

Research Natural Area

Name: Rabbit Trap

Location:

State: NM County: Grant Forest: Gila District: Silver City
T. 17, 18 R. 16 W. S. 34, 3

Geology:

Description:

Area is underlain by the Gila Conglomerate: conglomerate, fanglomerate, gravel, sand, silt, clay, lake deposits; includes locally rhyolite, basalt, tuff and other volcanic rocks; unconsolidated to well consolidated to monolithic.

Reference:

New Mexico State Highway Department, Geology And Aggregate Resources District 1; map 98: NM Hwy Dept., Santa Fe, NM

Trauger, F.D., 1972, Water resources and general geology of Grant County, New Mexico: New Mexico Bur Mines & Mineral Resources Hydrologic Rept. 2, 211 p., map

Climate:

TES Gradient: N&E slopes HSM 4/-1, S&W slopes HSM 3/+1

5000 - 5300 ±

Precipitation: ___ Annual: 17 in. Warm season (May - Oct.) = 67 %
Cool Season (Nov. - Apr.) = 33 %

Mean Annual Snow: ___ in. 4 in on N&E slopes, 0 in on S&W slopes

N&E slopes

Mean Temperature: Annual 57 °F Jul. 78 °F Jan. 39 °F

Freeze Free Period: 180 days

S&W slopes

Mean Temperature: Annual 59 °F Jul. 79 °F Jan. 41 °F

Freeze Free Period: 210 days

Trewartha climate type: Both units are BSk = cold steppe

Reference: Forest Service, 1984, Terrestrial Ecosystem Handbook
Appendix B: USDA F8 R3

Soils:



Reply To: 4060

Date: October 19, 1993

Subject: Environmental Assessment for Establishment of
Largo Mesa, Turkey Creek and Rabbit Trap RNA's

To: Regional Forester

Enclosed is the Environmental Assessment and the Decision Notice, Finding of No Significant Impact and Designation Order for the Rabbit Trap, Turkey Creek and Largo Mesa Research Natural Areas. We have made contact with several individuals to insure that the level of concern regarding designation has not changed since the Forest Plan was adopted, and have found no major new issues regarding the establishment of these areas.

I recommend that each of the proposed Research Natural Areas be established.

MAYNARD T. ROST
Forest Supervisor

Range and Ecology

OCT 22 1993

Enclosure

cc:
S.Libby
R.Fletcher, RO

RANGELAND MGMT. AND ECOLOGY	
Initials	
Action x	
Info ✓	
Renke	
Harrison	✓
Fletcher	✓
McCutchen	
Miller	
Prendusi	
Sanchez	
Ayala	
Lewis	



Environmental Assessment

Rabbit Trap, Turkey Creek, and Largo Mesa Research Natural Areas Gila National Forest, Silver City, Quemado, and Wilderness Ranger Districts Grant and Catron County, New Mexico

Proposed Action

The proposed action is to establish the Rabbit Trap, Turkey Creek, and Largo Mesa proposed Research Natural Areas (RNA) identified in the Land and Resource Management Plan (Forest Plan) for the Gila Forest as the Rabbit Trap RNA, Turkey Creek RNA and Largo Mesa RNA, and to manage them according to the direction provided in the Forest Plan, pages 204. The proposed action, formal designation of the RNA by the Chief of the Forest Service, will amend the Forest Plan.

Purpose and Need for Action

The purpose of establishing the Rabbit Trap RNA, Turkey Creek RNA and Largo Mesa RNA is to contribute to a series of RNAs designated to "illustrate adequately or typify for research or education purposes, the important forest and range types in each forest region, as well as other plant communities that have special or unique characteristics of scientific interest and importance" (36 CFR 251.23). The Rabbit Trap RNA contributes to this series of RNAs by providing an example of a relatively dry scrub grassland habitat type. The Turkey Creek RNA contributes to this series of RNAs by providing an example of mixed broadleaf riparian forest. The Largo Mesa RNA contributes to this series of RNAs by providing an example of pinyon-juniper woodland. These RNAs are discussed in the Forest Plan, pages 204. An evaluation by the Regional RNA Committee, pursuant to direction in Forest Service Manual (FSM) 4063.04b, of the need for RNAs identified these types as suitable and desirable for inclusion in the national network. Establishment of these RNAs provide long-term protection and recognition of these types.

The Rabbit Trap, Turkey Creek and Largo Mesa areas were identified in the Forest Plan as "proposed" RNAs based on the relatively undisturbed conditions of these types in the area at that time. Comments received from interested and affected members of the public supported establishment of an RNA in the area. Site conditions and public concerns have been reviewed; no important changes have occurred. Conditions and environmental effects of designation are the same as described on pages 80 of the EIS for the Forest Plan. Designation of alternate RNAs for protection of this type was considered during Forest Plan development. Rabbit Trap, Turkey Creek and Largo Mesa were determined at that time to provide the most appropriate site for inclusion in the national network for protection of the types mentioned above.

Alternative A, Proposed Action

Alternative A would designate Rabbit Trap, Turkey Creek and Largo Mesa as Research Natural Areas. The Rabbit Trap RNA would be designate at 280 acre. Rabbit Trap was estimated to be 297 acres in the Forest Plan; more precise measurement sets acreage at 280 as described on page 1 of the attached Establishment Record (ER). Management of the area limits recreation use to non-motorized use. There is no grazing on the area and has not been since it was fenced to exclude livestock in the mid 1940's. There is virtually no potential for fuelwood harvest and no commercial forest. No known mineral resources exist in the area and the potential for these resources is low. There are no threatened or endangered plant or animal species known to inhabit the area. (Establishment Report).

The Turkey Creek RNA would be designated at 1335 acres. This is the same as the acreage estimated in the Forest Plan. Most of the Turkey Creek area is within the Gila Wilderness. Management of wilderness areas limits recreation use to low intensity, dispersed activities. Due to wilderness designation, fuelwood and timber harvest are prohibited. There is no road access to the area. The area is not presently grazed by domestic livestock and is not within a grazing allotment that is being grazed. No active mineral claims exist within the area. Because of the wilderness designation, no new mineral claims can be made in the portion of the area in wilderness. The portion outside of wilderness has low mineral potential. There are no known threatened or endangered species in the area. The round-tailed chub (Gila robusta), a sensitive species occurs in Turkey Creek.

The Largo Mesa RNA would be designated at 300 acres. This is the same as the acreage estimated in the Forest Plan. Management of this area as an RNA would limit recreation use to dispersed, low intensity activities. There are no trails in the area and no trails would be constructed. Fuelwood harvesting would not be permitted. No fuelwood harvest occurred in the past because of the remoteness of the area. This area is presently part of the Demetrio Allotment. Because of topography, past use by domestic livestock has been light. Domestic livestock use would be eliminated. Fence repair and construction of gap fences between rock bluffs surrounding the mesa top will be needed. No know mineral resources exist in the area and the potential is low. There are no know threatened or endangered species in the area.

The primary environmental consequence of Alternative A, is the short-term losses of opportunities to change vegetation conditions through management. There are no significant cumulative effects of the establishing the RNA.

The direction in the Forest Plan for established RNAs also includes reasonably foreseeable actions such as withdrawal of the area from mineral entry. The general consequences of withdrawal are discussed in the Forest Plan EIS (pages 121). Site-specific consequences will be disclosed in more detail if or when mineral entry is proposed for withdrawal.

Alternative B, No Action

This alternative continues management according to direction in the Forest Plan (page 80, 249 and 255) for a "proposed" RNA. Management of the area limits recreation use to non-motorized use. There is no grazing on the Turkey Creek or Rabbit Trap areas and only light grazing on the Largo Mesa

area. There is virtually no potential for fuelwood harvest and no commercial forest. No known mineral resources exist in the area and the potential for these resources is low. There are no threatened or endangered plant or animal species known to inhabit the areas. (Rabbit Trap, Turkey Creek and Largo Mesa Establishment Reports.)

The only environmental consequences of Alternative B are the short-term losses of opportunities to change vegetation conditions through management and the possible loss of the opportunity to set aside representative RNAs of these three ecosystem types in the future.

Agencies and Persons Consulted

In the process of updating information to determine whether or not conditions had changed since adoption of the Forest Plan, the State Natural Heritage Program, Nature Conservancy, Livestockman's Association, adjacent range permittee, and local government (where commodity outputs could be effected) were contacted. The following comments were received:

Natural Heritage Program -- On August 13-14, 1992, John Humke, representing the national office of The Nature Conservancy and Rick Johnson and Bill Waldman, representing the New Mexico Chapter of The Nature Conservancy and the New Mexico Natural Heritage Program urged the Regional Forester to do what ever was necessary to complete the establishment process.

New Mexico Range Improvement Task Force - On February 18, 1993, Gerald Hinke, Regional Range, and Ecology Staff, spoke with John Fowler, Jim Knight, Kirk McDaneil, Lark Wood, Dean John Owens (Range Improvement Task Force representatives) and attendees David Kincade, Bill Ball, Stearling Carter, Ray Margo, and Linden Parker about designation of Research Natural Areas in the New Mexico. No objections were raised.

Demetrio Grazing Permittee - In August 1993, Dave Sire, District Ranger on the Quemado District spoke with Candy Chavez, the permittee on the allotment containing the Largo Mesa, regarding the establishment of the area as an RNA. No concerns were expressed. Mr. Chavez expressed an interest in seeing the results of any research conducted in the area.

Permittee adjacent to Rabbit Trap - In August 1993, Ralph Pope, Range Staff on the Silver City District, spoke with Dave Ogilvie regarding the Rabbit Trap RNA. Mr. Ogilvie did not have any concerns.

Catron County, County Manager - In late September 1993, Dave Sire, District Ranger on the Quemado District spoke with the Catron County Commission regarding designation of Research Natural Areas. On October 1, 1993 they sent the Forest a letter regarding the designation. The Commission did not have any specific issues regarding designation of the Largo Mesa area (the area in Catron County) since the area is small, bound on three sides by steep slopes and by an allotment boundary fence on the fourth side, but they could see no immediate need to establish the RNA. As a result they did not concur with the designation.

