playa restoration project.

The restoration reconnaissance included use of the Websoil Survey, aerial imagery, and compilation of lands already in other conservation programs. Direct contact with landowners to complete the landowner questionnaire and playa ranking spreadsheet further narrowed the list of potential restoration sites. Five private landowners were selected by Fall of 2012.

Task 6: Conservation Plans. Ten-year Conservation Plans were developed by the five private landowners selected to participate and their local NRCS agents during the fall of 2013. Engaging local landowners to participate in a Ten-year Conservation Plan specifically geared toward playa protection was a significant outcome of this project. Engaging the local NRCS offices in development of these plans further emphasized the importance of these wetlands and their conservation.

Task 7: Compliance. Playa wetlands currently do not fall into the definition of jurisdictional wetlands and therefore do not require a 404 permit or 401 certification. An archaeological consultant was hired to conduct Cultural Resources Surveys on all of the private lands where dirt moving practices would occur. The survey was completed in August 2013 with no Cultural Resource findings. The New Mexico Historic Preservation Division of the Department of Cultural Affairs approved the work to be completed and all Tribal entities within the project area were notified.

Task 8 & 9: Restoration Design and Playa Restoration Implementation. Several of the playa's selected had "pits" in the playa bottom. Historically, playa's were excavated, creating a "pit" to hold surface water for a longer period of time than the normal hydroperiod, increasing the opportunity to utilize the playa as a livestock watering facility. Landowner's were required to restore the original water-holding (Randall Clay) soils into the pit, returning the playa to a more natural state. The local NRCS agency personnel inspected the side-cast soils that were originally excavated to make the pit. The NRCS reported on the applicability of these soils to refill the pit and restore the natural playa hydrology.



Restored pit in White playa.

Along with the pit restoration, landowners were required to include several Best Management Practices suitable for future playa protection based upon NRCS conservation practices. These BMPs included fencing of pastures that include playas; treatment of invasive species in the playa buffer; development of upland water sources with tanks, wells, and solar pumps; wildlife watering facilities; and one year complete deferment of livestock grazing. The playas and a 50 foot buffer were included in the fenced pasture to facilitate livestock exclusion during intervals agreed upon in the 10-year Conservation Plans. Upland water sources were developed so that playas would not be used for watering cattle especially during waterfowl migration. All restoration and BMP implementation were completed by December 31, 2013.



Fencing between pastures to restrict access to playa and buffer area at the White playa.



Solar panels with protective fencing for pump to supply upland livestock watering facility at the Tarver playa.



Pipeline installation for upland livestock watering facility at the White playa.



Upland livestock watering facility at the Tarver playa.



Wildlife guzzler upland of the MacKechnie playa.

One 621.5-acre property included a 124.4-acre playa. A watershed draw that entered the playa began on an adjacent property, crossed a low water crossing on a County Road, and ended in the playa bottom. The County Road caused increased erosion on the downstream (playa) side of the road. This erosional feature was channelized at some point creating a straightened ditch that held surface water and deposited sediment in an alluvial fan in the playa. The ditch and sediment plume restricted the flow of water to the playa bottom and held surface water in the ditch for an increased period of time. A request for quotes was developed for a restoration contractor to design and implement an innovative technique that would address the excess sediment in the playa and the restriction of surface water input to the playa, minimize the amount of surface water held in the ditch, while not impacting the current County Road low water crossing. Ground surface levels and photos of the area were taken before, during, and after restoration implementation by the contractor. Permanent surface level and photo point monitoring points were installed for future monitoring of the project area. As of June 30, 2013, there had not been a significant flow event in the project area. Design and post construction photos below.

