

**ENVIRONMENTAL ASSESSMENT
EQIP – YELLOW DOG CANYON GPA
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 regulation at 40CFR 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. The Yellow Dog Canyon Geographic Priority Area (GPA) proposal was submitted to the State Technical Committee for consideration for funding beginning in FY 2002. This GPA proposal has been subsequently approved for funding.

NEED FOR PROPOSED ACTION:

Purpose and Need for Action: The purpose for action in the Yellow Dog Canyon GPA is to improve and restore the health of the watershed in order to reduce erosion rates, improve range condition and trend and ensure an adequate supply of high quality water. This action is needed in order to sustain the agricultural economic base of the area, enhance recreational opportunities and enrich wildlife habitat.

Background:

The Yellow Dog Canyon GPA encompasses approximately 160,000 acres and is located in Eastern Socorro County. It is bordered by Mesa Well Canyon on the North, Chupadera Mesa on the East, White Sands Missile Range on the South and the range line between R4E and R5E on the West. The entire GPA has been classified as grazing land. Land ownership is fairly equally divided between state (57,600 acres), deeded (56,320 acres) and federal lands (46,080 acres). There are no National Forests in close proximity to the GPA.

Terrain of the GPA is characterized by long slopes, fan terraces, knolls and ridges that are bisected by drainages flowing in a westerly direction of Chupadera Mesa into the North Jornada Central Closed Basin. Elevations range from 5200 feet to more than 6500 feet along the ridge of Chupadera Mesa. Precipitation ranges from 10 to 14 inches. The soils are mesic and vary from deep, well-drained soils on gently sloping landscapes to shallow, stony soils on steep slopes. Soil loss tolerances (T values) range from 5 on the deep well drained soils to 1 on the steep shallow soils. Temperature ranges from 0 in the winter to more than 95 degrees in the summer. Black grama, blue grama and galleta grass are the main species present on the uplands. Alkali sacaton, blue grama and western wheatgrass are present in the swales and giant sacaton may dominate the bottomlands. The sandy and deep sand sites in the lower reaches of the GPA have become infested with sand sage in many areas. One seed juniper has encroached on to many of the grassland sites in the upper reaches. One seed juniper density may vary from light to extra heavy.

Brush encroachment is the major resource problem on lands within this GPA. This has led to a decrease in vegetative diversity and herbaceous ground cover, which in turn has increased erosion and sedimentation and has resulted in subsequent water quantity and quality problems. The entire watershed is at risk of degradation of the ecosystem.

ALTERNATIVES:

Alternative 1. No Action

Alternative 2. Proposed Action: Use NRCS Environmental Quality Incentives Program (EQIP) authorities to assist with the development of a conservation system on grazing lands within the Yellow Dog Canyon GPA. The following practices may be applied singly or in any combination thereof:

1. Brush management
2. Livestock water pipeline
3. Livestock water storage facility
4. Livestock well
5. Fencing
6. Prescribed Grazing
7. Wildlife Upland Habitat Management

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

Cultural Resources and Historic Properties: All areas where practices that are considered undertakings under the programmatic agreement between the New Mexico State Historic Preservation Officer (SHPO) and NRCS, will be surveyed for cultural resources. In addition to this onsite survey, a records check will be completed by the State Cultural Resources Specialist NRCS. Any planned practice considered an undertaking will have a section 106 consultation completed before implementation.

Threatened and Endangered Species: A records check of US Fish and Wildlife Service (USFWS) and NM Department of Game and Fish (NMDG&F) databases has been made in order to identify any Endangered Species which may exist within the GPA. There are fifteen species shown on the federal Endangered Species List for Socorro County. None of these species will be affected by the proposed actions, as determined by NRCS, which are confined to existing active grazing lands within the GPA. If any of the endangered species identified could be impacted by application of practices within this GPA, consultation with the US Fish and Wildlife Service (USFWS) will be initiated before the implementation of the practice.

Wetlands: Section 404 permits will be obtained for any practice which impacts natural wetlands that come under the jurisdiction of the Clean Water Act (33 USC

1344) and Federal Regulations 33 CFR 323.4) and the wetland provisions of the 1985 Food Security Act as amended.

IMPACTS AND EFFECTS OF ALTERNATIVES:

Alternative 1. No Action

Brush, primarily one seed juniper and sand sage, will continue to spread onto native grasslands and increase in density in areas which have already been invaded if no action is taken. This will result in increased erosion rates, reduced productivity and an overall deterioration of the watershed. Wildlife values and recreational opportunities will also be diminished.

Alternative 2. Proposed Action

The effects of the practices listed below are documented in the NRCS FOTG Section V.