Decision Notice
Finding of No Significant Impact and
Designation Order

Rabbit Trap, Turkey Creek and Largo Mesa Research Natural Areas

By virtue of the authority vested in me by the Secretary of Agriculture under regulations at 7 CFR 2.42, 36 CFR 251.23, and 36 CFR Part 219, I hereby establish the Rabbit Trap, Turkey Creek and Largo Mesa Research Natural Areas (RNAs) on the Gila National Forest. The Rabbit Trap RNA shall be comprised of 280 acres of lands in Grant County, New Mexico, on the Silver City District of the Gila National Forest, as described in the section of the Establishment Record entitled "Location." The Turkey Creek RNA shall be comprised of 1,335 acres of lands in Grant County, New Mexico, on the Wilderness District of the Gila National Forest, as described in the section of the Establishment Record entitled "Location". The Largo Mesa RNA shall be comprised of 300 acres of lands in Catron County, New Mexico, on the Quamado District of the Gila National Forest, as described in the section of the Establishment Record entitled "Location".

The Regional Forester recommended the establishment of these RNAs in the Record of Decision for the Gila National Forest Land and Resource Management Plan (Forest Plan) in 1986. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. Results of the Regional Forester's analysis are documented in the Forest Plan and Final Environmental Impact Statement which are available to the public.

The Regional Forester has reexamined the Rabbit Trap, Turkey Creek and Largo Mesa areas to ensure that the environmental effects of establishing the areas as RNAs have not changed since 1986. This analysis is documented in the attached environmental assessment. Based on the analysis in the environmental assessment, it is my decision to adopt Alternative A, to establish Rabbit Trap, Turkey Creek and Largo Mesa areas as RNAs. Alternative A is selected because it provides long-term protection and recognition of a relative dry scrub grassland type, a broadleaf riparian type and a pinyon-juniper type. These Research Natural Areas will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding RNAs, and in accordance with the management direction identified in the Forest Plan.

The alternative considered was Alternative B, the "No Action" alternative which would continue management of Rabbit Trap, Turkey Creek and Largo Mesa as "proposed" RNAs. Alternative B was not selected because it would only provide short-term protection of these areas.

Alternative B is consistent with the Forest Plan. Although the proposed action (Alternative A) is consistent with the management direction, it is not consistent with the land allocation for the Rabbit Trap, Turkey Creek and Largo Mesa areas in the Forest Plan. The Gila Forest Plan is hereby amended to change the allocation of the Rabbit Trap, Turkey Creek and Largo Mesa areas from "Proposed" to Established RNA. This is a non-significant amendment of the Forest Plan (36 CFR 219.10(f)).

Legal notice of this decision will appear in the Federal Register. The Forest Supervisor of the Gila National Forest shall notify the public of

this decision and mail a copy of the Decision Notice and Designation Order to all persons on the Gila Forest Plan mailing list.

It has been determined through the environmental assessment that the proposed action is not a major Federal action that would significantly affect the quality of the human environment; therefore, an environmental impact statement is not needed. This determination is based on the following factors

(40 CFR 1508.27):

A. Context.

Although this is an addition to the national system of RNAs, both short-term and long-term physical and biological effects are limited to the local area.

B. Intensity.

1. There are no known effects on public health and safety.
2. There are no known effects on historic or cultural resources, actual or eligible National Register of Historic places sites, park lands, prime farmlands, wetlands, wild and scenic rivers. Effects on ecologically critical areas are minimal.
3. Effects on the human environment are not uncertain, do not involve unique or unknown risks, and are not likely to be highly controversial.
4. The action is not likely to establish a precedent for future actions with significant effects.
5. There are no known cumulative effects.
6. The proposed action would not adversely affect an endangered or threatened species or its critical habitat.
7. The proposed action is consistent with Federal, State, and local laws and requirements for the protection of the environment.

This decision is subject to appeal pursuant to 36 CFR Part 217. Two (2) copies of the Notice of Appeal must be in writing and submitted to:

The Secretary of Agriculture
14th & Independence Ave., S.W.
Washington, D.C. 20250

The Notice of Appeal prepared pursuant to 36 CFR 217 must be submitted within 45 days from the date of legal notice of this decision. Review by the Secretary is wholly discretionary. If the Secretary has not decided within 15 days of receiving the Notice of Appeal to review the Chief's decision, appellants will be notified that the Chief's decision is the final administrative decision of the U.S. Department of Agriculture.

Chief

Date

ESTABLISHMENT RECORD

for

RABBIT TRAP RESEARCH NATURAL AREA

within

Gila National Forest

Grant County, New Mexico

ESTABLISHMENT RECORD

RABBIT TRAP RESEARCH NATURAL AREA

USDA FOREST SERVICE
SOUTHWESTERN REGION
GILA NATIONAL FOREST
SILVER CITY RANGER DISTRICT
GRANT COUNTY, NEW MEXICO

Prepared by: William W. Dunmire Date Nov. 16, 1987
William W. Dunmire, The Nature Conservancy
Mollie S. Toll, Department of Biology,
University of New Mexico

Recommended by: Wayne L. Buckner Date 1/11/88
Wayne Buckner, District Ranger
Silver City Ranger District

Recommended by: David W. Dahl Date 1/29/88
David W. Dahl, Forest Supervisor
Gila National Forest

Recommended by: John W. Russell Date 3/31/88
John W. Russell, Chairman
Southwestern Research Natural Area Committee

Recommended by: Sotero Muniz Date 4/15/88
Sotero Muniz, Regional Forester
Southwestern Region

Recommended by: Charles M. Loveless Date May 16, 1988
Charles M. Loveless, Station Director
Rocky Mountain Forest and Range Experiment Station

INTRODUCTION

The Rabbit Trap Research Natural Area (RNA) comprises approximately 280 acres (113.3 hectares) in the foothills of southern New Mexico. The proposed RNA is located in the Silver City Ranger District, Gila National Forest, in Grant County, and is all acquired National Forest land.

Scrub grassland has been noted as an important ecosystem for protection within the RNA program (USFS Regional Guide, 1983: Table 3-1). Rabbit Trap was selected as an ideal solution to the search for representation of this ecosystem, a transition between pinyon-juniper woodland and open grama grass types. The area has been fenced since the mid 1940s to exclude livestock grazing, and was listed as in fair and improving condition as of 1970. Rabbit Trap was first proposed as a potential Research Natural Area in 1972. An establishment report, dated February 29, 1972, was prepared but the establishment process was never completed. An RNA task group committee visited the site in November of 1982 and concurred that the area continued to meet all requirements for consideration as a Research Natural Area.

LAND MANAGEMENT PLANNING

The need for representation of this biotic community was identified in the Southwestern Regional Guide (August 1983). The Gila National Forest Plan (USFS 1986a: 5-6, 49) prescribes that approximately 297 acres (120.2 hectares) of Management Area 7A has been designated for establishment as Rabbit Trap Research Natural Area; however, the final acreage of the RNA had to be slightly reduced to exclude some private land within the fenced enclosure. The environmental analysis conducted as part of the planning process supports the recommendation to establish this Research Natural Area.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

Rabbit Trap Research Natural Area was identified primarily as an outstanding example of a scrub - grassland ecosystem. This is an important ecosystem in the Southwest.

Rabbit Trap is significant insofar as its primary plant community, the shrub oak savanna, is an important and widespread grazing ecosystem throughout the Southwestern basin and range physiographic province south of the Mogollon Rim. Because of its history of protection, its good range condition, and the plant associations contained within it, the proposed Rabbit Trap RNA will serve as an important reference area for range conditions and trends.

PRINCIPAL DISTINGUISHING FEATURES

The Rabbit Trap RNA consists prominently of strongly dissected alluvium, draining generally northeasterly. The general vegetation of north and east slopes is a scrub oak savanna while warmer, drier slopes support mixed grama (Bouteloua spp.) and associated grasses with occasional mesquite (Prosopis glandulosa) and soaptree yucca (Yucca elata). The strong topographic relief is responsible for the variety of plant communities near the boundary of a steppic climate (indicated by mixed grammas, mesquite, and soaptree yucca) and a juniper savanna climate as indicated by the presence of one-seed juniper (Juniperus monosperma), gray oak (Quercus grisea), and grasses.

LOCATION

Rabbit Trap is located in the Mangas Valley, on the east flank of the Big Burro Mountains in southwestern New Mexico (Map 1). The site is about 12 miles (19.3 km) due west of Silver City. The proposed RNA is found on the Circle Mesa Quadrangle (USGS 7.5'), Township 17 and 18S, Range 16W, Sections 34 and 3, at longitude 108° 29'W, latitude 32° 47'N. Easy access to the RNA is afforded by an all-weather forest road, and a short hike into the fenced unit.

From Silver City, take U.S. Highway 180 13 miles (20.9 km) west to the junction with the Mangas Valley road leading south (Maps 2 and 3). Continue 0.4 miles (0.6 km) north on Highway 180 to the turn-off for Forest Road 118 on the left (west). Proceed along Forest Road 118 for 1.4 miles (2.3 km), to the "Entering Gila National Forest" sign. Park here. Follow the fence line on foot southeasterly approximately 0.25 miles (0.4 km) to the northwest corner of the RNA.

For an optional entry to the RNA from the lower, east end, park near the junction of U.S. Highway 180 and the Mangas Valley road. Walk west about 0.3 miles (0.5 km) to the RNA, taking care to avoid the posted private land as you cross the Mangas Valley floodplain.

The boundary is described as follows:

Beginning at the standard section corner of Sections 27, 28, 33, and 34, in T. 17 S., R. 16 W., NMMP;

THENCE, S 62 deg. 21' E, a distance of 1,532.7 ft. to the northern most point of this tract and the point of beginning at lat. 32 deg. 47' 19 " N., long. 108 deg. 29' 20" W.

THENCE, S 36 deg., 06' W., 1,349.4 ft. to a point at lat. 32 deg. 47' 08" N., long. 108 deg. 29' 29" W.

THENCE, S. 5 deg. 29' E, 911.0 ft. to a point at lat. 32 deg. 46' 59" N., long. 108 deg. 29' 28" W.

THENCE, N 72 deg. 56' E., 514.6 ft. to a point at lat. 32 deg. 47' 01" N., long. 108 deg. 29' 27" W.

THENCE, S 08 deg., 02' W., 1,670.3 ft. to a point at lat. 32 deg. 46' 44" N., long. 108 deg. 29' 25" W.

THENCE, S 42 deg., 00' W., 913.7 ft., to a point at lat. 32 deg. 46' 38" N., long. 108 deg. 29' 32" W.

THENCE, S 00 deg., 25' W., 889.5 ft. to a point at lat. 32 deg. 46' 29" N., long. 108 deg. 29' 32" W.

THENCE, S 86 deg. 13' E., 2,884.3 ft. to a point at lat. 32 deg. 46' 27" N., long. 108 deg. 28' 58" W.

THENCE, N 28 deg. 29' E., 2096.6 ft. to a point at lat. 32 deg. 46' 45" N., long. 108 deg. 28' 47" W.

