

**ENVIRONMENTAL ASSESSMENT**  
**EQIP – SANTA CLARA IRRIGATED LANDS GEOGRAPHIC 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 on the Santa Clara Irrigated Lands Geographic Priority Area (GPA) to improve water use efficiency on the delivery system and on farm. The purpose of meeting these needs is to conserve the existing limited water supply and allow any excess to remain in the stream for other downstream uses, such as riparian, and stream fisheries, reduce soil erosion on irrigated land, and maintain traditional farming on pueblo lands.

**Background:**

The Santa Clara Pueblo is characterized by small farms of mainly pasture and hayland, and small vegetable plots. The Santa Clara ditch irrigates 210 acres of irrigated lands, consisting of small fields ranging in size from 1 to 10 acres. These small farms are planted for traditional reasons as much as for economic reasons.

The Santa Clara Pueblo Irrigated Lands are dependent on water supply from Santa Clara Creek; the water is diverted into a concrete joint pipeline that was installed in the 1930's. The pipeline delivery system carries water for a distance of almost 4 miles. The pipeline leaks at various points along the way and has burst at several places in the last 10 years.

Inefficient irrigation systems, and poor quality pastures, hay fields, and crop fields characterize the farms.

**ALTERNATIVES:**

Alternative 1, No Action

Alternative 2. Proposed Action: Use NRCS Environmental Quality Incentives Program (EQIP) authorities to assist Santa Clara Pueblo to replace the existing delivery system, and assist farmers to apply on farm conservation systems that include installation of irrigation pipelines, land leveling, land smoothing, irrigation systems surface, irrigation water management, contour field ditch, pasture & hayland planting, pasture & hayland management, conservation cropping sequence, crop residue use, wildlife habitat management. Every individual plan may not include all practices listed although a combination of practices will be common.

## **ALTERNATIVE CONSIDERED BUT NOT STUDIED IN DETAIL.**

One alternative was to use NRCS EQIP authorities to install a high-pressure pipeline from the diversion point in the stream to all existing farms and utilize the pressure to irrigate solely with irrigation sprinklers. This alternative was dropped from consideration due to costs, logistics, and engineering considerations.

## **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 issues of concern. Members of the public had an opportunity to provide comments and identify concerns during a meeting on October 12, 2000 of the East Rio Arriba Soil and Water Conservation District, and a meeting on October 12, 2000 of the Local Work Group responsible for recommending proposed EQIP actions. No controversy about the need for action or the actions themselves was raised during these meetings, and no resources or issues of concern were identified during the meetings by any Federal, State agencies, or Tribal Governments.

**Threatened and Endangered Species and Species of Concern:** A record search of Rio Arriba County lists several species, but NRCS has determined that none of these will be affected by any alternatives or action considered in this EA.

Willow Flycatcher habitat can be found along the Santa Clara Creek, no actions or activities will impact this potential habitat. Mexican spotted owl habitat can be found in the upper reaches of Santa Clara canyon at higher elevations, no action or activities will impact this potential habitat.

**Cultural Resources and Historic Properties:** Cultural sites are present within the GPA. NRCS will follow the guidelines for cultural resource clearances. NRCS will complete a search of the cultural resource records when practice locations are identified. During the planning process NRCS will consult with the Santa Clara Tribe on any and all alternatives proposed, if the tribe has any concerns about traditional cultural properties, these alternatives will be eliminated. A survey will be completed and all sites identified will be avoided.

**Wetlands:** There are artificial wetlands found within the GPA that are caused by seepage from leaking concrete ditches. These artificial wetlands will not be impacted by any practices and or systems implemented by any of the alternatives considered in this EA.

## **IMPACTS AND EFFECTS OF ALTERNATIVES:**

Table 1. compares the overall effects of each of the alternatives discussed below.

### **Alternative 1. No Action**

Santa Clara Pueblo will continue to deliver water in the existing concrete pipeline and continue to repair breaks in the line as they occur. The pipeline will continue to leak at various joints. NRCS estimates that approximately 10% of the water will be lost to leakage and breaks. Individual irrigators will continue to irrigate with unimproved systems and the limited water will continue to be a problem. Irrigation induced erosion will continue due to poor ground cover and unimproved plant species. Traditional pueblo farming will continue to decline.