1. Brush Management – Removal, reduction, or manipulation of non-herbaceous plants.

a. **Mechanical.** This method will only apply to One Seed Juniper and Pinyon. The need for control will be determined by degree of infestation and criteria as outlined in Section IV of the Field Office Technical Guide (FOTG) and the National Range and Pasture Handbook (NRPH). Short-term impacts include: Soil compaction and temporary erosion concerns created by use of heavy equipment. Water quality impacts due to the short term increase in water based erosion. Air quality impacted by dust and exhaust generated by heavy equipment use during the brush removal process. Additionally air quality can be impacted when wind rows or piles are burned. Herbaceous vegetation may be impacted during the brush removal process. The noise and dust generated by heavy equipment could have an impact on people within the vicinity of the project.

b. **Chemical.** This method is applicable to all species, which may be controlled within the GPA. The need for control, as well as recommended chemical and application methods will be determined by degree of infestation and criteria as outlined in Section IV of the FOTG. Short-term impacts may include soil compaction if ground-spraying equipment is used. Non target species may be impacted by application of approved chemicals. Chemical brush management will not be applied if it is determined that the density of Non Target Species is above a level that is critical to the ecological health of the plant community. Any chemical application will be applied with strict adherence to the label.

Long-term benefits / effects of brush control include improved rangeland similarity index (the percentage of a specific vegetation state plant community that is present on the site) and trend (a rating of the direction of change in an existing plant community relative to the historic climax plant community for the ecological site), increased herbaceous cover and biodiversity, decreased runoff

and sedimentation, and reduced erosion. RUSLE and WEQ indicate that erosion rates may be reduced from many times T (the T factor is the soil loss tolerance defined as the maximum amount of erosion at which the quality of a soil as a medium for plant growth can be maintained) to T over time. Refer to NRCS Tech Note 27 and 28 and computations made during planning process.

Other effects of brush management include benefits to wildlife as documented by NRCS Wildlife Habitat Evaluation Guides, which are on file in the Socorro NRCS Field Office.

2. Pipeline - Pipeline installed for conveying water for livestock or for recreation. The diameter will vary from 1 to 2 inches and materials will include polyvinyl chloride (PVC) and polyethylene (PE) pipe. The methods of installation will include ripping, trenching, or V-trench (Road Grader). Any equipment used for installation must be capable of installing pipe a minimum of 15 inches below ground surface. In areas where steep terrain or shallow soils prevent burying, the pipe may be laid/installed above ground. Reference Sect. IV FOTG. Short-term effects may include increased water erosion in disturbed area and soil compaction from heavy equipment. A temporary increase in sedimentation may effect water quality. Air quality may be impacted by dust and exhaust generated by heavy equipment use during the installation process. Temporary removal of vegetation will occur in areas disturbed by pipeline installation. Noise of installation may disturb wildlife in the vicinity. Area disturbed may be aesthetically displeasing to the public until natural revegetation has taken place.

3. Trough or Tank – A trough or tank, with needed devices for water control and wastewater disposal, will be installed to provide drinking water for livestock and/or wildlife. Tanks and troughs will vary in size, construction and material. They will be permanently set and installed in locations that facilitate livestock distribution. Materials will include steel, fiberglass and rubber tires. Sizes will vary from 400 to more than 30,000 gallons. Short-term effects may include: a temporary increase in soil erosion during site preparation (amount of erosion caused by this process will not be significant and will not impair air or water quality). Vegetation may be destroyed in immediate area of site preparation. Noise generated during installation may disturb wildlife in the vicinity.

4. Well – A well constructed or improved to provide water for livestock, wildlife, or recreation. Location will be determined by the need for water and known availability of ground water. Diameter of well depends on type of equipment used for drilling and planned pumping method. Depth of well will vary from 50 to over 500 feet and type of casing used will be plastic or steel. In general, volumes of water produced will vary from 2 gallons per minute to 20 gallons per minute. All proposed wells will have a permit approved from the State Engineers office before drilling. Short-term effects could include the following. Minor land disturbance resulting in a temporary increase in soil erosion. The noise generated by drilling equipment may disturb wildlife.

Long term effects of the Livestock water developments listed above in items 2,3 and 4: Facilitates improved grazing management (See Sect. IV FOTG–Prescribed Grazing) and enhances wildlife habitat (see NRCS Wildlife Habitat Evaluation Guides). Long-term effects of livestock water systems may also include improved rangeland similarity index and trend, increased herbaceous cover and biodiversity, decreased runoff and sedimentation, and reduced erosion. RUSLE and WEQ indicate that erosion rates will be reduced from rates in excess of T to T over time. Refer to NRCS Tech Note 33 and 34, FOTG Sect. IV, National Range and Pasture Handbook (NRPH), and computations made during planning process. Other long-term effect could include sacrifice zones around the watering facility and the structures installed may be aesthetically displeasing to some individuals.