THENCE, N 00 deg. 43' E., 1131.4 ft. to a point at lat. 32 deg. 46' 56" N., long. 108 deg. 28' 46" W.

THENCE, S 89 deg. 35' W., 1,497.5 ft. to a point at lat. 32 deg. 46' 56" N., long. 108 deg. 29' 04" W.

THENCE, N 0 deg. 49' E., 1645.1 ft. to a point at lat. 32 deg. 47' 13" N., long. 108 deg. 29' 04" W.

THENCE, N 89 deg. 52' W., 1345.3 ft. to a point at lat. 32 deg. 47' 13" N. long. 108 deg. 29' 20" W.

THENCE, N 00 deg. 12' E., 644.1 ft. to a point at lat. 32 deg. 47' 19" N., long. 108 deg. 29' 20" W. the point of beginning.

AREA BY COVER TYPES

The distribution of cover types was determined from field surveys conducted in the fall of 1986, and from interpretation of 1981 aerial photography. Table 1 outlines the estimated total areas of vegetation types based on the Society of American Foresters forest type system (Eyre 1980) and the Kuchler Potential Natural Vegetation system (Kuchler 1964). Map 4 depicts the distribution of SAF type 241, plus a grassland type not covered in the SAF forest categories, on the candidate research natural area.

Table 1. Estimated Areas of Vegetation Types in the Rabbit Trap Research Natural Area.

Area Type	Society of American Foresters		Surface	
	Cover Type ¹	Kuchler PNV Type ²	Acres	Hectares
Western Live Oak	SAF 241	K-31 Oak - Juniper Woodland	216	87.4
Grama Grassland	[none]	[none]	64	25.9
		TOTAL:	280	113.3

¹Eyre 1980.

²Kuchler 1964.

PHYSICAL AND CLIMATIC CONDITIONS

The topography of Rabbit Trap RNA is generally gently rolling hills with well defined drainages. Some slopes are as steep as 60%. Drainage is primarily to the east into Mangas Wash, which then flows northwest into the Gila River.

The nearest long range weather stations are Pinos Altos and Fort Bayard to the east. Climatic conditions monitored at these stations are characteristic of the semi-arid zone shared with Rabbit Trap. Average annual rainfall for the proposed RNA is 17 inches (43.2 cm), and average annual snowfall is 4 inches (10.2 cm) on north and east slopes, and none on south and west slopes. In this zone, moisture available for plant growth is greater than that at lower elevation deserts in New Mexico, but still is a limiting factor in vegetation growth and survival from year to year. Annual moisture deficiency ranges from 10 to 21 inches (25.4 to 53.3 cm) for this zone. Cool season precipitation (falling between November and April) accounts for 33% of annual precipitation, and is vital for maintaining plant life through the dry spring until the summer rains. Mean annual temperature on the north and east slopes is 57° F (13.9° C), with a July average of 78° F (25.6° C) and a January average of 39° F (3.9° C); on south and west slopes, average annual temperature is 59° F (15.0° C), with a July average of 79° F (26.1° C) and a January average of 41° F (5.0° C). The frost free period lasts an average of 180 days for north and east slope areas, and considerably longer (210 days) on south and west slopes.

DESCRIPTION OF VALUES

Flora

At the time of preparation of the Establishment Record, no publication described precisely the habitat types found on the proposed RNA. Forest and woodland habitat types of southern New Mexico and central Arizona (USFS 1986b) contains descriptions most closely approximating plant communities found here. Habitat types cited below are taken from this manual.

The upper (western) portion of the RNA and the ridges leading down to the Mangas Valley support a gray oak (Quercus grisea) scrub savanna. On the north and northeast - facing slopes, shrubs tend to comprise 40 to 50 per cent of the cover with a shrub growth form of Quercus grisea dominating. Other common shrub components include Cercocarpus montanus, Ceanothus greggii, Fendlera rupicola, Rhus trilobata, Mimosa biuncifera, Gutierrezia sarothrae, and Nolina microcarpa. Oneseed juniper (Juniperus monosperma) trees are occasional to common, and alligator juniper (J. deppeana) is rare. Grasses, principally Bouteloua curtipendula, B. gracilis, B. hirsuta, Aristida sp., and Muhlenbergia sp., comprise 10 to 20 per cent of the cover. Except for occasional composites and Dalea sp., forbs are scarce. Bare ground typically exceeds 10 per cent. These slopes key to Quercus grisea/Cercocarpus montanus habitat type (QUGR/CEMO HT).

The south and southeast-facing slopes are more open, with shrub cover seldom exceeding 10 per cent. Prosopis glandulosa becomes a common component here, while Cercocarpus montanus drops out. Junipers are rare. Bunch grasses and Dalea sp. are important soil stabilizers on these slopes, as 10 to 20 per cent of the ground is bare. Bouteloua curtipendula is the dominant grass, followed by B. gracilis, B. eriopoda, Aristida sp., and patches of Andropogon barbinodis.

Where the arroyos open toward the Mangas Valley, vegetation becomes an alluvial grassland, somewhat resembling the Quercus grisea/Bouteloua curtipendula habitat type (QUGR/BOCU HT). Grasses are luxuriant, with Bouteloua curtipendula dominant. Commonly included are Aristida orcuttiana, Bouteloua gracilis, Muhlenbergia sp., Sporobolus contractus, and Andropogon barbinodis. Occasional grasses here include Hilaria mutica, Sitanion hystrix, Panicum sp., and Setaria macrostachya. Soaptree yucca (Yucca elata) is a common shrub, while the distributions of mesquite (Prosopis glandulosa) and ceanothus (Ceanothus greggii) are patchy. Buffalo gourd (Cucurbita foetidissima) is a common forb on the grassland. Desert willow (Chilopsis linearis) occasionally grows as a large tree in the bottom of the washes, and rarely a Mexican soapberry tree (Sapindus saponaria) is found here.

There are no known threatened, endangered, or unique plant species on the proposed RNA.

The following plant list was compiled from field observations on September 13, 1983 and May 9, 1984.

Abbreviated Plant List for Rabbit Trap RNA¹

Latin Name³
Frequency

Common Name²

GRASSES AND GRASS-LIKE PLANTS:

<u>Andropogon barbinodis</u>	Bluestem		C
<u>Aristida divaricata</u>	Poverty three-awn	R	
<u>Aristida fendleriana</u>	Fendler three-awn		C
<u>Aristida glauca</u>	Blue three-awn		C
<u>Aristida longiseta</u>	Red three-awn		C
<u>Aristida orcuttiana</u>	Single three-awn		C
<u>Aristida purpurea</u>	Purple three-awn		C
<u>Aristida ternipes</u> var. <u>minor</u>	Spidergrass		C
<u>Aristida wrightii</u>	Three-awn		C
<u>Bouteloua curtipendula</u>	Side-oats grama		C
<u>Bouteloua eriopoda</u>	Black grama		C
<u>Bouteloua gracilis</u>	Blue grama		C
<u>Bouteloua hirsuta</u>	Hairy grama		C
<u>Cyperus fendlerianus</u>	Tuber flat-sedge	I	
<u>Eragrostis curtipedicellata</u>	Lovegrass	R	
<u>Eragrostis poaeoides</u>	Lovegrass		I
<u>Festuca octaflora</u> var. <u>tenella</u>	Sixweeks fescue		C
<u>Hilaria belangeri</u>	Curlymesquite		C
<u>Hilaria mutica</u>	Tobosa		C
<u>Koeleria cristata</u>	Junegrass	R	
<u>Leptochloa dubia</u>	Green sprangletop	R	
<u>Lycurus phleoides</u>	Wolftail		I
<u>Muhlenbergia fragilis</u>	Muhly	R	
<u>Muhlenbergia porteri</u>	Bush muhly		I
<u>Muhlenbergia torreyi</u>	Ring muhly		I
<u>Panicum hallii</u>	Halls panicum	R	
<u>Panicum hirticaule</u>	Roughstalk witchgrass		I
<u>Panicum obtusum</u>	Vine-mesquite	R	

<u>Poa fendleriana</u>	Muttongrass	I	
<u>Setaria macrostachya</u>	Plains bristlegrass	R	
<u>Sitanion hystrix</u>	Bottlebrush squirreltail		C
<u>Sporobolus contractus</u>	Spike dropseed	I	
<u>Stipa neomexicana</u>	New Mexican needlegrass		C
<u>Tridens pulchella</u>	Fluffgrass		C

FORBS:

<u>Amaranthus palmeri</u>	Carelessweed		I
<u>Arabis perennans</u>	Rockcress	R	
<u>Argemone pleiacantha</u> ssp. <u>pleiacantha</u>	Chicalote	R	
<u>Asclepias asperula</u>	Milkweed	R	
<u>Astragalus allochrous</u>	Halfmoon loco		C
<u>Astragalus humistratus</u> var. <u>crispulus</u>	Enema weed	R	
<u>Astragalus mollissimus</u> var. <u>mollissimus</u>	Milkvetch	R	
<u>Bahia dissecta</u>	Ragleaf bahia		C
<u>Baileya multiradiata</u>	Desert baileya		C
<u>Berlandiera lyrata</u>	Berlandiera	R	
<u>Boerhaavia coulteri</u>	Coulter spiderling		C
<u>Boerhaavia pupurascens</u>	Spiderling		C
<u>Calochortus ambiguus</u>	Mariposalily	R	
<u>Cassia bauhinioides</u> var. <u>bauhinioides</u>	Senna	R	
<u>Cassia leptadenia</u>	Senna	R	
<u>Castilleja integra</u>	Wholeleaf paintbrush	R	
<u>Chenopodium hians</u>	Goosefoot		I
<u>Chenopodium watsonii</u> var. <u>angustissimus</u>	Goosefoot	R	
<u>Cirsium neomexicanum</u>	Lavendar thistle		C
<u>Commelina erecta</u>	Erect dayflower	R	
<u>Convolvulus incanus</u>	Climbing bindweed		I
<u>Conyza schiediana</u>	Conyza	R	
<u>Corydalis aurea</u>	Golden corydalis	R	
<u>Crotalaria pumila</u>	Low rattlebox	R	
<u>Croton texensis</u>	Doveweed croton	R	
<u>Cryptantha angustifolia</u>	Desert hiddenflower	R	
<u>Cryptantha jamesii</u>	James hiddenflower	R	
<u>Cucurbita foetidissima</u>	Buffalogourd		I
<u>Dalea calycosa</u>	Indigobush	R	
<u>Dalea lachnostachys</u>	Indigobush		I
<u>Datura meteloides</u>	Sacred thornapple	R	
<u>Datura stramonium</u> var. <u>stramonium</u>	Jimsonweed	R	
<u>Delphinium virescens</u> ssp. <u>wootonii</u>	Plains larkspur	R	
<u>Descurainia obtusa</u> ssp. <u>brevisiliqua</u>	Tansymustard		C
<u>Descurainia sophia</u>	Flaxweed tansymustard		I
<u>Draba cuneifolia</u> var. <u>cuneifolia</u>	Draba	R	