## Alternative 2 Proposed Action

There are 210 acres of irrigated lands served by the existing concrete pipeline that will benefit directly from the more efficient replacement pipeline. Individual farms in the GPA area will have the potential to benefit from the application of conservation systems that will improve the efficiency of their irrigation system, and provide for better water management and plant suitability. NRCS expects to treat only 20% of this acreage with conservation systems funded by EQIP under this alternative because of the limited amount of funding and staff availability. Farms on the Santa Clara Pueblo are small and average 3 to 5 acres in size. The NRCS estimates that approximately 15 to 20 individuals will be assisted.

This alternative includes the installation of 4 miles of delivery mainline that provides for the conveyance of irrigation water from Santa Clara Creek to the Pueblo fields. The trench will be excavated to a depth of 48 inches to provide for laying of the pipe. The route is along side the Santa Clara Canyon road, which is graded frequently. A few individual pinon and one seed juniper trees will need to be removed next to the road to allow for excavation of the trench. The disturbance area will amount to approximately 4 acres, and disturbance will be temporary construction dust and noise. The effect will be an estimated 10% increase in the amount of water delivered. The Pueblo will be able to manage the flow of irrigation water more efficiently. The potential water saving could be available downstream for other uses such as fisheries and riparian habitat.

This alternative includes on farm irrigation pipelines to provide for more efficient delivery and flow of irrigation water. Increases in irrigation efficiency of 10 to 20 percent can be realized through an improved irrigation system and proper irrigation water management. A trench will be excavated to lay the pipe 30 inches below ground. Alfalfa valves will be located at selected points to release the flow of water for optimum efficiency. The disturbed area will amount to approximately 1 tenth of an acre per farm on previously cultivated fields, Construction dust and noise will be temporary. .

Fields enrolled in the EQIP program will be leveled or smoothed to provide for a uniform grade to allow for the flow of irrigation water to meet the crop needs in a more efficient manner. Soil erosion caused by irrigation water will be reduced. Leveling and smoothing is accomplished by scraping high spots and filling low spots in the field to adjust the grade. The disturbed area will depend on the size of the field and disturbance will be temporary construction dust and noise.

Irrigation Water Management is determining and controlling the rate, amount, and timing of irrigation water in a planned and efficient manner. This practice in conjunction with the structural irrigation practices mentioned above can result in 10 to 20 % increases in irrigation efficiency. This is a management practice and no physical disturbance will take place.

Contour field ditches are ditches designed for steep slopes where no other method of irrigation is feasible. This practice will be available but may not be utilized to any extent in the GPA. The ditch is installed by farm equipment and disturbance is minimal.

Pasture and Hayland Planting establishes native or introduced forage species to provide increased forage production, improve ground cover, improve soil tilth, reduce erosion, and

improve or maintain livestock nutrition and or health. This practice in conjunction with Forage Harvest Management and Prescribed grazing which controls the harvest of vegetation by mechanical means or with grazing animals can result in a reduction of soil erosion of .1 to .5 tons per acre

Conservation Cropping Rotation provides for a reoccurring sequence of crops that reduce sheet and rill erosion, wind erosion, maintain or improve organic matter, manage deficient or excess plant nutrients, manage plant pests. This practice is used in conjunction with Crop Residue Use, which manages the amount, and distribution of crop and other residues on the soil surface during part of the year, while growing crops in a clean tilled seedbed. This practice reduces sheet and rill erosion, reduces soil erosion from wind, and provides food and cover for wildlife. Both practices used together can result in a reduction of soil erosion of .1 to 1 ton per acre.

Wildlife Habitat Management will include maintaining existing areas that are used by doves and songbirds for food and cover. These areas consist of natural tree rows, dead cottonwood trees,, vegetation along fencerows , odd areas around fields that contain annual and perennial vegetation.

The practices mentioned above are practices that can be part of a conservation system, and a combination of these practices will be used in individual practices. Not all practices will be included in any one plan.

