

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

Project Title: “Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin”

National Priority 1.a.ii Refining the Protection of Vulnerable Wetlands and Aquatic Resources

Regional Priority Areas a. Wetland and Stream Restoration

<p>Applicant: New Mexico Environment Dept. Surface Water Quality Bureau Wetlands Program PO Box 26110 N2050 Santa Fe, NM 87502-6110 (505) 827-0187 FAX (505) 827-0160</p>	<p>Contacts: Maryann McGraw Wetlands Program Coord. NMED SWQB PO Box 26110 Santa Fe, NM 87502-6110 (505) 827-0581 FAX (505) 827-0160 maryann.mcgraw@state.nm.us</p>	<p>Contacts: Milee Rotunno Financial Program Manager NMED SWQB PO Box 26110 Santa Fe, NM 87502-6110 (505) 476-1873 FAX (505) 827-0160 Milee.Rotunno@state.nm.us</p>
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Geographic Location: HUC: 13020206, North Plains Closed Basin, Cebolla Creek Watershed

Federal Request \$265,239	Match \$153,668 (37%)	Project Total \$418,907	This proposal is for a 3-year project
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Abstract: Project Summary

The New Mexico Environment Department Surface Water Quality Bureau (SWQB) proposes to complete a demonstration project for the restoration of historical wetlands degraded by former agricultural practices in Cebolla Canyon closed basin in Cibola County, New Mexico. SWQB will partner with the Bureau of Land Management (BLM), the Rio Puerco Alliance, the Albuquerque Wildlife Federation, New Mexico Wilderness Alliance and other partners to restore historic wetlands by more than 80 acres and to develop a Wetlands Action Plan that develops measures for protection and restoration of wetlands in Cebolla Canyon watershed within the North Plains closed basin. Workshops will be conducted on the restoration field methods. Project partners will also organize a Summer Academy for high school students and teachers in the Grants area with special emphasis on local and tribal schools.

2. Project Description: a. Environmental Issues of Concern/Project Need

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
FY08 EPA Region 06 Wetland Program Development Grants
Clean Water Act Section 104(b)(3)

The Cebolla Canyon is primarily within and protected by a congressionally designated Wilderness Area (Cebolla Wilderness) within the congressionally designated El Malpais National Conservation Area (EMNCA) near Grants, New Mexico (Map 1). The project area has multiple designations including Wilderness Area, and National Conservation area. However, all of the project area is Bureau of Land Management Public Lands. Within the project area, Cebolla Spring and Cebollita Spring emerge from the ground and provide habitat and/or water to a variety of wildlife species including bald eagle, mule deer, elk, mountain lion, bobcat, Abert's squirrel, two species of wild turkey (*Meleagris gallopavo intermedia*, *Meleagris gallopavo Merriami*) and reptiles such as the side-blotched lizard (*Uta stansburiana*). The next nearest constant water source for wildlife is the Rio San Jose, approximately 40 miles away. In addition, several ephemeral playas hold seasonal water but the nearest playa is about seven miles away.

The valley was homesteaded in the early 1900s. Today only ruins of the stone houses and hydrological modifications established by early settlers remain. The historic wetland of Cebolla Creek has been drained and earthen dams constructed to retain water for agricultural use. These changes to the areas hydrology coupled with cattle grazing have reduced the historic wetland to a fraction of its original size and inadvertently created a massive down-cut, incising the stream banks in some areas as deep as 50 feet.

Previously, water from the springs was impounded and used for irrigation almost exclusively. Former wetlands were drained and dams, irrigation ditches, and impoundments were constructed along Cebolla Creek to support agriculture. The irrigation systems and impoundments are no longer functional, but Cebolla Creek is displaced from its natural drainage, headcutting is occurring in the valley bottom and the wetlands have not recovered. Plant community composition in the valley has deteriorated to a monoculture of blue grama grass (*Bouteloua gracilis*) with rabbit brush (*Chrysothamnus nauseosus*) increasing in the valley bottom. This

coupled with increasing encroachment of piñon (*Pinus edulis*) and juniper (*Juniperus scopulorum*) from the uplands has converted the vegetative composition of the valley to that of a warm season upland plant community.