5. Fences – A constructed barrier to livestock, wildlife or people. Fences will vary in design, length, and location according to goals and objectives of the grazing management system (Sect IV FOTG-Prescribed Grazing). Types of fences constructed will either be a 4-strand barbed wire or a 2 strand smooth wire electric fence. Short-term effects have little effect on resources unless a right of way is cleared by equipment prior to fence construction. For fences requiring a mechanically cleared right away soil erosion rates may be increased within the area of disturbance. An increase in sedimentation may take place that may impair water quality. Dust and exhaust produced from mechanical clearing may have a short-term negative effect on air quality. Some loss of vegetation will occur within the right of way. Noise generated from equipment and increased human activity may disturb wildlife in the vicinity. Fencing will facilitate improved grazing management (SECT IV FOTG – Prescribed Grazing). Fences will be constructed to NRCS standards and specifications in order to reduce impact on movement and migration of wildlife. Long term effects of fencing may include improved rangeland similarity index and trend, increase herbaceous cover and biodiversity, decreased runoff and sedimentation, and reduced erosion. RUSLE and WEQ indicate that erosion rates will be reduced from rates in excess of T to T over time. Refer to NRCS Tech Note 33 and 34, FOTG Sect. IV, National Range and Pasture Handbook (NRPH), and computations made during planning process. Fences may be aesthetically displeasing to some individuals.

1. Prescribed Grazing – The controlled harvest of vegetation with grazing or browsing animals managed with the intent to achieve a specified objective.

Short term effects - It may be necessary to install practices 2 through 5 listed above, or any combination thereof, in order to implement Prescribed Grazing. Short-term effects of these practices are detailed under items 2 through 6. A time period may be required for training the landowner/manager depending on the complexity of the grazing system.

Long term effects – Prescribed Grazing can reduce sheet and rill erosion. Reduced gully erosion and lessened stream bank degradation may occur. Other possible effects are increased herbaceous ground cover and improved range trend and similarity index. Decreased turbidity and increased low flows of streams may occur.

2. Wildlife Upland Habitat Management – Creating, maintaining, or enhancing areas for

food and cover for upland wildlife such as elk, mule deer, pronghorn antelope, Gambel quail, scaled quail and morning dove. This practice may require the installation of one or more of the practices listed in 1 through 6 above for implementation. Short-term effects of practices installed to implement this practice are detailed under items 1 through 6. No other short-term effects have been identified. Long term effects – Reduced runoff and flooding, reduced sheet and rill erosion, and reduced sedimentation and turbidity may occur. A reduction in gully erosion and stream bank degradation may also result from this practice.

Table 1						
<i>Comparison of Alternatives</i>						
Effects on Needs						
Alternatives	Similarity Index and Trend	Tons Soil Saved	Economic Impact	Wildlife & Recreation	Watershed & Hydrologic Cycle Attributes	Installation Costs in dollars
Alternative 1: No Action	<50 similarity index with downward trend	0 tons saved	Reduced carrying capacity	Wildlife Habitat Degrading, WHEG's <.5, Limited recreational opportunity	Evaluation Matrix primarily indicates categories I,II and III	\$ 23,500.00
Alternative 2: Proposed Action	>50 similarity index with upward trend on 50% of land in GPA	300,000 tons soil saved	Improved carrying capacity, more pounds beef produced	Wildlife Habitat Improving, WHEG's >.5, recreational Opportunity improving	Evaluation Matrix primarily indicates categories III, IV and V	\$470,000.00

Cumulative Effects

TABLE 2	ALTERNATIVE 1	ALTERNATIVE 2
Conservation Treatment	Treatment by Landowner Initiative and SWCD Alone	Treatment with Landowner, SWCD, others and NRCS EQIP Assistance Cumulatively
Brush Management	0 Acres	5000 Acres
Livestock Water Pipeline	5000 Feet	25,000 Feet
Livestock Water Storage Facility	2 no.	10 no.
Livestock Well	1 no.	3 no.
Fencing	5000 ft	20,000 Feet
Prescribed Grazing	15,000 acres	60,000 acres
Upland Wildlife Habitat Management	1000 acres	60,000 acres

REFERENCES:

State of New Mexico 303(d) List for Assessed Stream and River Reaches.