<u>Eriastrum diffusum</u>	Eriastrum	R	
<u>Erigeron flagellaris</u>	Trailing fleabane		C
<u>Eriogonum abertanum</u>	Buckwheat		C
<u>Eriogonum pharnaceoides</u>	Wirestem buckwheat		C
<u>Eriogonum wrightii</u>	Buckwheat		C
<u>Erodium cicutarium</u>	Filaree heronbill	R	
<u>Erysimum capitatum</u>	Western wallflower	R	
<u>Eschscholtzia mexicana</u>	Mexican goldpoppy		I
<u>Euphorbia albomarginata</u>	Rattlesnakeweed		C
<u>Euphorbia dentata</u> var. <u>dentata</u>	Toothed spurge	R	
<u>Euphorbia fendleri</u>	Fendler spurge		I
var. <u>fendleri</u>			
<u>Euphorbia fendleri</u>	Fendler spurge		I
var. <u>chaetocalyx</u>			
<u>Euphorbia revoluta</u>	Spurge	R	
<u>Evolvulus pilosus</u>	Evolvulus	R	
<u>Franseria confertiflora</u>	Bur-sage	R	
<u>Funastrum crispum</u>	Climbing milkweed	R	
<u>Gaillardia pinnatifida</u>	Hopi blanketflower		I
<u>Gaura coccinea</u>	Scarlet gaura	R	
<u>Gilia inconspicua</u>	Dogretch	R	
<u>Gilia sinuata</u>	Shy dogretch	R	
<u>Gnaphalium chilense</u>	Cottonbatting	R	
<u>Gomphrena caespitosa</u>	Ballclover	R	
<u>Haplopappus gracilis</u>	Goldenweed		C
<u>Haplopappus larcifolius</u>	Goldenweed	R	
<u>Haplopappus spinulosus</u>	Goldenweed		C
ssp. <u>spinulosus</u>			
<u>Helianthus petiolaris</u>	Prairie sunflower		C
ssp. <u>fallax</u>			
<u>Hybanthus verticillatus</u>	Green violet	R	
<u>Hymenopappus flavescens</u>	White-ragweed	R	
var. <u>cano-tomentosus</u>			
<u>Ipomoea costellata</u>	Morningglory	R	
<u>Layia glandulosa</u>	Sticky tidytips		C
<u>Lepidium medium</u>	Peppergrass	R	
<u>Lepidium thurberi</u>	Thurber peppergrass		I
<u>Lesquerella gordonii</u>	Bladderpod		I
var. <u>gordonii</u>			
<u>Leucelene ericoides</u>	White aster		C
<u>Linum lewisii</u>	Blue flax	R	
<u>Linum puberulum</u>	Flax		I
<u>Lithospermum incisum</u>	Stoneseed	R	
<u>Lotus humistratus</u>	Deervetch	R	
<u>Lotus wrightii</u>	Deervetch		C
<u>Machaeranthera canescens</u>	Aster		I
<u>Machaeranthera tanacetifolia</u>	Tahoka daisy		I
<u>Machaeranthera tephrodes</u>	Aster		I
<u>Marrubium vulgare</u>	Hoarhound	R	
<u>Melampodium leucanthum</u>	Plains blackfoot		C
<u>Mentzelia albicaulis</u>	Blazing star	R	
<u>Mentzelia pumila</u>	Golden blazing star		C
<u>Mirabilis multiflora</u>	Silvestre four o'clock	R	
<u>Monarda pectinata</u>	Mintleaf beebalm	R	
<u>Oenothera albicaulis</u>	Evening-primrose		I

<u>Oxybaphus linearis</u>	Four o'clock	R	
var. <u>linearis</u>			
<u>Pectis filipes</u>	Threadstem fetidmarigold		C
<u>Penstemon fendleri</u>	Beard tongue	R	
<u>Penstemon linarioides</u>	Beard tongue	R	
ssp. <u>linarioides</u>			
<u>Penstemon linarioides</u>	Beard tongue	R	
ssp. <u>sileri</u>			
<u>Phacelia bombycina</u>	Caterpillar-weed	R	
<u>Phaseolus angustissimus</u>	Slimleaf bean	R	
var. <u>angustissimus</u>			
<u>Phlox austromontana</u>	Desert phlox	R	
<u>Plagiobothrys arizonicus</u>	Bloodweed	R	
<u>Plantago purshii</u> var. <u>purshii</u>	Woolly Indianwheat		I
<u>Polanisia trachysperma</u>	Rough clammyweed		C
<u>Proboscidea parviflora</u>	Devilsclaw	R	
<u>Psoralea tenuiflora</u>	Slender scurfpea	R	
<u>Salsola kali</u>	Russian thistle	R	
<u>Salvia reflexa</u>	Rocky Mountain sage	R	
<u>Sanvitalia abertii</u>	Sanvitalia	R	
<u>Senecio douglasii</u>	Groundsel	R	
var. <u>longilobus</u>			
<u>Senecio neomexicanus</u>	New Mexican groundsel	R	
<u>Solanum elaeagnifolium</u>	White horsenettle		C
<u>Spermolepis echinata</u>	Spermolepis	R	
<u>Sphaeralcea digitata</u>	Globemallow	R	
var. <u>digitata</u>			
<u>Sphaeralcea fendleri</u>	Fendler globemallow		C
<u>Stachys coccinea</u>	Scarlet hedge nettle	R	
<u>Stephanomeria pauciflora</u>	Wirelettuce		I
<u>Thelesperma megapotamicum</u>	Hopi-tea greenthread		C
<u>Tragia stylaris</u>	Noseburn	R	
<u>Verbena bipinnatifida</u>	Dakota verbena		I
<u>Vicia ludoviciana</u>	Vetch		C
<u>Viguiera annua</u>	Annual goldeneye		C
<u>Viguiera dentata</u>	Toothleaf goldeneye		I
<u>Zinnia grandiflora</u>	Rocky Mountain zinnia		C

HALF-SHRUBS, SHRUBS, AND TREES:

<u>Abutilon incanum</u>	Indianmallow	R	
<u>Acacia angustissima</u>	Whiteballs acacia		I
var. <u>texensis</u>			
<u>Artemisia dracunculoides</u>	False tarragon sagebrush		C
<u>Artemisia ludoviciana</u>	Mexican sage		C
ssp. <u>albula</u>			
<u>Atriplex canescens</u>	Fourwing saltbush	R	
<u>Baccharis pteronioides</u>	Yerba-de-pasmo		I
<u>Brickellia scabra</u>	Flythicket		I
<u>Ceanothus greggii</u>	Desert ceanothus		C
<u>Celtis reticulata</u>	Netleaf hackberry		I
<u>Cercocarpus montanus</u>	True cercocarpus		C
<u>Chilopsis linearis</u>	Desertwillow		C
<u>Coryphantha vivipara</u>	Arizona coryphantha	R	

var. <u>arizonica</u>			
<u>Dalea formosa</u>	Indigobush		C
<u>Dalea jamesii</u>	Smokethorn	I	
<u>Dalea ordiae</u>	Smokethorn		C
<u>Dasyilirion wheeleri</u>	Desertspoon	R	
<u>Echinocereus fendleri</u>	Fendler echinocereus	I	
var. <u>rectispina</u>			
<u>Fallugia paradoxa</u>	Apache-plume	R	
<u>Fendlera rupicola</u>	Cliff fendlerbush		C
<u>Garrya wrightii</u>	Wright silktassel		
<u>Gutierrezia sarothrae</u>	Broom snakeweed		C
<u>Ipomopsis multiflora</u>	Ipomopsis	R	
<u>Juniperus deppeana</u>	Alligator-bark juniper	I	
<u>Juniperus monosperma</u>	One-seed juniper		C
<u>Krameria lanceolata</u>	Chacate	I	
<u>Mimosa biuncifera</u>	Catclaw		C
<u>Morus microphylla</u>	Little mulberry	R	
<u>Nolina microcarpa</u>	Beargrass		C
<u>Opuntia phaeacantha</u>	Pricklypear	R	
<u>Opuntia spinosior</u>	Pricklypear	R	
<u>Parthenium incanum</u>	Mariola	R	
<u>Penstemon fendleri</u>	Penstemon	R	
<u>Phoradendron havardianum</u>	American mistletoe	R	
<u>Pinus edulis</u>	Pinyon	R	
<u>Prosopis glandulosa</u>	Honey mesquite		C
var. <u>torreyana</u>			
<u>Quercus grisea</u>	Gray oak		C
<u>Rhus trilobata</u>	Squawberry		C
var. <u>anisophylla</u>			
<u>Rhus trilobata</u>	Squawberry		C
var. <u>pilosissima</u>			
<u>Sapindus saponaria</u>	Mexican soapberry	R	
<u>Yucca baccata</u>	Datil yucca	I	
<u>Yucca elata</u>	Soaptree yucca		C

¹ Observed by Reggie Fletcher (USFS Regional Botanist, Southwestern Region) on September 13, 1983 and May 9, 1984. Taxonomy follows Martin and Hutchins (1980).

² Common names follow USDA, Forest Service 1974.

³ R = Rare
I = Infrequent
C = Common

Fauna

No rare, endangered, or sensitive animal species are known to inhabit this area. The vegetative condition here provides moderately productive range for mule deer and optimum habitat for gambel quail. There is no perennial or open stream water on this RNA, and therefore riparian species are absent, except for spillovers from Mangas Creek, a semi-perennial stream just east of the RNA.

The following animal list was derived from the RUN WILD III computer-stored data base (Lehmkuhl and Patton 1982; Patton 1979) from the following communities for Grant county, New Mexico:

1. Madrean evergreen, woodland biome; Encinal (oak) series
2. Pinyon - juniper series

These communities currently in the data base most closely correspond to those occurring in the proposed RNA.