In 1994, a seven-acre enclosure was constructed by BLM to reduce livestock use of the Cebolla Spring. In one growing season, the spring turned from a mud bog to standing water. The water promoted vegetative growth, which increased ground cover and shade, reducing loss of water to evaporation. As a result, a permanent saturated zone developed, providing the conditions for a nascent wetland. Since the fall of 2000 the Albuquerque Wildlife Federation has been organizing volunteer groups to help with restoration efforts in Cebolla Canyon. The groups have worked to construct restoration best management practice structures to spread water over the valley. These structures are re-wetting the meadow, widening the stream banks, and building up the channel bottom to return this portion of the wilderness area to its natural condition of a perennial stream and a properly functioning wetland. The result has been two-fold: the creek gradient is flattened and water infiltration into the banks has increased, promoting an increase in emergent wetland plant species, which add to bank stability. The saturated zone associated with the spring has expanded downstream along the first terrace adjacent to the creek. The saturated zone currently is over 40 acres. The wetlands area associated with the spring has the potential to double in size to over 80 acres. A long-term landscape-based approach to improving the ecological health of Cebolla Canyon and its associated wetlands is needed.

2.b. Project Goals and Objectives:

i. Link to EPA Strategic Plan Goal 4, Objective 4.3, Sub-objective 4.3.1:

The proposed project addresses EPA National Goal 4, Objective 4.3 Protect and Restore Critical Ecosystems because it protects, sustains and restores ecosystems and builds community capacity to make decisions that protect the environment. This project supports Regional Priority 1

Wetland and Stream Restoration. This project will demonstrate new methods for wetland and stream restoration and protection in the arid Southwest. The project creates new, multi-jurisdictional, public/private partnerships, which include local communities, local schools, local, state, and federal government agencies and private environmental institutions. The comprehensive approach and the combination of these unique aspects of the project will lead to advances in wetland/stream restoration and protection technology in the region. The project includes a multi-year post-installment monitoring component.

State, local, and/or other stakeholder participation

The project will lean on existing partnerships and collaboration networks with the Albuquerque Wildlife Federation, Rio Puerco Alliance, Rio Puerco Management Committee, Bureau of Land Management, and the New Mexico Wilderness Society. These entities and networks offer direct opportunities for coordination of projects in the area and for inviting partners to assist the project.

2.b.iv. Baseline for Measurement. We will collect water chemistry, geomorphology, wetland delineation, and vegetation data to establish a baseline for the project area. Additionally, we will install piezometers to collect information about the hyporheic zone associated with Cebolla Creek. Previously, the AWF was the only group involved in wetland restoration. This project will increase volunteer involvement, as well as let more people in the area know about the potential for restoring agricultural land. We will monitor throughout the life of the project and obtain three years of post-installation data.

2.c. National Priority 1.a.ii Refining the Protection of Vulnerable Wetlands and Aquatic Resources

Regional Priority Areas a. Wetland and Stream Restoration

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
FY08 EPA Region 06 Wetland Program Development Grants
Clean Water Act Section 104(b)(3)

1. Engage communities and interest groups and their locally established watershed group to use an integrated, comprehensive and scientific approach to protect, sustain and restore wetlands and riparian ecosystems. This project achieves Strategic Goal 4 Objective 4.3, and Regional Priority 1 Wetland and Stream Restoration.
2. Facilitate watershed groups throughout the State to develop “Wetlands Action Plans” as an additional component of their Watershed Restoration Action Strategies. This project contributes to Strategic Goal 4 and National Priority A. This program builds upon the watershed approach as the coordinating framework for environmental management. A wetlands and riparian area-focused WAP for Cebolla Creek builds upon the foundation of Watershed Implementation Plans.
3. Increase wetland area through the restoration of at least 80 more acres in floodplains and other historic wetland locations. This project supports Strategic Goal 4 Sub-objective 4.3.1. Working with partners this project will facilitate an increase in wetland acreage. This program contributes to an active wetland restoration program, provides public outreach on benefits of and opportunities for restoration and restoration training on Wilderness land and provides technical assistance to landowners and organizations carrying out wetland restoration projects.
4. Refine the protection of vulnerable wetlands. National Priority A. This project focuses on vulnerable floodplain and isolated wetlands. A major goal is for the State to target critical isolated wetlands resources for restoration and protection.