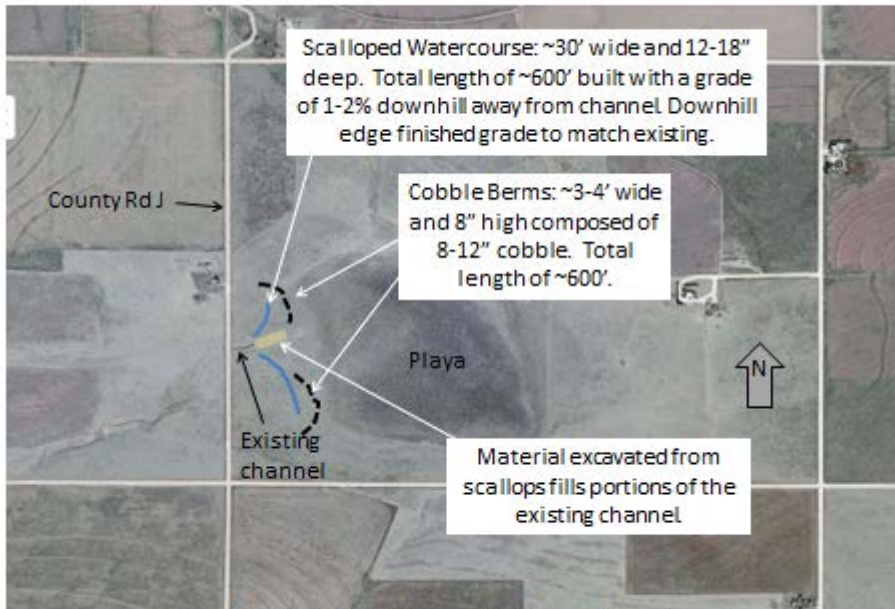


Figure 1. Overhead Image with Flagged Treatments

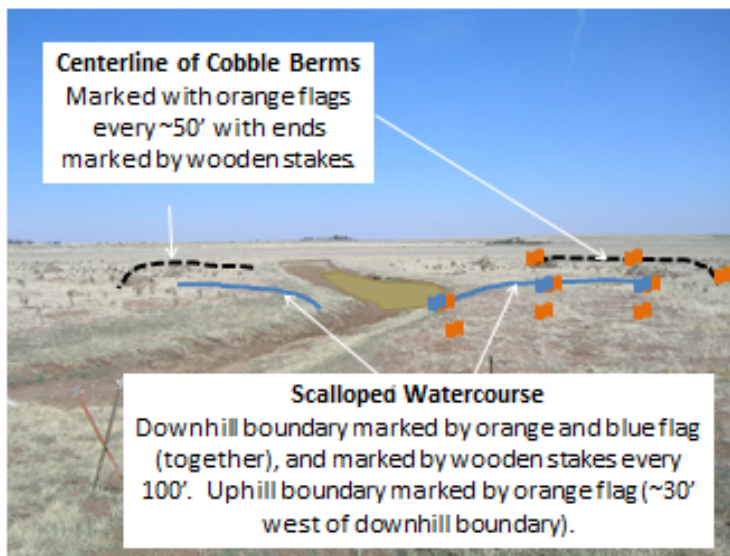
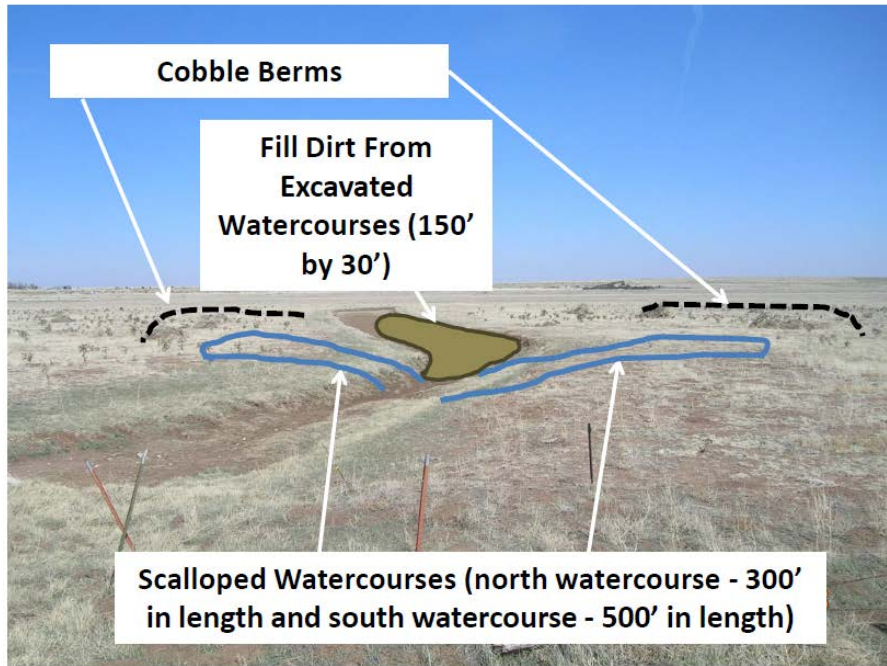
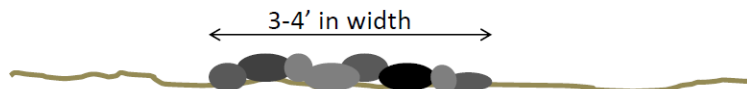


