

ENVIRONMENTAL ASSESSMENT
Rio Cebolla
Geographical Priority Area
2002

INTRODUCTION

This environmental assessment (EA) is being prepared by the United States Department of Agriculture Natural Resources Conservation Service (NRCS) to comply with the requirements of the National Environmental Policy Act of 1969 and implementing regulations at 40 CFR Parts 1500-1508. The EA will assist NRCS in determining whether the proposed action will have a significant impact on the quality of the human environment and therefore requires preparation of an Environmental Impact Statement.

NEED FOR PROPOSED ACTION:

Purpose of and Need for Action: There is a need in the Cebolla Geographic Priority Area (GPA) to improve irrigation water use efficiency on farms, stabilize stream bank erosion, reduce soil erosion in the watershed's upper headwaters, and enhance forage diversity.

Background:

The Cebolla GPA encompasses approximately 250 square miles in Northern Rio Arriba County and nourishes the heart of an area rich in land use traditions. Active efforts to sustain local Hispanic heritage are very intact today where 40% of this GPA is privately owned.

The Rio Cebolla provides irrigation water for four Acequias, which in turn service all or parts of the local village. The four acequia's gravity irrigate approximately 1,000 acres of pasture and hay land. The traditional fields are long and narrow, averaging 10 to 50 acres each, with on farm irrigation efficiency seldom achieving 20%.

The loss in efficiency occurs because delivery systems (head gates) are dilapidated or in serious disrepair, and the slope of the land is too steep. The result is water cannot be applied in a timely & efficient manner.

Approximately 60% of the 96,000 acres identified of the Cebolla GPA represent rangeland. Livestock operations are cow-calf and stockers grazing this native rangeland. Livestock producers have historically resided locally and have employed continuous grazing on these areas for years. Subsequently streambank slough off, poor plant diversity and excessive soil erosion are very common.

Woodland and moderate to steep mountainous terrain, with elevations varying about 6000 feet to over 10,400 feet characterize another 40% of the watershed. Two percent of the watershed consists of lakes and streams, whereas 1000 acres of riparian area exist within the project area. As might be expected, the Cebolla Watershed provides some of the finest wildlife habitat in the Southern Rocky Mountains. With heavy mountain run off spring flooding can be frequent for the Cebolla GPA, which can change its course over night. Unusual high waters have severely

damaged concrete headgate structures, also causing the river to breach streambanks and fill the ditches with sediment and debris.

ALTERNATIVES:

Alternative 1. No Action

Alternative 2. Proposed Action: Use NRCS Environmental Quality Incentives Program (EQIP) authorities to assist farmers and ranchers within the watershed. Rangeland practices will be comprised of the following: Prescribed Grazing, Water Development, Fencing, Erosion Control, Brush Management, and Range Planting.

Forage Harvest Management on irrigated lands will be comprised of the following: Prescribed Grazing, Fencing, Pasture Planting/Pasture Management, Structures for Water Control, and Irrigation Water Management.

ALTERNATIVES CONSIDERED BUT NOT STUDIED IN DETAIL.

One alternative was to use NRCS EQIP authorities to assist producers within the Cebolla GPA to address wildlife depredation issues. While some pertinent issues were voiced during the Local work group meeting, these issues are beyond the scope of the NRCS activities.

Another alternative considered was to use EQIP authorities to address forest management issues within the GPA. These concerns are within State and Local Jurisdiction and not within the scope of the NRCS-EQIP authority.

SCOPING OF ISSUES FOR UNIQUE AND PROTECTED RESOURCES IN THE AREA:

NRCS conducted a review of the area to identify unique and protected resources and other special issues of concern. Members of the public had an opportunity to provide comments and identify concerns during the Local Work Group Meeting on November 16, 2000, of the Upper Chama Soil and Water Conservation District. No controversy about the need for action or the actions themselves was raised during this meeting, and no resources or issues of concern were identified during the meeting or by NRCS or other Federal, State and Tribal agencies except those discussed in this EA.

Threatened and Endangered Species and Species of Concern: A record search shows there are 7 species listed as endangered under the ESA in Rio Arriba County. Bald Eagles are the only endangered species that are known to live within the GPA lower reaches and the Rio Cebolla is known to provide nesting habitat for these birds. NRCS funding for the GPA will not affect any nesting sites within the GPA. Prior to any construction, consultation and coordination with the US Fish & Wildlife Service will be undertaken.