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

2.b.ii.-iii. Results of Activities (Outputs) and Anticipated Environmental Improvement (Outcomes)

Activity	Output	Track Progress	Outcome	Track Progress
Task 1: Project Administration.	Contracts, agreements, amendments, reimbursements, etc. Maintaining the project Steering Committee	Contracts in place, amendments completed, reimbursements paid, etc. 12 Steering Committee meetings convened. Participation Tracked.	Project managed and administered. Steering Committee oversees the timely and successful completion of the project. Support toward achieving wetland project goals.	Drawdown on contract amounts, project progress towards end date tracked, technical aspects assisted. Number and nature of decisions show coordination and progress.
Task 2: Restoration Reconnaissance.	Geomorphological inventory for Reaches 1 through 7 and map.	Inventory report and map completed.	Inventory and map locations for structures available for design phase	Proper placement of restoration structures to achieve wetland functions and ecosystem restoration.
Task 3: Compliance	NEPA, SHPO, CWA and wilderness clearances for project.	NEPA completed.	Environmental compliance and informed decision-making.	Attain compliance during project implementation.
Task 4: Cebolla Canyon Wetlands Action Plan.	Wetlands planning document for Cebolla Canyon included in Rio Puerco WRAS to facilitate further restoration in the area.	WAP meetings, wetlands info. collected, projects developed, chapters completed, stakeholder input included.	Increased understanding of Cebolla Canyon wetlands. Increased knowledge to restore Cebolla Canyon wetlands.	Stakeholder input and involvement in process. Spin-offs from WAP.
Task 5: Restoration Design.	Completed design for the structures, plans and specifications for restoration work.	Design completed.	Improved wetland restoration project	Design development and implementation.
Task 6: Fencing.	Installation of fence along	Fencing installed.	Relief from grazing pressure	Fencing milestone

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

	saturated area with volunteers.		will speed wetland recovery.	completed. Wetlands recovered.
Task 7: Reach 1 Restoration.	Fill 50 ft. length of gully to divert flow.	Work completed.	Runoff diverted to rewet the natural channel.	Natural channel restored.
Task 8: Reach 3 Restoration.	Volunteers build permeable fill structures and install plantings.	Work completed.	More water held in drainage ways. Increased erosion prevented.	Documentation of structures built and functioning.
Task 9: Reach 4 Restoration.	Volunteers build 12 wicker weirs in the old channel and 12 short berms to plug rills.	Work completed.	Floodwater rewets floodplain and wetland terrace. Restored floodplain and wetland terrace.	Documentation of structures built and functioning.
Task 10: Reach 6 Restoration.	Widen and reshape worm ditch, and create new side berm.	Work completed.	Reduced runoff into head cut. Increased capacity of worm ditch. Restored stream reach.	Documentation of structures built and functioning.
Task 11: Reach 7 Restoration.	Volunteers build induced meandering structures, road redesigned, crossing raised, and water bars installed.	Work completed.	Reduced sediment entering stream, stream grade raised, slope flattened and meanders increased. Hydrology restored.	Documentation of structures built and functioning.
Task 12: Outreach and Education.	Workshop, field trips, and newsletter articles, Summer Academy	Participation documented, materials created, reports.	Technology transfer.	Individuals informed about and trained in wetland restoration techniques
Task 13: Project monitoring and QAPP.	Baseline assessment, 3 years progress monitored. WQ assessment unit created.	QAPP, monitoring data collected and stored in database.	Increased understanding of WQ and wetland changes and improvements.	Monitoring report of analysis and results.
Task 14: Wetlands Training	SWQB attends wetlands training.	Training notes and trained wetlands specialists.	Technical Transfer and information sharing.	Track participant involvement and number and nature of decisions that show coordination and progress.

National/regional priorities:

2.d. Project Need: See Environmental Issues of Concern/Project Need. This project enhances the capacity of the New Mexico Wetlands Program by engaging partnerships with local volunteer environmental NGO's, with agencies and watershed groups. This project is targeted in an are where wetlands projects have not been undertaken by the wetlands program. And finally this project will demonstrate innovative methods for restoring agricultural lands by to natural wetland habitat, an issue that is common in New Mexico. This demonstration of converting degraded and abandoned agricultural land to restored natural wetlands could open doors to new strategies for obtaining wetland mitigation sites.

2.e. Project Tasks:

Task 1: Project Administration. This includes developing and overseeing contracts, reimbursement requests, obtaining information for reports, writing semi-annual reports, one final report, and establishing a Steering Committee to provide technical assistance into the project design and implementation. The Steering Committee will meet quarterly over three years and will include representatives from AWF, RPA, SWQB, RPMC, New Mexico Wilderness Society, BLM, among others.