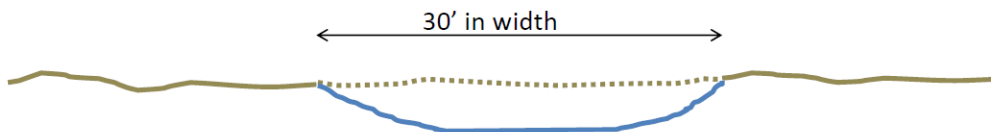
Figure 2. Flagging "Key" Shown Only on the South Side of the Channel. North Side has Identical Flagging System. (Looking east from County Road J at the channel and playa beyond.)



**Figure 2. Constructed Treatments
(Looking east from County Road J at the channel and playa beyond.)**



Cross-section of Cobble Berm
Composed of 3-6" nominal cobble material. NOT DRAWN TO SCALE.



Cross-section of Scalloped Watercourse
12-18" deep, sloped at 1-2% downhill away from channel. NOT DRAWN TO SCALE.

Photos of Watercourse on North Side of Channel



Looking south and west back toward County Rd. J – end of northside watercourse.



Looking east - cobble berm in foreground, playa in background.

Photos of Watercourse on South Side of Channel

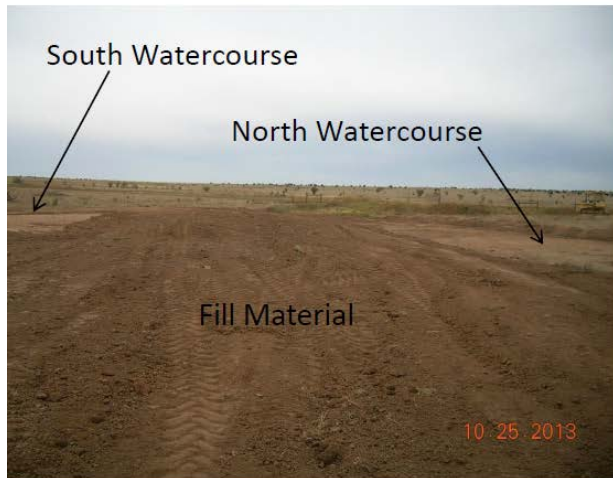


Looking southeast – start of southside watercourse



Looking west – cobble berm in foreground with southside watercourse in background.

Photos of Filled-in Channel



Looking west toward County Rd. J



Looking east toward playa

Task 10: The Curry County WAP. A Wetlands Action Plan was developed by Robert Martin (TNC) and the WPO. Review and input into the WAP was provided by the Playa Lakes Joint Venture, the five participating private landowners, NRCS agents, and members of the Prairie Partnership. The final WAP is attached to this report. The WAP awaits posting on the SWQB Website and copies will be available to landowners at future Prairie Partnership meetings.

Task 11: Outreach and Wetlands/Water Festival. In 2010 and 2011, Ogallala Commons in partnership with The Nature Conservancy and NMED conducted 7 Playa Festivals and 2 Conservation Education Days in schools and communities in Curry and Roosevelt Counties of New Mexico.

Two day-long Playa Festivals were held at Mesa Elementary School in Clovis, NM (2 separate festivals). Day-long Playa Festivals were also held at Lindsey-Steiner Elementary in Portales, NM, Barry Elementary School in Clovis, NM, Bella Vista Elementary School in Clovis, NM, and Dora Consolidated Schools in Dora, NM. An additional Playa Festival for rural Curry and Quay County students was held in Grady, NM. Two Conservation Education Days were conducted in Clovis and Portales, NM, to host teachers from Clovis, Portales, and Dora School Districts and private landowners from Curry and Roosevelt Counties.

The Playa Festivals instructed students and teachers about playa hydrology, identification of playa birds and plants, playa amphibians and reptiles, journaling as a learning



tool, an overview of the Ogallala Aquifer, a site visit to a nearby playa to make observations and gather plant specimens for classroom murals, and an overview of the High Plains Water Cycle. Overall, 886 students and 33 teachers participated in the seven Playa Festivals.