The county list of Threatened and Endangered Species shows several other species, but NRCS has determined that none of these will be affected by any alternatives or action considered in this EA.

These activities are being coordinated with NRCS; US Fish & Wildlife Service and New Mexico Environmental Department, Surface Water Bureau and any proposed activities will be coordinated to avoid bald eagle habitat.

Cultural Resources and Historic Properties: NRCS completed a search of cultural resource records, There are 201 previously recorded sites within the GPA. The sites are comprised of lithic scatters, aspen carvings, Acequia's. NRCS found the presence of ditches more than 150 years old in this GPA. Nonetheless, to ensure that unidentified sites are not adversely affected, all irrigation ditches/acequias will be treated as historical sites. Site specific field surveys will be done and consultation will be conducted with the New Mexico State Historic Preservation Officer (SHPO) before NRCS implements any ground disturbing activities. Native American tribes and pueblos have been invited to local meetings and have been consulted about the alternatives and actions. No concerns have been expressed.

Wetlands: Any projects where springs or other wetlands are affected will require minimal effect determinations or wetland determinations. Artificial wetlands from leaking ditches are exempt from the Food Security Act requirements but may require Corp of Engineers 404 permits.

IMPACTS AND EFFECTS OF ALTERNATIVES:

Table 2 compares the overall effects of each of the alternatives discussed below.

Alternative 1. No Action

Current practices will result in continued degradation of the resource base within the GPA. On farm irrigation efficiencies will continue to be minimal with excessive amounts of irrigation water being lost through distribution. (20 % irrigation efficiency with approximately 3050 ac. ft. used per year)

Stream bank degradation will continue to accelerate at a rate that maybe economically unfeasible to correct in the future. Grazing land conditions throughout the Watershed will continue to decline.

ALTERNATIVE 2. PROPOSED ACTION:

1000 irrigated acres within the GPA will be treated, which will improve irrigation efficiencies to 30% or 875 ac. ft. Saved from the current 20% irrigation Efficiencies with 3050 ac. ft. used. Improved delivery systems with 2000 feet of ditches and a cumulative of 5000 feet, both on Acequia and individual on farm systems. NRCS expects to treat only about 30% of this acreage, or 300 acres with conservation systems funded by EQIP under this alternative because of the limited amount of EQIP funding available.

If Alternative 2 were implemented, there would be impacts to soil quality and erosion, water quantity and quality, air quality, crop production, quality of life and economics. As indicated above, steps would be taken on a site-specific basis to ensure no cultural resources or historic or traditional properties are adversely affected.

Irrigated Land:

Irrigation Water Management:

Involves educating the producers in the adequate application of irrigation water and the required amounts. This will involve on site field visits with producers during the irrigation season. With improved irrigation water management come improved irrigation efficiencies. The objective is to achieve 30% irrigation efficiency that equates to water saving of approximately 875 ac.ft. and Less field erosion.

Land Smoothing:

On average moves 10 cubic yards per acre. Based on its experience in the area, and the amount of EQIP funding available, NRCS estimates that implementation of this alternative will result in about 100 acres of land smoothing, or a total of 1,000 cubic yards of soil and fill being moved under EQIP. Based on past trends and the needs of the area, NRCS estimates that cumulative land smoothing activities conducted through NRCS cost sharing, by landowners on their own and by other agencies will affect an estimated 500 acres in the GPA.

Land smoothing will provide smoother slopes/ grades on the field so that irrigation water will flow adequately to allow improved irrigation efficiencies and reduced field erosion.

Land smoothing and construction activities would impact soils and air quality on a short-term basis. The dust generated during the construction would only affect air quality temporarily.

Structures for Water Control/Field ditches:

Installation of 25 structures for water control (cumulative 40) and field ditches 2000 feet (cumulative 5000 feet) would improve water delivery from the main systems to on farm delivery. Irrigation efficiencies would be improved to 30% on surface systems. Improved field ditches would convey water that would otherwise be lost through seepage. All existing conveyance systems will be treated as historic sites and consultations with SHPO will be necessary. During the installation of water control structure and field ditches there will be minimal soil disturbance on the disturbed site. Sedimentation entering the ditch will be minimized because installation of structures or ditches will be done during periods of low flows. Minimal sediment will be discharged into the creek.