Cost Effectiveness:

Federal - Contractual (RPA: \$35/hr. x 250 hrs.)	\$ 8,750
Federal - Personnel (SWQB: \$40/hr. x 530 hrs.)	\$21,200
Federal - Supplies (Office supplies)	\$ 1,350
Match - Contractual (5 SC mem. x 4 hrs x \$19/hr x 12 mtgs + 5 x 12 x 200 mi x \$.32/mi)	\$ 8,400

Task 2: Restoration Reconnaissance. We will conduct a structures and materials inventory of the Cebolla Creek sub-watershed from Reach 0 to Reach 7 in order to assess the appropriate location of restoration structure placement for this project and for the Cebolla Creek Wetlands Action Plan. Specific locations for installing BMPs will be identified and mapped.

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

Cost Effectiveness:

Federal - Contractual

(Restor'ist: $\$69.66/\text{hr.} \times 70 + \$85/\text{day} \times 6 + 200 \text{ mi} \times \$0.32/\text{mi} \times 3$) \$ 5,578

Federal - Contractual (RPA: $\$35/\text{hr.} \times 70 \text{ hrs} + \$85/\text{day} \times 3 + 200 \text{ mi} \times \$0.32/\text{mi} \times 2$) \$ 2,833

Federal - Personnel (SWQB: $\$40/\text{hr.} \times 70 \text{ hrs}$) \$ 3,800

Federal – Travel (SWQB: $\$85/\text{day} \times 6 + 200 \text{ mi} \times \$0.32/\text{mi} \times 3$) \$ 702

Task 3: Compliance. BLM staff will perform National Environmental Policy Act (NEPA)

compliance and obtain Clean Water Act (CWA) sections 404/401 permits if necessary. A

Wilderness Exception will be included in the NEPA authorizing work adjacent to the Cebolla

Canyon Wilderness Area.

Cost Effectiveness: Federal – Non-contributing Match (BLM) \$0

Task 4: Developing Cebolla Creek Wetlands Action Plan (WAP). This task will include

developing a WAP for Cebolla Canyon. SWQB and RPA will develop a draft plan and

distribute it to stakeholders for input. The plan will be adopted into the Rio Puerco Watershed

Restoration Action Strategy (WRAS), which is currently being revised.

Cost Effectiveness:

Federal - Contractual (RPA: $\$35/\text{hr.} \times 250 \text{ hrs.}$) \$ 8,750

Federal - Personnel (SWQB: $\$40/\text{hr.} \times 250 \text{ hrs.}$) \$10,000

Task 5: Wetland Restoration Design. Under this task, restoration work to return Reaches 1, 3,

4, 6, and 7 of Cebolla Creek to their natural condition will be designed by a surveyor and a

stream restorationist who have experience in the area.

Cost Effectiveness:

Federal - Contractual (RPA: $\$35/\text{hr.} \times 40 \text{ hrs.} + 200 \text{ mi} \times \$0.32/\text{mi} \times 2$) \$1,528

Federal - Contractual (Restorationist: $\$69.66 \times 70 \text{ hrs} + 200 \text{ mi} \times \$0.32/\text{mi} \times 2$) \$5,004

Federal – Personnel (SWQB: $\$40/\text{hr} \times 70 \text{ hrs}$) \$3,800

Federal - Travel SWQB ($200 \text{ mi} \times \$0.32/\text{mi} \times 2$) \$ 128

Task 6: Install Fencing. Approximately 15 volunteers (over six 10-hour volunteer days) will

install fence around the Cebolla Spring area of approximately 40 acres of wetland to protect it

from grazing. It is expected that at least 40 more acres of wetland will be created this way.

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

Cost Effectiveness:

Federal - Contractual (RPA: \$35/hr. x 20 hrs. + 200 mi x \$0.32/mi x 2)	\$ 828
Federal - Contractual (Restorationist: \$69.66/hr. x 20 hrs. + 200 mi x \$0.32/mi x 2)	\$ 1,521
Federal - Personnel (SWQB: \$40/hr. x 70 hrs.)	\$ 2,800
Federal - Travel SWQB (200 mi x \$0.32/mi x 2)	\$ 128
Federal - Equipment (10 hours @ \$140/hr)	\$ 1,400
Non-contributing Match (from BLM) - Supplies (Fencing)	\$ 5,000
Match - Contractual (\$19/hr. x 15 vols x 6 days x 10 hrs)	\$17,100
Match - Travel (15 vols x 3 x 200 mi x \$0.32/mi)	\$ 2,880

Task 7: Reach 1 Restoration. It is expected that we will use a dozer to move existing dam material from an abandoned irrigation berm to fill the incision in Reach 1 for approximately 50 feet. This will redirect runoff to rewet the old natural channel. Rock, riprap, seed, and mulching materials will be used to stabilize the disturbed banks.