The two Conservation Education Days were hosted in January and February of 2011. Twenty-two teachers and ten playa landowners participated in the events and received an overview of Playa Festivals, instruction on how Playa Festival presentations can be adapted for continuing education, and how to prepare a school site to host a Playa Festival. Participants were also educated about playa hydrology and about federal programs that can assist landowners in conserving and restoring playa wetlands.

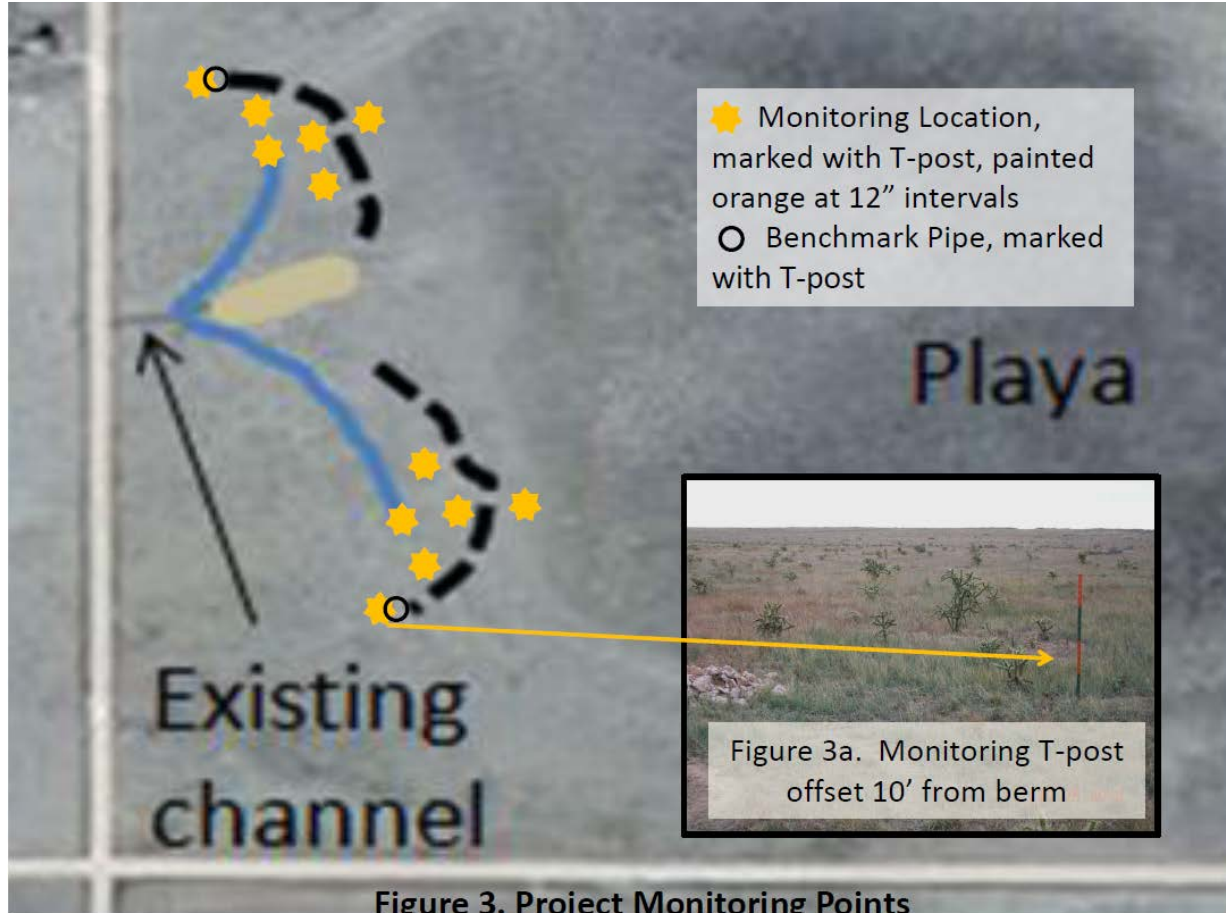
An Article in the NMED Clearing the Waters newsletter will be submitted about this project's success in 2015.



Task 12: Project Monitoring and QAPP. The project included passive restoration techniques utilizing Best Management Practices. Pre- and post-implementation photo monitoring was utilized as the monitoring protocol for the five restoration sites to ensure compliance with agreed upon terms. The restoration activities continued through the end of the project term. Due to environmental factors (extended drought conditions), other environmental data was not collected. The implementation monitoring conducted is within the specifications of the SWQB QAPP and a project specific QAPP was not developed.