Forage Harvest Management will be accomplished using:

- Pasture and hayland planting of native and non-native vegetative species.
- Chicory control will be implemented using mechanical and chemical practices.

Pasture management will be accomplished using:

- Prescribed grazing practices.

Impacts resulting from the Pest Management practices will be minimal because chemicals will be applied per label instructions, Soil disturbance will be minimized.

Rangeland: If alternative 2 is used, there would be impacts to soil quality and erosion, water quantity and quality with improved range condition and diversified plant communities within the GPA. This can be accomplished by implementing following practices:

Prescribed Grazing

Water development

Fencing

Erosion control
Brush management
Range planting

Prescribed grazing will enhance live stock distribution, forage utilization that will impact plant health and vigor along with plant diversity. Acreage being addressed with this practice is 10,000 acres of Rangeland (cumulative 60,000 acres).

Fencing within the GPA will impact on grazing patterns and exclusion of livestock in riparian corridors during their most sensitive growing periods. Approximately 20,000 feet of fence (cumulative 80,000 feet) will be constructed within the GPA. Minimal soil disturbance will be realized with fencing construction from hand installation and preparing fence lines mechanically. Fence locations will be placed on upland sites avoiding the disturbance of riparian vegetation. Fencing considerations will address movement of wildlife through fenced pastures using modified fencing standards that are sensitive to wild life movement.

Erosion Control: Practices will be installed on stream banks, gullies, head cuts and any critically eroding area within the GPA.

Grade stabilization structures, such as rock, and brush dams, gabion basket, pole plantings and willow plantings will be used, NRCS EQIP funding will assist with 10% or \$ 10,000.00 on these measures. (cumulative \$20,000.00) With involvement from NRCS, State and Local funding and private owner funding potential soil saved through bank stabilization would be 12,000 tons. These tons/ac of soil saved are primarily situated within the GPA.

Brush Management will be applied on the lower elevations of the GPA to reduce Big sagebrush and Rubber Rabbit Brush. Brush management will reduce soil erosion and promote plant health, vigor, and diversity. Types of practices to be used would be:

Plowing, windrowing, EPA approved chemical application, prescribed burning. Approximately 6500 acres will be treated along the valley bottoms of the corridors. Air quality will be affected during construction of practice. Water utilization by native grasses will be enhancing with the removal of brush, increased plant diversity will be realized.

Approximately 2500 acres will be treated with NRCS EQIP funding. With involvement from NRCS, State and local and private owner funding, potential total acres that can be treated would be 4000 acres. Tons of soil saved through brush management would be 5T/ac/yr. Air quality would be adversely affected by prescribed methods; Water quality will be addresses by the used of buffer strips along the treatment areas where chemical application is used. All chemical applications will be applied according to label instructions, which will ensure the environment is protected.

Water Development will be accomplished within the GPA to improve livestock distribution. Practices to be implemented will include spring development and live stock pit/pond development.

Approximately 5 spring development practices will be installed (cumulative 20 spring developments), 5 pit/ponds will be constructed within the GPA (cumulative 10 pit/ponds). NRCS EQIP funding will be approximately \$20,000. Impacts on air and water quality will occur

during construction. Grazing distribution will be enhanced with the installation of these water development practices. Wetland areas will require minimal effects determinations and possibly 404 permits.

Range Planting will be accomplished using native vegetative species within the GPA. Approximately 500 acres will be treated (cumulative 1000 acres). NRCS EQIP funding will provide approximately \$ 40,000.00

Range plant diversity will be improved by drilling seed into the soil. During installation of range planting practice air and water quality will be affected. Approximately 3T/ac./yr. of soil saved will be realized with range planting due to less exposed soil and increased cover.

TABLE 1, ALTERNATIVE 2.

	Treatment with NRCS EQIP Assistance Alone	Treatment by Landowner Initiative, Other Agency Assistance and NRCS Cumulatively
Land Smoothing	100 acres	500 acres
Structure for Water Control	25 ea.	40 ea.
Field Ditches	2000 feet	5,000 linear feet
Irrigation Water Management	875 acre feet saved	1750 acre feet saved
Prescribed Grazing	10,000 acres	60,000 acres
Fencing	20,000 feet	80,000 feet
Erosion control	1.5 T/ac./yr.	0.5T/ac./yr.
Brush Management	2500 acres	4000acres
Water Development	10 structures	60 structures
Range Planting	500 acres	1000 acres
Pasture/Hayland Management	500 acres	2000 acres

No prime farmland is involved in this GPA. Unique farmland will be maintained and improved to sustain continued use.