Cost Effectiveness:

Federal - Contractual (RPA: \$35/hr. x 40 hrs. + \$85/day x 3 + 200 mi x \$0.32/mi x 2)	\$1,783
Federal - Contractual (Restor'ist: \$69.66/hr. x 40 + \$85/day x 5 + 200 mi x \$0.32/mi x 3)	\$ 3,403
Federal - Personnel (SWQB \$40/hr. x 70 hrs.)	\$ 2,800
Federal - Travel SWQB (\$85/day x 5 days + 200 mi x \$0.32/mi x 3)	\$ 617
Federal - Supplies	\$ 2,000
Federal - Equipment (70 hours @ \$140/hr)	\$ 9,800
Match - Contractual (\$19/hr. x 15 volunteers x 4 days x 10 hrs)	\$11,400
Match - Travel (15 volunteers x 2 x 200 mi x \$0.32/mi)	\$ 1,920

Task 8: Reach 3 Implementation. Coarse deposition caught by the wetland below has caused a grade change in this reach. The stream bottom is building up and holding water longer. Approximately 6-7 feet of sediment has been captured thus far. Gullies along the road need rock fords made of permeable fill to hold more water up drainage. We expect to haul rock by front-loader to create fords (permeable fill structures). We will hold six 10-hour workdays (of approx. 15 volunteers each) over two years to install the restoration structures and re-vegetate with wetland species. Participants will learn about wetland restoration hands-on.

Cost Effectiveness:

Federal - Contractual (RPA: \$35/hr. x 40 hrs. + \$85/day x 3 + 200 mi x \$0.32/mi x 2)	\$1,783
Federal - Contractual (Restor'is:t \$69.66/hr. x 45 + \$85/day x 4 + 200 mi x \$0.32/mi x 2)	\$ 3,603
Federal - Personnel (SWQB \$40/hr. x 80 hrs.)	\$ 3,200
Federal - Travel (\$85/day x 2 + 200 miles x \$0.32/mile x 2)	\$ 298

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

Federal - Equipment (75 hours @ \$140/hr)	\$10,500
Federal – Supplies	\$ 1,000
Match - Contractual (\$19/hr. x 15 volunteers x 6 days x 10 hrs)	\$17,100
Match - Travel (15 volunteers x 3 x 200 mi x \$0.32/mi)	\$ 2,880

Task 9: Reach 4 Implementation. The lower end of Reach 4 was deliberately ditched and drained when it was cultivated. We need to build a grade control structure (either a cross-vane or filter dam) to raise the bed approximately two feet. We will need rock hauled by front-loader to build the grade control structure (using a backhoe or excavator). A huge slope wetland and cienega has been created from Cebolla Spring due to previous restoration work by AWF. We may need to install a low wicker structure at the existing channel by the fence line or we may need a log dam to keep water on flood plain. This is a Key Spot in Reach 4. We will hold six 10-hour workdays (of approx. 15 volunteers each) over two years to install 12 moist soil wicker weirs in the old channel to move flood flows to river right and to rewet wetland right and about 12 short berms to plug rills that are draining the wetland terrace. We need to block the abandoned diversion channel leading from Cebolla Spring to the storage reservoir valley right and re-connect groundwater flow from the spring to the abandoned wetland valley right.

Cost Effectiveness:

Federal - Contractual (RPA: \$35/hr. x 40 hrs + \$85/day x 3 + 200 mi x \$0.32/mi x 2)	\$ 1,783
Federal - Contractual (Restor'ist \$69.66/hr. x 45 + \$85/day x 4 + 200 mi x \$0.32/mi x 2)	\$ 3,603
Federal - Personnel (SWQB: \$40/hr. x 80 hrs.)	\$ 3,200
Federal - Travel (\$85/day x 2 + 200 miles x \$0.32/mile x 2)	\$ 298
Federal – Equipment (35 hours @ \$140/hr)	\$ 4,900
Federal – Supplies	\$ 2,000
Match - Contractual (\$19/hr. x 15 volunteers x 10 days x 10 hrs)	\$28,500
Match - Travel (15 volunteers x 5 x 200 mi x \$0.32/mi)	\$ 4,800