Ground surface level measurements were taken by the restoration contractor as part of the design of the erosional feature restoration at the John Wood's site. The contractor installed surface level monitoring points at measured surface's at the completion of the implementation for future

monitoring efforts by the landowner. These monumented points also include photo monitoring sites.



Task 13: SWQB to attend Wetlands Training and EPA National Meetings. WPO Shelly Barnes attended a 38 hour Army Corps of Engineers Wetland Delineation Training in Salt Lake City, UT on April 8 – 11, 2013. The training was conducted by Richard Chinn Environmental Training, Inc. (a Society of Wetland Scientists approved training) and covered in detail the knowledge necessary to delineate wetlands per the accepted protocols of the Army Corps of Engineers and the use of the 1987 manual and the Arid West Regional Supplement.

WPO Shelly Barnes attended a Sedge Identification Workshop hosted by the New Mexico Native Plant Society of New Mexico in July of 2013. The workshop was presented by one of the authors of the *Flora Neomexicana III: An Illustrated Identification Manual*, and included descriptions and identification guidelines for Cyperaceae and Juncaceae species.

WPO Shelly Barnes attended a Springs Inventory and Assessment workshop presented by the Springs Stewardship Institute of the Museum of Northern Arizona September 4 – 5, 2013. The workshop provided training of springs ecosystems, ecological integrity, natural and cultural resources, stewardship, restoration, monitoring, field data collection and information management.

Major Project Highlights

This project was funded on January 29, 2009. A project Steering Committee was assembled and began meeting by March of 2009. The Steering Committee consisted of two SWQB personnel, Joe Whitehead, the East Area Resource Conservationist from the USDA Natural Resource Conservation Service (NRCS), and Patricia McDaniel and Robert Martin from The Nature Conservancy. Several staff of the City of Clovis including the Mayor, joined the Steering Committee by the end of the first year and participated until it was determined that the urban playas of the City of Clovis would not be eligible for this project.

The Steering Committee hosted Dr. David Haukos who presented information to all members regarding playa hydrology, flora, fauna, and functions to the group. Dr. Haukos also attended a site visit of the urban Goodwin Playa to discuss restoration potential and ideas for moving forward with the project. During the initial project year, the Steering Committee conducted seven site visits to this urban playa and many coordination and negotiation meetings with the City of Clovis. Ultimately, the City of Clovis Stormwater Ordinance was found to be incompatible with the goals and parameters of this project and the project workplan was amended to focus again on rural playas in private ownership.

Ogalla Commons was selected as contractor for the Playa Festivals and Outreach events. Nine events, including seven Playa Festivals for grade schools and two Conservation Education Days for teacher and landowners were conducted in Curry and Roosevelt Counties. The events were highly successful and greatly added to interest in participating in the project. Many landowners have since shared with the Wetlands Program that they learned quite a lot about the playas on their land from their grade school-aged children that attended the events and experienced the hands-on education about resources in their backyards.

An initial list developed through NRCS contacts, aerial imagery, and WebSoil Survey information was narrowed to a list of 30 candidate playas. The Steering Committee and TNC developed a ranking criterion for restoration potential and landowner interest. The top ten ranked playa landowners were interviewed and five landowners were ultimately selected for participation on this project. The next step was to determine passive restoration practices (best management practices) for playa restoration. These practices were based upon current NRCS programs. Active restoration activities included remediation of historic excavated pits in playa bottoms and invasive species management. One playa property contained a large erosional feature and sediment plume likely created from a county road crossing. A restoration contractor and concept designer were enlisted to develop a technique for addressing this issue without impacting the current county road system. The landowner is currently awaiting a significant precipitation event to determine the effectiveness of this restoration technique.

Once landowner contracts were secured, an archaeological survey was conducted to acquire Cultural Resource compliance in all areas where dirt moving activity would occur. The properties were surveyed with no historical findings and compliance notification was received from the State Historic Office and all relevant Tribal entities were notified.

Photo documentation of each participating property was acquired in the winter of 2012-2013. Photo documentation was also completed post-implementation by Robert Martin of The Nature Conservancy to ensure that all restoration activities were completed.