Other effects were considered in the discussions, but the effects in Table 2 relate to the needs for proposed action and are the only ones used for comparison to make the final decision.

Comparison of Alternatives.

Table 2.

Comparison of Alternatives Effects on Needs EQIP Funds					
Alternatives	Irrigation Efficiency (%)	Water Supply without improvement (ac ft. used)	Water Supply with Improvement (ac. Ft. saved)	Rangeland Improvement (tons of soil saved)	Installation Costs
1. No action - Irrigation - Rangeland	20%	3,050	0	0	\$75,000.00
2. Improved - Irrigation Systems - Rangeland Improvements	30% 10,000 ac	2,175	875	1.5 ton/ac. Greater than T	\$60,000.00

PERSONS AND AGENCIES CONSULTED:

Upper Chama Soil and Water Conservation District Board and attendees at November 16,2000 meeting. See minutes, attached as Appendix A.

Conservation Officer, NM Department of Game and Fish Byron Gleagle- November 2000
Chama, NM

US Fish and Wildlife Service- November 2000
Albuquerque, NM

NM State Historic Preservation Office- November 2000
Santa Fe, NM

REFERENCES:

- NRCS Field Office Technical Guide, Section II, USLE.
- NRCS Field Office Technical Guide, Section III, Quality Criteria.
- NRCS Field Office Technical Guide, Section IV, Standards and Specifications.
- US Fish & Wildlife Service, Endangered Species List for Rio Arriba County
- NMED, Surface Water Quality Bureau, Santa Fe, NM
- NMED, Ground Water Quality Bureau, Santa Fe, NM
- NM Extension Service, Alcalde, NM
- USDA-Carson National Forest, Canjilon District
- NM State Forestry, Los Ojos, NM
- Rio Arriba County, Commission
- BLM Taos District, Taos, NM

**Finding of No Significant Impact
For the Implementation of EQIP
in the Rio Cebolla GPA**

Introduction

The Rio Cebolla GPA is a federally assisted action under the Environmental Quality Incentives Program (EQIP), with assistance from the Natural Resources Conservation Service (NRCS). An environmental assessment was undertaken in connection with the development of this proposed action. This assessment was conducted in consultation with Local, State and Federal agencies. Data developed during the assessment are available, upon request, from:

U. S. Department of Agriculture
Natural Resources conservation Service
Chama Field Office
Chama, New Mexico

The Environmental Assessment (EA) is attached for reference.

DETERMINATION OF SIGNIFICANCE

Table 1. Determination of Significance of Proposed Action.

<i>CONTEXT</i>	<i>INTENSITY</i>	<i>REASONS FOR NON-SIGNIFICANCE</i>
Water saved – 10 % of total water used by agriculture(875 Ac.Ft.) is saved.	Permanent water savings each year.	Water saved will only be noticeable in dry years. Annual Precipitation is beyond the control of NRCS.
Rangeland (1.5 tons/acre saved	Soil savings will be maintained throughout the life of the practices	Soil loss per acre remains at greater than T *
Cumulative impacts – 2% of agricultural area will be affected.	Increased irrigation efficiency and soil erosion reductions on treated acres will continue for life of practices and management is permanent.	Cumulative actions by others are less than 1% of affected area.
* T value = allowable soil loss in Tons/ac/yr		

Other considerations related to context and intensity is discussed as follows: Farms are similar through out the area compared to other irrigated farms in the state. No issues or concerns have been expressed at any public meetings, so controversy is small. Results of actions are known from past experience in the area, thus uncertainty and risk is low. Precedent for future action will be very limited because nearly all farmers interested in this proposal are going to participate in the first round. Ditches in the GPA are more than 150 years old and will require consultation

and coordination between the NM State Historic Preservation Office. No national, state, local or tribal laws will be violated by this action.

Finding of No Significant Impact:

This finding is based on the evidence presented in the environmental assessment of impacts and alternatives for this geographic priority area. Based on the assessment and the reasons given in table two (2), I find that alternative two, analyzed in the EA, will have no significant impact on the quality of the human environment. Therefore, an environmental impact statement will not be prepared.



ROSENDO TREVINO
State Conservationist

December 10, 2001

Date