US Fish and Wildlife Service, Endangered Species County List –web site:
<http://ifw2es.fws.gov/EndangeredSpecies/lists/ListSpecies.cfm>

New Mexico Game and Fish. Biota Information System of New Mexico BISON. 24 pp.
 Jan 2000

US Department of Agriculture, Natural Resources Conservation Service Field Office
 Technical Guide, Section V, Conservation Effects.

US Department of Agriculture, Natural Resources Conservation Service Field Office
 Technical Guide, Section IV, Standards and Specifications.

US Department of Agriculture, Natural Resources Conservation Service National Range
 and Pasture Handbook

US Department of Agriculture, Natural Resources Conservation Service Agronomy
 Technical Note 28. Water Erosion-Universal Soil Loss Equation.
 April 1984.

US Department of Agriculture, Natural Resources Conservation Service Agronomy
 Technical Note 27. ECS-Revision of the WEQ Modified
 “T” Values Table. October 1995.

Socorro County Soil Survey
 Soil Loss Tolerances (T)
 Soil Mapping Unit Descriptions

USDA, NRCS Wildlife Habitat Evaluation Guides – Mule deer, Gambles Quail, scaled
 quail, antelope, morning dove

Persons and Agencies Consulted:

Attendees of Local Work Group Meeting of May 08, 2001 where this proposal was discussed and formulated. See list of participants of this meetings attached as Appendix A.

Individuals reviewing and commenting on proposal prior to submission. See list attached as appendix B.

**Finding of No Significant Impact
For the Implementation of EQIP
In the Yellow Dog Canyon GPA**

INTRODUCTION

The Yellow Dog Canyon 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
Socorro Field Office
103 Neel Avenue
Socorro, New Mexico 87801

The Environmental Assessment (EA) is attached for reference.

DETERMINATION OF SIGNIFICANCE

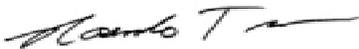
Table 1. Determination of Significance of Proposed Action.

CONTEXT	INTENSITY	REASONS FOR NON SIGNIFICANCE
Improved range trend and similarity index - 30,000 acres will benefit. This represents < 20% of land in GPA.	Permanent improvement on lower condition rangeland	More than 80% of rangeland in GPA will remain unchanged.
Soil Erosion – Reduced erosion on 30,000 acres.	Permanent reduction in erosion.	Total estimated erosion within GPA will essentially remain unchanged.
Economic Impact – Stocking rates will improve by 15% on approximately 30,000 acres. GPA will see approximately 2½% increase in carrying capacity.	Long term increase in carrying capacity	Total economic returns estimated to increase by 2½%.
Wildlife and Recreation - Improved wildlife habitat and recreational opportunities in Socorro County.	Long term wildlife habitat improvement and increase in recreational opportunities.	Area benefited amounts to approximately 1% of total area in Socorro County
Watershed & Hydrologic Cycle – practices having direct benefit on watershed and hydrologic cycle will be applied on 3% of watershed	Long term watershed improvement	97 % of watershed will not be impacted.
Cumulative Impacts – Approximately 3% of the GPA will be treated with practices, which directly manipulate the plant community. An additional 30% will benefit from improved management.	Benefits associated with improved ecological site indexes include lowered erosion rates, increased profits, and improved wildlife habitat will continue for the life of the practices.	Overall, condition of the ecosystem will essentially remain unchanged.

Other considerations related to context and intensity are discussed as follows. Disturbance will occur on approximately 3% of the area within the GPA. Because of the small size of the area disturbed and the rural nature of the GPA public health and safety concerns are insignificant. Areas of rangeland to be treated with EQIP represent approximately 3% of the total area in the GPA therefore no significant impact to unique areas is expected. No issues or concerns were expressed at the local work group meetings and because of the small area to be treated and rural setting no significant controversy is expected. All proposed actions from the proposed alternative have been undertaken in the local area before, and results are known, therefore uncertainty and risk are insignificant. Due to the small area to be treated, funding constraints and the availability of local cost share programs there is no precedent for future actions. The money spent by local soil and water conservation districts and individuals will have a similar impact as the proposed alternative and both alternatives combined will not have significant cumulative impacts. Although there are sites listed on the National Register of Historic Places and cultural resources within the GPA boundaries, no practices will be installed that will affect them and all practices installed with EQIP assistance that are considered undertakings will undergo a records check and Section 106 Consultation with SHPO. There are no anticipated effects on endangered species or their critical habitat. However, the USFWS will be consulted before any practices are undertaken in areas of critical habitat or known endangered species occurrence. No known laws will be violated as a result of the implementation of the proposed alternative.

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 reasons given above, 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.



ROSENDO TREVINO
State Conservationist

December 20, 2001

Date