Potential Animal List for Rabbit Trap RNACommon NameLatin Name

BIRDS:

Bluebird, eastern	<u>Sialia sialis</u>
Bluebird, mountain	<u>Sialia currucoides</u>
Bluebird, western	<u>Sialia mexicana</u>
Chickadee, mountain	<u>Parus gambeli</u>
Creeper, brown	<u>Certhia americana</u>
Dove, mourning	<u>Zenaida macroura</u>
Dove, white-winged	<u>Zenaida asiatica</u>
Falcon, prairie	<u>Falco mexicanus</u>
Finch, house	<u>Carpodacus mexicanus</u>
Flicker, northern	<u>Colaptes auratus</u>
Flycatcher, ash-throated	<u>Myiarchus cinerascens</u>
Flycatcher, buff-breasted	<u>Empidonax fulvifrons</u>
Flycatcher, gray	<u>Empidonax wrightii</u>
Flycatcher, vermilion	<u>Pyrocephalus rubinus</u>
Flycatcher, western	<u>Empidonax difficilis</u>
Goldfinch, lesser	<u>Carduelis psaltria</u>
Grosbeak, black-headed	<u>Pheucticus melanocephalus</u>
Hawk, ferruginous	<u>Buteo regalis</u>
Hawk, red-tailed	<u>Buteo jamaicensis</u>
Hawk, sharp-shinned	<u>Accipiter striatus</u>
Hummingbird, black-chinned	<u>Archilochus alexandri</u>
Hummingbird, broad-tailed	<u>Selasphorus platycercus</u>
Jay, gray-breasted	<u>Aphelocoma ultramarina</u>
Jay, pinyon	<u>Gymnorhinus cyanocephalus</u>
Junco, dark-eyed	<u>Junco hyemalis</u>
Kingbird, Cassin's	<u>Tyrannus vociferans</u>
Lark, horned	<u>Eremophila alpestris</u>
Nighthawk, common	<u>Chordeiles minor</u>
Nighthawk, lesser	<u>Chordeiles acutipennis</u>
Nuthatch, pygmy	<u>Sitta pygmaea</u>
Nuthatch, white-breasted	<u>Sitta carolinensis</u>
Oriole, northern	<u>Icterus galbula</u>
Oriole, Scott's	<u>Icterus parisorum</u>
Phainopepla	<u>Phainopepla nitens</u>
Phoebe, black	<u>Sayornis nigricans</u>
Pygmy-owl, northern	<u>Glaucidium gnoma</u>
Quail, Gambel's	<u>Callipepla gambelii</u>
Quail, scaled	<u>Callipepla squamata</u>
Raven, common	<u>Corvus corax</u>
Redstart, painted	<u>Myioborus pictus</u>
Roadrunner, greater	<u>Geococcyx californianus</u>
Robin, American	<u>Turdus migratorius</u>
Sandpiper, spotted	<u>Actitis macularia</u>
Sapsucker, yellow-billed	<u>Sphyrapicus varius</u>
Screech owl, western	<u>Otus kennicottii</u>
Shrike, loggerhead	<u>Lanius ludovicianus</u>

Siskin, pine
 Solitaire, Townsend's
 Sparrow, black-chinned
 Sparrow, black-throated
 Sparrow, Brewer's
 Sparrow, chipping
 Sparrow, golden-crowned
 Sparrow, lark
 Sparrow, rufous-crowned
 Swallow, rough-winged
 Swift, white-throated
 Tanager, western
 Thrasher, Bendire's
 Thrush, hermit
 Titmouse, bridled
 Titmouse, plain
 Towhee, brown
 Turkey, wild
 Vireo, gray
 Vireo, Hutton's
 Vulture, turkey
 Warbler, black-throated gray
 Warbler, orange-crowned
 Warbler, Virginia's
 Waxwing, cedar
 Whip-poor-will
 Woodpecker, ladder-backed
 Woodpecker, Lewis'
 Wood-pewee, western
 Wren, Bewick's
 Wren, rock

Carduelis pinus
Myadestes townsendi
Spizella atrogularis
Amphispiza bilineata
Spizella breweri
Spizella passerina
Zonotrichia atricapilla
Chondestes grammacus
Aimophila ruficeps
Stelgidopteryx serripennis
Aeronautes saxatalis
Piranga ludoviciana
Toxostoma bendirei
Catharus guttatus
Parus wollweberi
Parus inornatus
Pipilo fuscus
Meleagris gallopavo
Vireo vicinior
Vireo huttoni
Cathartes aura
Dendroica nigrescens
Vermivora celata
Vermivora virginiae
Bombycilla cedrorum
Caprimulgus vociferus
Picoides scalaris
Melanerpes lewis
Contopus sordidulus
Thryomanes bewickii
Salpinctes obsoletus

MAMMALS:

Bat, Allen's big-eared
 Bat, big brown
 Bat, Brazilian free-tailed
 Bat, hoary
 Bat, pallid
 Bat, Townsend's big eared
 Bear, black
 Chipmunk, cliff
 Coati
 Cottontail, desert
 Coyote
 Deer, mule
 Deer, white-tailed
 Elk
 Fox, gray
 Fox, kit
 Gopher, Botta's pocket
 Lion, mountain
 Mouse, cactus
 Mouse, deer

Idionycteris phyllotis
Eptesicus fuscus
Tadarida brasiliensis
Lasiurus cinereus
Antrozous pallidus
Plecotus townsendii
Ursus americanus
Tamias dorsalis
Nasua nasua
Sylvilagus audubonii
Canis latrans
Odocoileus hemionus
Odocoileus virginianus
Cervus elaphus
Urocyon cinereoargenteus
Vulpes macrotis
Thomomys bottae
Felis concolor
Peromyscus eremicus
Peromyscus maniculatus

Mouse, northern grasshoper	<u>Onychomys leucogaster</u>
Mouse, pinyon	<u>Peromyscus truei</u>
Mouse, southern grasshoper	<u>Onychomys torridus</u>
Mouse, western harvest	<u>Reithrodontomys megalotis</u>
Mouse, white-footed	<u>Peromyscus leucopus</u>
Myotis, California	<u>Myotis californicus</u>
Myotis, fringed	<u>Myotis thysanodes</u>
Myotis, little brown	<u>Myotis lucifugus</u>
Myotis, long-eared	<u>Myotis evotis</u>
Myotis, long-legged	<u>Myotis volans</u>
Myotis, small-footed	<u>Myotis leibii</u>
Myotis, southwestern	<u>Myotis auriculus</u>
Peccary, collared	<u>Tayassu tajacu</u>
Pipistrelle, western	<u>Pipistrellus hesperus</u>
Porcupine	<u>Erethizon dorsatum</u>
Raccoon	<u>Procyon lotor</u>
Rat, banner-tailed kangaroo	<u>Dipodomys spectabilis</u>
Rat, hispid cotton	<u>Sigmodon hispidus</u>
Rat, Ord's kangaroo	<u>Dipodomys ordii</u>
Ringtail	<u>Bassariscus astutus</u>
Skunk, hog-nosed	<u>Conepatus mesoleucus</u>
Skunk, striped	<u>Mephitis mephitis</u>
Skunk, western spotted	<u>Spilogale gracilis</u>
Squirrel, golden-mantled ground	<u>Spermophilus lateralis</u>
Squirrel, Harris' antelope	<u>Ammospermophilus harrisi</u>
Squirrel, rock	<u>Spermophilus variegatus</u>
Vole, Mexican	<u>Microtus mexicanus</u>
Woodrat, Mexican	<u>Neotoma mexicana</u>

REPTILES:

Kingsnake, Sonoran mountain	<u>Lampropeltis pyromelana</u>
Lizard, collared	<u>Crotaphytus collaris</u>
Lizard, side-blotched	<u>Uta stansburiana</u>
Lizard, tree	<u>Urosaurus ornatus</u>
Rattlesnake, rock	<u>Crotalus lepidus</u>
Rattlesnake, western diamondback	<u>Crotalus atrox</u>
Whiptail, desert grassland	<u>Cnemidophorus uniparens</u>
Whiptail, little striped	<u>Cnemidophorus inornatus</u>
Whiptail, western	<u>Cnemidophorus tigris</u>

Geology

Almost all of southwestern New Mexico as well as adjoining Arizona was once covered by a great blanket of extrusive igneous rock (Callaghan 1953). North of the Rabbit Trap area, in the Datil region, this blanket overlaps the Colorado Plateau and is still an unbreached cover. But here in the Basin and Range province, it is warped and broken, sometimes exposing underlying formations. Probably the most abundant component of the volcanic sequence is the group dominated by rhyolites and associated welded rhyolitic tuffs. This group, found locally in the Rabbit Trap RNA (N.M. State Highway Department, n.d.), is later than most of the intrusive igneous rocks and mineral deposits (late Miocene to early Pliocene). The RNA is underlain by the Gila conglomerate, unconsolidated to well consolidated to monolithic, which includes conglomerate, fanlomerate, sand, silt, clay, and lake deposits (Trauger 1972).

Soils

Rabbit Trap RNA is located within a widespread soil association of southwestern New Mexico, the Rockland-Luzena-Santana association (NMSU 1971). In this association, rock outcrops make up 35 per cent of the terrain. Soils, forming in materials from a wide variety of rocks including conglomerates and mixed igneous rocks, are generally shallow to moderately deep. Deep, Pleistocene valley fill alluvium in the Mangas Valley includes deposits of mixed andesites, rhyolites, and a variety of granitic type soil parent materials. North aspects within the RNA consist mainly of loamy-skeletal, mixed, and mesic Typic Ustochrepts. South aspects are dominantly loamy-skeletal, mixed, and thermic Aridic Ustochrepts. The more stable ridgetops and benches are composed of loamy-skeletal, mixed, and mesic Typic Haplustalfs.

Lands

There are no known outstanding rights or rights-of-way within the proposed boundaries.

Cultural

Limited surveys for highway construction and water development projects have documented numerous prehistoric sites along Mangas Creek and its larger tributaries such as Saddlerock Canyon and Blackhawk Canyon immediately north and west of Rabbit Trap. Most of the sites are affiliated with the Mogollon Cultural Tradition, primarily the Mimbres Classic period dating to approximately A.D. 1000 - 1150. Sites with observable features include surface habitation sites consisting of 20 or more rooms, small field houses, and rock art sites. A general reconnaissance along the existing boundaries of the Rabbit Trap RNA located only one possible site, high on a ridge top just outside the western boundary. No artifacts were observed, but a prehistoric or historic single room masonry rubble pile was noted. Upon establishment as an RNA, the area will be withdrawn from any archeological research that would in any way modify the existing locale.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources

No known mineral resources exist in this area, and it is likely that the potential for these resources is low. There have been no leases for mineral exploration. If Rabbit Trap is designated an RNA, a recommendation will be made to withdraw the area from mineral entry.