Task 10: Reach 6 Implementation. AWF installed a small “worm ditch” here to starve the headcut. A new ditch of greater capacity (approximately 400 cfs) is needed. The new worm ditch (to be built with a bulldozer) should be about 20 feet wide. Excess soil from this process

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

will be used to form a berm on river left (downstream side). Grade control structures will need to be installed in the worm ditch, using a backhoe or excavator. Weirs will be needed in the lower gully and more meandering should be created. Starting at the top, about 1,000 feet of berm should be created to divert flows around the headcut at the main channel gully. At the upper channel above the worm ditch we will need to add numerous one-rock dams to raise the grade and establish floodplain access in the riparian pasture. We will pick up rocks from the road with a front-loader to build the dams and stockpile them in. We will hold six 10-hour workdays (of approx. 15 volunteers each) over two years to do the work.

Cost Effectiveness:

Federal – Contractual	
(Restor’ist: \$69.66/hr. x 60 + \$85/day x 5 + 200 mi x \$0.32/mi x 3)	\$ 4,797
Federal - Contractual	
(RPA: \$35/hr. x 40 + \$85/day x 3 + 200 mi x \$0.32/mi x 2)	\$ 1,783
Federal - Personnel (SWQB \$40/hr. x 80 hrs.)	\$ 3,200
Federal - Travel (\$85/day x 2 + 200 miles x \$0.32/mile x 2)	\$ 298
Federal – Equipment (200 hours @ \$140/hr)	\$28,000
Federal – Supplies	\$ 3,000
Match - Contractual (\$19/hr. x 15 volunteers x 4 days x 10 hrs)	\$11,400
Match - Travel (15 volunteers x 2 x 200 mi x \$0.32/mi)	\$ 1,920

Task 11: Reach 7 Implementation. We need to raise the road crossing to form grade control. Approximately ½ mile of induced meanders will be installed by volunteers (two 10-hour workdays of approx. 15 volunteers each). The road will also need to be drained and reshaped to reduce sediment yield to the wetland. Rock will need to be hauled to raise the bed of the low water crossing and provide materials for volunteer workdays.

Cost Effectiveness:

Federal - Contractual (RPA \$35/hr. x 40 hrs. + \$85/day x 2 + 200 mi x \$0.32/mi x 2)	\$1,698
Federal - Contractual (Restorationist: \$69.66/hr. x 20 hrs + 200 mi x \$0.32/mi x 2)	\$1,521
Federal - Personnel (SWQB \$40/hr. x 80 hrs.)	\$3,200
Federal - Travel (200 miles x \$0.32/mile x 2 times)	\$ 128
Federal – Equipment (35 hours @ \$140/hr)	\$4,900
Match - Contractual (\$19/hr. x 15 volunteers x 6 days x 10 hrs)	\$5,700
Match - Travel (15 volunteers x 3 x 200 mi x \$0.32/mi)	\$1,920

Task 12: Outreach and Education. We will conduct a workshop on the methods being used during one of the volunteer workdays, we will conduct field trips to the project area, and we will draft articles for the RPA, SWQB Clearing the Waters and AWF newsletters to disseminate information about this project and its effects. We will also participate in a week-long Summer Academy with wetlands as the theme. The Summer Academy will target high school students and science teachers from the Grants area and will focus on local and tribal school participation. Information on the project will also be made available at the BLM visitor’s center (in project vicinity).

Cost Effectiveness:

Federal - Personnel (SWQB: \$40/hr. x 80 hrs.)	\$ 3,200
Federal - Travel SWQB (\$85/day x 2 + 200 mi x \$0.32/mi x 3)	\$ 298
Federal – Contractual (RPA: \$35 x 80 hours)	\$ 2,800
Federal – Contractual (Summer Academy \$5,000)	\$ 5,000
Match - Summer Academy	\$21,860

Task 13: Monitoring. Monitoring will continue throughout this project and for three years post-installation. Baseline data collection will begin with wetlands delineation and photo points. A contractor will install transects for vegetation monitoring. SWQB and RPA will supervise this task and develop a Quality Assurance Project Plan. Other monitoring will include the installation of piezometers, to determine whether the wetland areas are expanding with the restoration work. Other measurements will include temperature, turbidity, Rosgen Geomorphologic Assessment Methodology (Level 2). Volunteers under the supervision of RPA, the monitoring contractor, and SWQB will collect some data (six 10-hour workdays of approx. 10 volunteers each over 3 years).