Obstacles

There were two major obstacles to this project. The first was discovered after more than a year of coordination and negotiation with the City of Clovis regarding urban playas under city purview. Although the city's population is large enough to fall under Municipal Separate Storm Sewer System (MS4) attainment, there is not a jurisdictional water of the US in the area to which the city discharges, therefore Clovis is currently exempt from this regulation. The current city stormwater ordinance allows for discharge, including excavation for expanded volume, into playas around the city. This type of excavation in the Goodwin Playa was shown to have degraded the natural clay layer to the point of seepage. The excavation to increase volume in a playa also greatly changes the natural hydroperiod and function of playa wetlands. The excavation combined with direct discharge of untreated storm water into the playa wetlands was found to be at odds with the goals of protection and restoration of this playa resource. After spending a tremendous amount of time and effort developing a restoration and educational site planning for this urban playa, this playa was withdrawn from consideration. The time spent developing the goals for the Goodwin Playa and the negotiations regarding the stormwater ordinance greatly delayed the remaining restoration portions of the project.

The second major obstacle arose during contracting with private landowners. The State Purchasing Office(SPO) and SWQB staff worked together to develop a procurement system for contracting with private landowners while not impinging upon state anti-donation laws. This process took several months to negotiate with a final determination of Sole Source contracts with very specific Scope of Work determinations. The state's Sole Source procurement regulations require 30 days of public notice on the SPO contracting website before contract authorization. The entire contracting process took approximately eight months to complete.

The remaining obstacle to the project was turnover of personnel at NMED and loss of key participants on the Steering Committee. Joe Whitehead of the NRCS retired in 2012 and restructuring of the NM Regional NRCS offices led to the loss of participation by the NRCS. Tish McDaniel (TNC) was reassigned to a different priority and all elements of this project were taken over by Robert Martin (TNC). Chris Cudia (WPO) left his position with the SWQB, however Shelly Barnes took over the role of Project Officer late in 2012 to complete this very successful project.

Lessons Learned

What made this project successful

Early participation by many different parties in a Steering Committee enabled this project to both thoroughly review options, choose successful strategies for completing project elements, and adapt the workplan tasks for continued project success.

The Playa Festivals and Conservation Education Days were highly successful events. A large number of children were able to participate in hands-on education and grade school teachers were offered exciting ways to add to their science curriculum utilizing a landscape feature that is abundant in the area. The children in turn educate their parents and other community members about the resource and were able to garner interest in the playa programs and meetings initiated by NMED, TNC, and PLJV. These meetings, in turn, informed private landowners of funding opportunities for restoration and conservation of these resources.

A new design for a water spreading structure was successfully implemented to restore a more natural flow across a playa watershed. This structure was developed to remove water from an excavated ditch that restricted water access to the playa bottom while reducing sediment input into the playa. This novel approach to upland impacts to playa wetlands may prove to be useful in many situations in the Southern High Plains region of New Mexico.

10-year Conservation Plans that focused on the protection and conservation of playas were developed by each of the five landowners that participated in the project. The Conservation Plans are developed with the local NRCS agent and kept on file at the NRCS office. Developing a 10-year Conservation Plan that focused on the protection and conservation of playas was a novel approach for both the landowners and the local NRCS agents. This focus drew attention to the important functions that playas offer such as wildlife habitat, migrating bird habitat, and aquifer recharge. The impacts related to utilizing playas simply for livestock watering and grazing forage were addressed in terms of buffer zone health and reduction of sedimentation.

Technical Transfer

The private landowners that participated in this project have assisted in providing positive feedback to the community regarding the NMED, TNC, and playa conservation. Through their contacts and assistance, many more landowners attended workshops and meetings hosted since the beginning of the project.

The restoration contractor is utilizing the design and implementation of the water spreading structure as a novel technique in presentations throughout the conservation community. The discussion of restoration of the playa watershed as a whole is still new and this technique will assist in future restoration planning, and especially add to a limited toolbox for restoring playas and their watersheds. NMED plans on further broadcasting this successful restoration design and restoration of playas, by submitting an article to the NMED Clearing the Waters newsletter.

The NMED Wetlands Program is currently in development of a Rapid Assessment Method for Playa Wetlands. Through the contacts and partnerships made by implementing this project, many more landowners are willing to participate and allow access to their private lands for playa assessment.

EPA Feedback Loop

This project was faced major obstacles and work plan changes that created a delay in the restoration portion of the project. These obstacles as well as personnel changes and difficulties in getting contracts in place moved the timeline necessary to complete the deliverables. The EPA's timely response and flexibility in the project changes were integral to the overall success of this project. The New Mexico Environment Department appreciates the continued support and collaboration with the Environmental Protection Agency and looks forward to additional wetland projects in the future.