Grazing

There are currently no impacts or conflicts since this area has been fenced to exclude livestock grazing since the mid 1940s. In December of 1986, the fence was observed to be standing and in fair condition; however, extensive maintenance will be necessary within a few years. Most of the fence along the northern boundary is located on private land and should be realigned to follow the Forest boundary.

Timber

The general vegetation is sideoats grama and blue grama-wolftail grassland. The vegetation on the north and easterly slopes also includes scrub oak, juniper in shrubby growth form, and a variety of shrub species. There is virtually no potential for fuelwood harvest in this area.

Total forest: 0 acres

Total commercial forest: 0

Watershed Values

The Rabbit Trap RNA is contained within the Middle Gila River watershed. The proposed RNA contains a landscape which is highly dissected, and drains east into an unnamed drainage and west into Saddle Rock Canyon. Both drain in turn into Mangas Creek, and finally into the Gila River 9 miles (14.5 km) downstream.

Recreation Values

There is no vehicle access to the proposed RNA due to the enclosure. In addition, there are no unique recreational characteristics that attract a measurable level of use to the area. The RNA and vicinity are used for some deer, quail, and dove hunting.

Wildlife and Plant Values

No threatened or endangered plant or animal species are known to inhabit the area.

Wilderness, Wild and Scenic River, National Recreation Area Values

None of the above congressionally designated areas have been proposed for the Rabbit Trap RNA or vicinity.

Transportation Plans

Rabbit Trap RNA is accessed from the Saddle Rock Canyon Road off U.S. Highway 180. The RNA contains no roads or trails. There are no transportation plans that would adversely affect the RNA.

Utility Corridor Plans

This area is adjacent to one alternative corridor route proposed for the El Paso Transmission Powerline Project. The location of the corridor is on private land in the Mangas Valley. The corridor would not be located in the RNA, but would be visible from the RNA.

MANAGEMENT PLAN

The Gila National Forest Plan prescribes that there will be no harvest of firewood or other wood products, and no off-road vehicle travel on Research Natural Areas. Low intensity, dispersed recreation activities are permitted provided they do not significantly modify the area, or threaten or impair the research or educational value of the area. No flora, fauna, or other materials may be collected other than for research approved by the Station Director. Minimal range improvements, such as boundary fences and appropriate interior fences, will be implemented, but no additional developments will be authorized which might change the existing character of the area.

Vegetation Management

The Forest Plan provides that unplanned ignitions will receive appropriate suppression action. Wildfires burning outside the area, which threaten the RNA, will be suppressed.

ADMINISTRATIVE RECORDS AND PROTECTION

Administration and protection of the Rabbit Trap RNA will be the responsibility of the Gila National Forest. The District Ranger, Silver City Ranger District, Silver City, NM has direct responsibility.

The Director of the Rocky Mountain Forest and Range Experiment Station, or his designee, will be responsible for any studies or research conducted in the area, and requests to conduct research in the area will be referred to him. He, or his designee, will evaluate research proposals and coordinate all studies and research in the area with the District Ranger. All plant and animal specimens collected in the course of research conducted in the area will be properly preserved and maintained within university or federal agency herbaria and museums, approved by the Rocky Mountain Station Director.

Records for the Rabbit Trap RNA will be maintained in the following offices:

Regional Forester, Southwestern Region, Albuquerque, NM
 Rocky Mountain Station, Fort Collins, CO
 Gila National Forest, Silver City, NM
 District Ranger, Silver City Ranger District, Silver City, NM

REFERENCES

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SURVEYOR'S CERTIFICATION OF
RESEARCH NATURAL AREA BOUNDARY FOR THE FOLLOWING AREAS
LARGO MESA, RABBIT TRAP, TURKEY CREEK

The descriptions for the three Research Natural Areas have been reviewed by me for locating them. The three descriptions are adequate to determine their locations on the ground.

Rocky Hildebrand

ROCKY HILDEBRAND
Forest Land Surveyor

12/7/93

DATE



United States
Department of
Agriculture

Forest
Service

Southwestern
Region

September 1986

Environmental Impact Statement, Gila National Forest Plan



9/80

Table 1. Reader's Guide (Continued)

Headings and Evaluation Items Used In Chapters 2, 3, & 4	Unit of Measure*	Connection to ICO's & 36 CFR 219, 40 CFR 1500
TIMBER		
Land Suitability	Acres	219.13
Sawtimber Harvest	MBF	ICO (1), 219.12(g)(3)(ii) ICO (5)
Area Cable Logged	Acres	ICO (1), ICO (5)
Sawtimber Harvest Cable	MBF	ICO (1), ICO (5)
Merchantable Timber Vol.(ASQ)	MCF	219.16(a)
Long Term Sustained Yield	MCF	219.16(a)
Products Available	MCF	ICO (1), 219.12(g)(3)(ii)
Fuelwood Available	MBF	ICO (1), 219.12(g)(3)(ii) ICO (5)
Reforestation	Acres	ICO (1) 219.27(c)(3) 219.12(g)(3)(i)
Thinning	Acres	ICO (1), 219.27(c)(4) 219.12(g)(3)(i)
Timber Inventory	MCF	219.16(a)
Age Class	Acres	219.16(a)
Vegetation Manipulation	Acres	219.15, ICO (1), ICO (5)
Sale Volume, LTSYC & Growth	Narrative/ MBF, MCF	219.16
Silviculture	Narrative	219.15
DIVERSITY		
Plant & Animal	Narrative	219.26, 219.27(a)(5) 219.27(g)
Tree Species	Narrative	219.26, 219.27(a)(5) 219.27(g)
Timber Age Class	Acres By Age Class	219.26, 219.27(a)(5) 219.27(g)
SOIL AND WATER		
Water Yield Increase	Acres Feet	219.23(a) 219.12(g)(3)(ii)
Watershed Condition	Acres By Condition	219.23(a)
Water Quality	Narrative	219.23(d)
On Site Soil Loss	MTons & Narrative	219.23(e), ICO (1) 219.27(a)(1) 219.27(f), ICO (2) 219.27, (d)(2)(i)
CULTURAL & HISTORIC	Narrative	219.24
RESEARCH NATURAL AREAS	Area Name & Acres	219.25
MINERALS		
Probable Effects on Mineral Activity, Including Access Withdrawals and Lease Recommendations	Narrative/ Acres	219.22(f) 219.22(f)
FACILITIES		
Road Maintenance	Miles & Narrative	ICO (6) 219.12(g)(3)(i)
Facility Maintenance	Narrative	ICO (6) 219.12(g)(3)(i)
RESOURCE PLANNING ACT	Targets	219.12

Runoff from the Gila National Forest meets the State water quality standards approximately 90 percent of the time. Violations of State standards usually occur during periods of high flows in which sediment is the major pollutant. This nonpoint source pollution generally occurs during summer months during high intensity thunderstorms. Numerous unstable channels throughout the Forest add to the sedimentation problem.

Lakes on the Forest, such as Snow Lake and Quemado Lake, are susceptible to massive build ups of blue green algae during the summer months. This is jeopardizing both the fisheries and recreational resources. There is a concern for the possible effects of these algae toxins on the wilderness streams below Snow Lake.

There are numerous areas within the Gila National Forest which have a potential to endanger life and facilities due to flooding. Areas such as the Catwalk picnic area are managed to reduce this danger. This area is restricted to picnicking only. The major flood-prone areas are Whitewater Creek, the main stems of the Gila and San Francisco Rivers, Mogollon Creek, Sapillo Creek, Percha Creek, and the Mimbres River.

Future Trends

The demand for more water developments in the Forest will continue to increase as the public demands more commodities and amenities. Surface and ground water rights necessary to secure water for these uses will be difficult to appropriate. It may be necessary to purchase water rights or transfer water rights currently held by the Forest Service to obtain larger quantities of water.

Trends assume that overall demand for water will continue to exceed supply, and that watershed conditions, soil productivity, and water quality will improve.

RESEARCH NATURAL AREAS

Research Natural Areas (RNAs) are set aside to provide and protect natural diversity in all its forms. The areas typify important Forest, shrubland, and grassland ecosystems having special or unique characteristics of scientific interest or importance. Research natural areas are established for nonmanipulative research, observation, and study.

The Gila National Forest currently has one designated research natural area and four candidate research natural areas. The Gila River RNA is located in analysis area 7A and features 125 acres of pinyon-juniper woodland, 52 acres of riparian hardwood, and 225 acres of desert shrub for total size of 402 acres.

Potential or candidate RNAs are: Turkey Creek in analysis area 8B is 1,335 acres and features riparian hardwood as a major ecosystem; Rabbit Trap in analysis area 7A is 297 acres and features scrub grassland; Largo Mesa in analysis area 9A is 300 acres and features classic pinyon-juniper woodland; and Agua Fria Mountain in analysis area 9B is 350 acres and features mountain grassland as a major ecosystem.

RIPARIAN

These small zones along waterways make up approximately 0.6 percent of the Forest. In addition to being a vital wildlife habitat and diversity component, riparian areas attract recreation use and concentrations of livestock. Roads and trails are many times located within riparian zones because they usually provide easier travel routes.

Because the varied uses are not compatible, conflicts are common. Most recreationists do not like the noise and smell of concentrated livestock. Sensitive wildlife prefer riparian areas isolated from human use. Livestock sometimes compete with wildlife for forage and over time can alter habitat structure. Conflicting uses within sensitive riparian zones result in damage to vegetation, compacted soils, erosion, and stream sedimentation.

Current management has resulted in slow but consistent improvement in higher elevation riparian zones; however, conflicts still persist in many lower elevation riparian areas.