Cost Effectiveness:

Federal - Personnel (SWQB: 200 hrs. x \$40/hr.)	\$ 8,000
Federal – Travel(SWQB: 200 mi x \$0.32/mi x 3 + \$85/day x 3)	\$ 512
Federal - Contractual (RPA: 150 hrs. x \$35 + \$85/day x 3 + 200 mi x \$0.32/mi x 2)	\$ 5,633
Federal - Contractual (Restor’ist: \$69.66/hr x 120 hrs. + \$85/day x 6 + 200 mi x \$0.32/mi x 3)	\$ 9,061

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

Federal – Supplies \$ 5,350
 Federal - Contractual (Botanist: \$40/hr. x 250 hrs.) \$10,000
 Match – SWQB Water Chemistry Analysis, 865 WTUs \$ 2,568
 Match - Contractual (10 vols x 10 hrs x 6 x \$19/hr + 10 x 3 x 200 mi x \$.32/mi) \$13,320
Task 14: Attend a Wetlands Training. This task is tied to when wetland trainings become

available to SWQB staff. The output is SWQB staff with wetlands training.

Cost Effectiveness:

Federal - Other (Wetlands Training) \$1,500
 Federal – Personnel (SWQB: \$40/hr x 30 hrs) \$1,200

2.f.

Tasks	Responsibility	Timelines	Milestones
1	SWQB, RPA, Steering Com.	Oct. 2008 - Oct. 2012	Semi-annual and final reports. Project admin. Steering Com. Mtgs Contracts and agreements.
2	SWQB, RPA, Restorationist	Jan. 2009 – Jan. 2010	Inventory report on Cebolla Canyon.
3	BLM	Oct. 2008 – Oct. 2009	Obtain archaeological clearance, wilderness exception, and NEPA clearance [by BLM].
4	SWQB, RPA	Jan. 2009 - Oct. 2011	Final Cebolla Canyon Wetlands Action Plan.
5	SWQB, RPA, Restorationist	Jan. 2009 - May 2010	Completed design, plans and specifications for restoration.
6	SWQB, RPA, Restorationist, BLM, volunteers	May 2010 - Oct. 2010	Fence installed.
7	SWQB, RPA, Restorationist, volunteers	May 2010 - Oct. 2010	Reach 1 implementation.
8	SWQB, RPA, Restorationist, volunteers	May 2010 - Sept. 2011	Reach 3 implementation.
9	SWQB, RPA, Restorationist, volunteers	June 2010 - Sept. 2012	Reach 4 implementation.
10	SWQB, RPA, Restorationist, volunteers	May 2010-June 2012	Reach 6 implementation.
11	SWQB, RPA, Restorationist, BLM, volunteers	May 2010-June 2012	Reach 7 implementation.
12	SWQB, RPA, Restorationist, BLM	Oct. 2008 – June 2012	Outreach and Education –workshop, field trips, articles, Academy, signs at El Malpais.
13	SWQB, RPA, Restorationist, volunteers	Oct. 2008 - June 2012	QAPP developed. Baseline, continued monitoring, photo-doc.

14	SWQB	Oct. 2008 - June 2012	Staff with wetlands training indicated in semi-annual report.
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2.g. Staffing and Funding Resources

SWQB has qualified and experienced scientific staff within the Watershed Protection Section and on the Wetlands and DOT Team, having applicable skills and scientific background to carry out this project. SWQB Wetlands Program is part of the Watershed Protection Section and personnel include the Program Coordinator (the Project Implementer), a Project Officer and the SWQB Outreach Coordinator who helps with the Wetlands Program. The SWQB Wetlands Program is solely federally funded. The program manages many projects with limited staff. Therefore the program must rely on project partners to provide match and must contract some of the project work out even though it is greater than 50% of project funds. However, SWQB will be involved in each task and will provide leadership maintaining project momentum and administering the grant. Approximately **63%** requested federal funds will be contracted to assist SWQB in conducting this project.

2.h. Description of Organization and Experience related to the Area of Interest SWQB has qualified and experienced scientific staff within the Watershed Protection Section and on the Wetlands and DOT Team, having applicable skills and scientific background to carry out this project. SWQB Wetlands Program is part of the Watershed Protection Section and personnel include the Program Coordinator (the Project Implementer), a Project Officer and the SWQB Outreach Coordinator and temporary scientific staff who help with the Wetlands Program.

2.i.-j. Partners and their Roles. See Project Tasks and Milestones. Collaboration with this broad array of partners offers extensive opportunities for leveraging third-party sources of funding.