The NRCS has considered the cumulative effects of other entities that are doing similar work in the areas of irrigation efficiencies, irrigation water management, plant suitability, soil erosion, crop rotations and crop residue. To our knowledge and our contacts at the local level there are no other entities that are currently addressing these issues or are planning to, in this area.

#### Comparison of Alternatives

Table 1

<i>Comparison of Alternatives Effects on Needs</i>		
<b>NEEDS</b>	<b>ALTERNATIVE #1 NO ACTION</b>	<b>ALTERNATIVE #2 PROPOSED ACTION</b>
<b>Irrigation Efficiency</b>	20%	40%
<b>Water Supply (Ac. Ft)</b>	557 Ac.Ft. Used	382 Ac.Ft. Used
<b>Soil Erosion (Tons/Ac.)</b>	244 Ton/Ac./Yr.	210 Tons/Ac./Yr.
<b>Plant Suitability</b>	20% ground cover	80% ground cover
<b>Cultural Considerations</b>	Decline in traditional Farming on Pueblo	Increase in traditional farming
<b>Wildlife Habitat</b>	Decline in habitat for song birds	Maintenance of habitat for song birds

#### PERSONS AND AGENCIES CONSULTED:

East Rio Arriba Soil and Water Conservation District

Santa Clara Pueblo

Bureau of Indian Affairs, Northern Pueblos Agency

Local Work group and attendees of October 12, 2000 meeting where this proposal was discussed and formulated. See list of participants, attached as Appendix A.

**REFERENCES:**

NRCS Field Office Technical Guide, Section III, Quality.

NRCS Field Office Technical Guide, Section IV, Standards and Specifications.

US Fish and Wildlife Service Endangered Species Program

New Mexico Game & Fish Department Biological Information System of New Mexico

**FINDING OF NO SIGNIFICANT IMPACT  
for the Implementation of EQIP  
Santa Clara Pueblo Irrigated Lands  
Geographic Priority Area**

Introduction

The Santa Clara Irrigated Lands GPA is a federally assisted action under the Environmental Quality Incentives Programs (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 development during the assessment are available, upon request, from:

U.S. Department of Agriculture  
Natural Resources Conservation Service  
Española Field Office  
Española New Mexico

The Environmental Assessment (EA) is attached for reference.

DETERMINATION OF SIGNIFICANCE

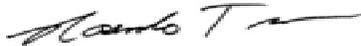
Table 1. Determination of Significance of Proposed Action.

CONTEXT	INTENSITY	REASONS FOR NON SIGNIFICANCE
Water Supply/Saved 1% of water saved (175 Ac.Ft.)	Permanent water savings each year	The water savings is only 2% of the total water used for irrigation on Santa Clara Pueblo
Erosion- 0.1 – 1.0 tons/ac./yr. reduction in soil erosion	Permanent soil savings each year.	The project action does not reduce soil loss to tolerance levels in most cases.
Plant Suitability – ground cover increased to 80 % .	2 % of acreage in the GPA will be treated. (42 acres).	Plant cover will not increase on the majority irrigated lands in the GPA
Maintain Pueblo Cultural/Traditional values.	15 to 20 Pueblo Farmers benefited	150 to 200 Pueblo farmers will not be benefited.
Two acres of Wildlife Habitat is maintained.	Wildlife habitat maintained permanently.	Wildlife habitat will be increased or maintained on less than 1% of total farmed land on the Pueblo

Other considerations related to context and intensity are discussed as follows: Farms on Santa Clara Pueblo are similar to other farms in the Upper Rio Grande Valley and are not unique compared to other irrigated farms in northern New Mexico. No issues or concerns have been expressed at any public meetings, so controversy is non-existent at this point. 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 due to interest and funding limitations. There will be no impact to National Register of Historic Places or cultural resources, and the State Historic Preservation Officer has concurred. A determination of no effect has been made to endangered species listed in the county, therefore no consultation is necessary. 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 one, I find that the alternatives 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.



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**ROSENDO TREVINO**  
State Conservationist

*December 6, 2001*

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Date