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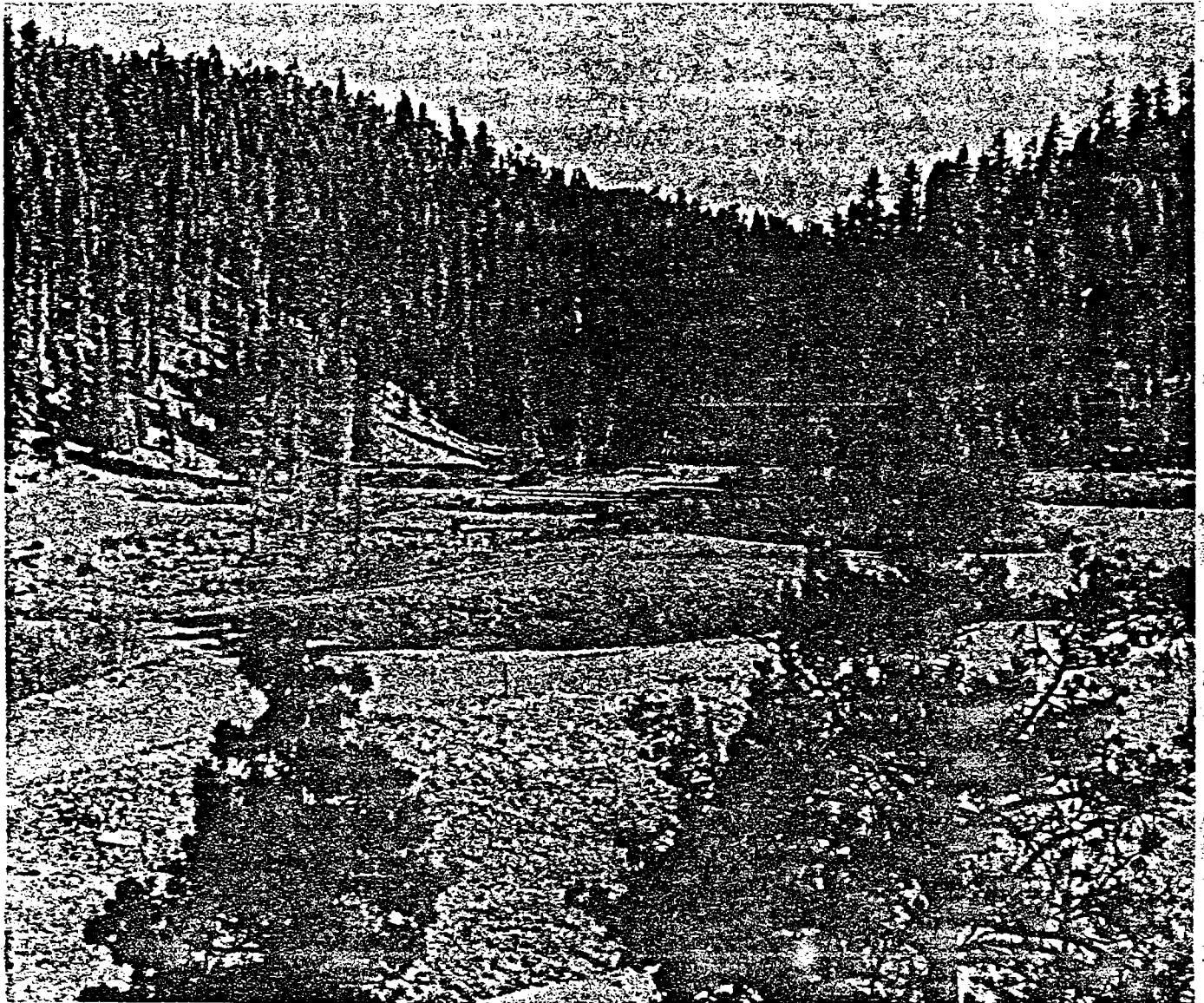
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September 1986



Gila National Forest Plan



Wildlife and Fish Habitat	<p>Manage for a diverse, well-distributed pattern of habitats for wildlife populations and fish species in cooperation with states and other agencies.</p> <p>Maintain and/or improve habitat for threatened or endangered species and work toward the eventual recovery and delisting of species through recovery plans.</p> <p>Integrate wildlife habitat management activities into all resource practices through intensive coordination.</p>
Minerals	Administer the mineral laws and regulations to minimize surface resource impacts while supporting sound energy and minerals exploration and development.
Soil and Water	<p>Protect and improve the soil resource.</p> <p>Provide for long-term quality waterflow needs through improved management technology.</p> <p>Restore lands in unsatisfactory watershed condition.</p>
Riparian	Improve all riparian areas to satisfactory or better condition.
Air Quality	Minimize air pollution from land management activities through application and timing of improved management practices.
Fire	Provide for fire management support services necessary to sustain resource yields while protecting improvements, investments, and providing for public safety.
Law Enforcement	Reduce risk or harm to visitors and damage to public and private property and natural resources through education, enforcement, and cooperation with other agencies.
Lands and Special Uses	Conduct landownership adjustment, right-of-way acquisition, land line location, and special-uses programs to promote efficient management.
Facilities	<p>Maintain transportation system to support resource goals.</p> <p>Construct, maintain, and regulate use of Forest Service facilities to protect natural resources, correct safety hazards, reduce disinvestment, and support management activities.</p>
Cultural Resources	<p>Inventory and prevent loss or damage of cultural resources until they can be evaluated for scientific study, interpretive services, or other appropriate uses.</p> <p>Enhance and interpret cultural resources so that the public may gain a better understanding and perspective of our heritage.</p> <p>Encourage and conduct scientific studies to gain knowledge about past human behavior.</p>
Land Management Planning	Provide coordination and insure interdisciplinary input for implementing, monitoring, and updating the Forest Plan.
Human Resources	Manage human resource programs to provide employment, and economic development opportunities while meeting natural resource goals.
Research Natural Areas	Protect RNA values and manage for scientific and baseline studies.

OBJECTIVES

An objective is defined as "a specific statement of measurable results to be achieved within a stated time period" [36 CFR 219.3 (w)]. Forest objectives are quantitative. They are time-oriented outputs that are associated with a given budget level. The objectives need to be achieved to accomplish goals.

Standards and guidelines to achieve the objectives are found in the management prescriptions section. Objectives for the Forest are shown in the following tables:

RESOURCE	ACTIVITY	APPLICABLE AREA	STANDARDS AND GUIDELINES
----------	----------	-----------------	--------------------------

D08 This analysis area contains one Research Natural Area (Gila River) and one proposed Research Natural Area (Rabbit Trap).

The Gila River Research Natural Area (402 acres) contains 125 acres of pinyon-juniper, 52 acres of riparian hardwood and 225 acres of desert shrub. It is located in E1/2 E1/2 Sec. 32; NW1/4 W1/2 SW1/4 Sec. 33, T17S, R17W, N.M.P.M. and will be maintained as a Research Natural Area in its natural condition.

The Rabbit Trap area consists of 297 acres of scrub grassland vegetative type located in Sec. 34, T17S, R 16W, and Sec. 3, T18S, R16W N.M.P.M. This area will be managed as a Research Natural Area and maintained in its present natural condition.

7A TIMBER **E08** **Non-Wilderness** PJ Fuelwood harvest will not exceed 1,500 acres in the first decade. Volume control for fuelwood will be on the per acre basis.

7A LANDS **J12** **ALL** Lands identified for acquisition for the Management Area are as follows:

LOCATION	ACRES
SW1/4, SW1/4 Sec. 8 T17S, R17W	40
N1/2, SW1/4 Sec. 8 T17S, R17W	80
SE1/4, NW1/4 Sec. 8 T17S, R17W	40
SW1/4, NE1/4 Sec. 8 T17S, R17W	40
SE1/4, SE1/4 Sec. 8 T17S, R17W	40
E1/2, NE1/4 Sec. 17 T17S, R17W	8
	<u>320</u>

7A WITHDRAWALS **J05** **ALL** Lands with withdrawals in effect recommended for revocation are as follows:

DESCRIPTION	LOCATION	ACRES
Power Site Reserve	T17S, R17W Sec. 8, 10, 16, 17, 21, 22, 27, 28, 32, 33	4,120
Water Power Designation	T17S, R17W Sec. 32	240
Gila River Bird Area	T17S, R17W Sec. 9, 10, 16, 17, 21, 27, 28, 32, 33	2,480
San Carlos Indian Irrigation Project	T18S, R17W Sec. 5, 6, 7, 8, 18	2,382
Water Power Designation	T18S, R17W Sec. 5, 6, 7, 8, 18	<u>1,078</u>
	Total	10,300

Lands with withdrawals in effect recommended for retention are as follows:

DESCRIPTION	LOCATION	ACRES
That portion of the Gila River Bird Area containing Gila River Research Natural Area	T17S, R17W Sec. 32 & 33	400

7A FACILITIES **LD1** Cooperate with the Continental Divide Trail Advisory Committee and the New Mexico State Trail Advisory Committee for designation of the Continental Divide Trail.

RESOURCE	ACTIVITY	APPLICABLE AREA	STANDARDS AND GUIDELINES						
	C05,C08		Threatened and endangered species habitat developments are projected at the following improvement levels: <table border="1"> <thead> <tr> <th>Improvement Activity</th> <th></th> </tr> </thead> <tbody> <tr> <td>Prescribed Fire</td> <td>120</td> </tr> </tbody> </table>	Improvement Activity		Prescribed Fire	120		
Improvement Activity									
Prescribed Fire	120								
	C03	Within Wilderness	Integrated historic wildlife habitat distributions with the Gila prescribed fire program and the Gila wilderness implementation program.						
	C11	Within Wilderness	Continue recovery of the Gila trout and maintain natural and recovered habitats for threatened and endangered species. Maintenance projected for the following: <table border="1"> <tbody> <tr> <td>Man-made barriers</td> <td>2 Structures</td> </tr> <tr> <td>Natural barriers</td> <td>2 Structure</td> </tr> </tbody> </table>	Man-made barriers	2 Structures	Natural barriers	2 Structure		
Man-made barriers	2 Structures								
Natural barriers	2 Structure								
	C12	Within Wilderness	Continue to cooperate with the New Mexico State Game and Fish Department on stocking of fry on West, Middle, and Main Forks of the Gila River during the first decade. Evaluate the need for restrictions of stocking and modification of angling impact at the end of the first decade.						
	C12	Within Wilderness	Require the New Mexico State Game and Fish Department to maintain wildlife trick tanks under permit in operable condition. When maintenance cost exceeds 50 percent of replacement cost, the improvements will be removed and the need for replacement evaluated. If needed, replacement will be an improvement that does not detract significantly from wilderness character.						
	C15,L01		During transportation planning trail densities will be evaluated within key wildlife habitat areas.						
88 RESEARCH NATURAL AREA	D08		The proposed Turkey Creek Research Natural Area, consisting of 1335 acres of riparian hardwood, is located in Sec. 9, 10, 15, and 18, T14S, R16W NMPM. This major ecosystem will be maintained in its present natural condition.						
88 LANDS	J04	Non-Wilderness	By the end of the first decade recommend for withdrawal all lands not currently withdrawn within the Highway 15 corridor. This corridor extends from the District boundary to the Gila Cliff Dwelling National Monument and includes the National Forest System lands outside the Wilderness boundary.						
	J12	ALL	Lands identified for acquisition for the Management Area are as follows: <table border="1"> <thead> <tr> <th>LOCATION</th> <th>ACRES</th> </tr> </thead> <tbody> <tr> <td>SW1/4, SW1/4 Sect. 15 T14S, R16W</td> <td>40</td> </tr> </tbody> </table>	LOCATION	ACRES	SW1/4, SW1/4 Sect. 15 T14S, R16W	40		
LOCATION	ACRES								
SW1/4, SW1/4 Sect. 15 T14S, R16W	40								
	J01	ALL	Game and Fish Department cabins at Prior and Miller Springs will be maintained at their present state of repair. No major reconstruction will be undertaken. A structure will not be replaced if structural damage exceeds 50 percent.						
	J04	ALL	Lands with withdrawals presently in effect recommended for revocation are as follows: <table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>LOCATION</th> </tr> </thead> <tbody> <tr> <td>Water Power</td> <td>T12S, R14W Sec. 13, 22, 23, 24, 28, 36</td> </tr> <tr> <td>Water Power</td> <td>T13S, R14W Sec. 24, 25, 26, 27, 33, 34 35, 36</td> </tr> </tbody> </table>	DESCRIPTION	LOCATION	Water Power	T12S, R14W Sec. 13, 22, 23, 24, 28, 36	Water Power	T13S, R14W Sec. 24, 25, 26, 27, 33, 34 35, 36
DESCRIPTION	LOCATION								
Water Power	T12S, R14W Sec. 13, 22, 23, 24, 28, 36								
Water Power	T13S, R14W Sec. 24, 25, 26, 27, 33, 34 35, 36								