2.k. Transfer of results/methods to other S/T/LG and the public. We will transfer project results and methods to other government entities and the public through community meetings in

Restoring and Protecting Wetlands in Cebolla Canyon Closed Basin
 FY08 EPA Region 06 Wetland Program Development Grants
 Clean Water Act Section 104(b)(3)

the area and field trips to project sites, presentations at meetings of the Rio Puerco Management Committee, meetings with elected officials, government agency staff, and other professional and decision makers in the area, statewide presentations for other watershed organizations, Soil & Water Conservation Districts, etc., and through displays at the El Malpais Visitors Center. In addition, publication of project accomplishments and lessons learned in regional media, on SWQB Wetlands Program website, in conference proceedings, in newsletters of the Rio Puerco Alliance and Albuquerque Wildlife Federation, etc. will inform the public. The Summer Academy and other workshops to train volunteers will also directly transfer information to those involved.

2.m. This is a closed basin so 404 permits will not be required. See Task 13 regarding monitoring.

3. Budget (see also, Project Tasks.)								
Task	Personnel	Travel	Other (Equipment)	Other (Supplies)	Other (Contractual)		Totals	
	Fed.	Fed.	Fed.	Fed.	Fed.	Match	Fed.	Match
1	\$21,200	\$0	\$0	\$1,350	\$ 8,750	\$ 8,400	\$31,300	\$ 8,400
2	\$ 3,800	\$ 702	\$0	\$0	\$ 8,411	\$0	\$12,913	\$0
3	\$ 0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$10,000	\$0	\$0	\$0	\$ 8,750	\$0	\$18,750	\$0
5	\$ 3,800	\$ 128	\$0	\$0	\$ 6,532	\$0	\$ 10,460	\$0
6	\$ 3,800	\$ 128	\$ 1,400	\$0	\$ 2,349	\$19,980	\$ 7,677	\$19,980
7	\$ 4,200	\$ 617	\$ 9,800	\$2,000	\$ 5,186	\$13,320	\$21,803	\$13,320
8	\$ 4,200	\$ 298	\$10,500	\$1,000	\$ 5,386	\$19,980	\$21,384	\$19,980
9	\$ 4,200	\$ 298	\$ 4,900	\$2,000	\$ 5,186	\$33,300	\$16,584	\$33,300
10	\$ 4,200	\$ 298	\$28,000	\$3,000	\$ 6,580	\$13,320	\$42,078	\$13,320
11	\$ 4,200	\$ 128	\$ 4,900	\$0	\$ 3,219	\$ 7,620	\$12,447	\$ 7,620
12	\$ 4,200	\$ 298	\$0	\$0	\$ 7,800	\$21,860	\$12,298	\$21,860
13	\$ 8,000	\$ 512	\$0	\$5,350	\$24,694	\$15,888	\$38,556	\$15,888
14	\$ 1,200	\$1500	\$0	\$0	\$0	\$0	\$ 2,700	\$0
Indirect	\$16,289						\$16,289	
Totals					\$92,843	\$153,668	\$265,239	\$153,668
	\$93,289	\$4,907	\$59,500	\$14,700	\$246,511		\$418,907	

4. Programmatic and Environmental Results Past Performance The SWQB Wetlands Program under Maryann McGraw has managed several projects similar to this one using funds from USEPA Region 6 Marine and Wetlands Section, including assistance agreements CD976731-01-0, CD966016-01-0, and CD976733-01-0. Arlene Gaines is the project officer for these agreements. These projects involve administration, wetland restoration, planning components, training components, wetland inventory by watershed, and working with contractors and the public, and each of these agreements will be completed in December 2008. The applicant reports the progress towards achieving expected environmental results of these projects through semi-annual reports. Reporting includes photo documentation of project implementation, final reports for subtask implementation, description of design methods, monitoring final reports, submittal of planning documents (Wetlands Action Plans), outreach activity and meeting reports, description of funds spent and remaining and match met and remaining, task by task description of progress, key personnel involved in each task, deliverables (samples of materials and documents developed) for each task, and explanation of any delays. Environmental outcomes will be summarized in the final reports to EPA.

Letters of Support include the Rio Puerco Management Committee, Bureau of Land Management, Albuquerque Wildlife Federation, Rio Puerco Alliance, New Mexico Wilderness Alliance

This project is for the continued development of the SWQB NM Wetlands Program and is not the result of any regulatory requirement or mitigation.