RESOURCE	ACTIVITY	APPLICABLE AREA	STANDARDS AND GUIDELINES														
<u>Wildlife habitat development (Continued):</u>																	
			Planting Browse 50 Acres Grass & Forb Seeding 200 Acres Control of Habitat Access 1 Mile Browse Pruning 15 Acres Wetland Development 1 Structure														
	C05,C08	ALL	Continue threatened and endangered species habitat improvements as identified through approved recovery plans. Objectives are to maintain T&E habitats and address recovery needs on a case by case basis. The Bald Eagle is the only T&E and sensitive species known within this area.														
	C09,C10, C11		Provide maintenance of habitat improvements to sustain emphasized population levels. Maintenance priority is 1) T&E species, 2) game species, 3) other species. Habitat maintenance is projected at the following level by the first decade: <table style="margin-left: 40px;"> <tr> <td>Water Developments [trick tanks, rockheaders, spring developments, etc.]</td> <td>2 Structures</td> </tr> <tr> <td>Control of Habitat Access</td> <td>1 Mile</td> </tr> </table>	Water Developments [trick tanks, rockheaders, spring developments, etc.]	2 Structures	Control of Habitat Access	1 Mile										
Water Developments [trick tanks, rockheaders, spring developments, etc.]	2 Structures																
Control of Habitat Access	1 Mile																
SA RANGE	D02	ALL	Grazing allotments generally will be managed to a level of C or above. Based on existing data, this is projected to result in a long term capacity of approximately 9,270 AUMs. Any additional forage capacity that becomes available after Management Area emphasized levels for livestock and wildlife have been attained will generally be allocated according to the long term management emphasis ratio.														
	D02	ALL	Lands classified as full capacity rangeland include 61,510 acres, of which 42,895 acres are currently unsatisfactory. Approximately 37,273 acres are estimated to be unsatisfactory by the fifth decade.														
	D04,D03		Nonstructural range improvement needs have been identified to include 3,914 acres of reinvasion Pinyon/Juniper and 9,400 acres of new invasion Pinyon/Juniper. The treatment of these acres can be accomplished if funding becomes available through other means.														
	D05	ALL	Reconstruct range improvements needed to manage at level C on a 40 year cycle. Priority for expenditure of funds on existing improvements is as follows: <table style="margin-left: 40px;"> <tr> <td colspan="2"><u>Reconstruction:</u></td> </tr> <tr> <td>Allotment boundary fences.</td> <td>87 Miles</td> </tr> <tr> <td colspan="2">Water Developments</td> </tr> <tr> <td>Stock Tanks</td> <td>12</td> </tr> <tr> <td>Springs</td> <td>8</td> </tr> <tr> <td>Pipelines</td> <td>7 Miles</td> </tr> <tr> <td>Allotment Interior Fences</td> <td>32.8 Miles</td> </tr> </table>	<u>Reconstruction:</u>		Allotment boundary fences.	87 Miles	Water Developments		Stock Tanks	12	Springs	8	Pipelines	7 Miles	Allotment Interior Fences	32.8 Miles
<u>Reconstruction:</u>																	
Allotment boundary fences.	87 Miles																
Water Developments																	
Stock Tanks	12																
Springs	8																
Pipelines	7 Miles																
Allotment Interior Fences	32.8 Miles																
	D08	Largo Mesa	The proposed Largo Mesa Research Natural Area consists of 300 acres of pinyon-juniper woodland. Located in Sections 34 and 35, T1S, R17W, this major ecosystem will be maintained in its present natural condition.														
SA TIMBER	E08	ALL	Timber will be harvested from the following LTMA's and slopes as indicated:														

rabbit trap loc

EXHIBIT A
Rabbit Trap RNA

PRINCIPAL DISTINGUISHING FEATURES

The Rabbit Trap RNA consists prominently of strongly dissected alluvium, draining generally northeasterly. The general vegetation of north and east slopes is a scrub oak savanna while warmer, drier slopes support mixed grama (Bouteloua spp.) and associated grasses with occasional mesquite (Prosopis glandulosa) and soaptree yucca (Yucca elata). The strong topographic relief is responsible for the variety of plant communities near the boundary of a steppic climate (indicated by mixed grammas, mesquite, and soaptree yucca) and a juniper savanna climate as indicated by the presence of one-seed juniper (Juniperus monosperma), gray oak (Quercus grisea), and grasses.

LOCATION

Rabbit Trap is located in the Mangas Valley, on the east flank of the Big Burro Mountains in southwestern New Mexico (Map 1). The site is about 12 miles (19.3 km) due west of Silver City. The proposed RNA is found on the Circle Mesa Quadrangle (USGS 7.5'), Township 17 and 18S, Range 16W, Sections 34 and 3, longitude 108° 29' W, latitude 32° 47' N. Easy access to the RNA is afforded by an all-weather forest road, and a short hike into the fenced unit.

From Silver City, take U.S. Highway 180 13 miles (20.9 km) west to the junction with the Mangas Valley road leading south (Maps 2 and 3). Continue 0.4 miles (0.6 km) north on Highway 180 to the turn-off for Forest Road 118 on the left (west). Proceed along Forest Road 118 for 1.4 miles (2.3 km), to the "Entering Gila National Forest" sign. Park here. Follow the fence line on foot southeasterly approximately 0.25 miles (0.4 km) to the northwest corner of the RNA.,

For an optional entry to the RNA from the lower, east end, park near the junction of U.S. Highway 180 and the Mangas Valley road. Walk west about 0.3 miles (0.5 km) to the RNA, taking care to avoid the posted private land as you cross the Mangas Valley floodplain.

The boundary is described as follows:

Beginning at the standard section corner of sections 27, 28, 33, and 34, in T.17 S., R.16 W., NMMP:

THENCE, S 62° 21' E, a distance of 1,532.7 ft. to the northern most point of this tract and the point of beginning, at lat. 32° 47' 19" N., long. 108° 29' 20" W.:

THENCE S 36° 06' W., 1,349.4 ft. to a point at lat. 32° 47' 08" N., long. 108° 29' 29" W.

THENCE, S. 5° 29' E., 911.0 ft. to a point at lat. 32° 46' 59" N., long. 108° 29' 28" W.

THENCE, N 72° 56' E., 514.6 ft. to a point at lat. 32° 47' 01" N., long. 108° 29' 22" W.
 THENCE, S 08° 02' W., 1,670.3 ft. to a point at lat. 32° 46' 44" N., long. 108° 29' 25" W.
 THENCE, S 42° 00' W., 913.7 ft. to a point at lat. 32° 46' 38" N., long. 108° 29' 32" W.
 THENCE, S 00° 25' W., 889.5 ft. to a point at lat. 32° 46' 29" N., long. 108° 29' 32" W.
 THENCE, S 86° 13' E., 2,884.3 ft. to a point at lat. 32° 46' 27" N., long. 108° 28' 58" W.
 THENCE, N 28° 29' E., 2,096.6 ft. to a point at lat. 32° 46' 45" N., long. 108° 28' 47" W.
 THENCE, N 00° 43' E., 1,131.4 ft. to a point at lat. 32° 46' 56" N., long. 108° 28' 46" W.
 THENCE, S 89° 35' W., 1,497.5 ft. to a point at lat. 32° 46' 56" N., long. 108° 29' 04" W.
 THENCE, N 0° 49' E., 1,645.1 ft. to a point at lat. 32° 47' 13" N., long. 108° 29' 04" W.
 THENCE, N 89° 52' W., 1,345.3 ft. to a point at lat. 32° 47' 13" N., long. 108° 29' 20" W.
 THENCE, N 00° 12' E., 644.1 ft. to a point at lat. 32° 47' 19" N., long. 108° 29' 20" W. the point of beginnig.

AREA BY COVER TYPES

The distribution of cover types was determined from field surveys conducted in the fall of 1986, and from interpretation of 1981 aerial photography. Table 1 outlines the estimated total areas of vegetation types based on the Society of American Foresters forest type system (Eyre 1980) and the Kuchler Potential Natural Vegetation system (Kuchler 1964). Map 4 depicts the distribution of SAF type 241, plus a grassland type not covered in the SAF forest categories, on the candidate research natural area.

Table 1. Estimated Areas of Vegetation Types in the Rabbit Trap Research Natural Area.

Type	Society of American Foresters Cover Type ¹	Kuchler PNV Type ²	Surface Area	
			Acres	Hectares
Western Live Oak	SAF 241	K-31 Oak-Juniper Woodland	216	87.4
Grama Grassland	[none]	[none]	64	25.9
TOTAL			280	113.3

¹Eyre 1980.

²Kuchles 1964.



United States
Department of
Agriculture

Forest
Service

Southwestern
Region

517 Gold Avenue, SW
Albuquerque, NM 87102

Reply to: 4060

Date: November 10, 1956

Subject: Rabbittrap and Largo Mesa Research Natural Areas

To: Forest Supervisor, Gila National Forest

Enclosed are plant lists by Reggie Fletcher for the proposed Rabbittrap and Largo Mesa Research Natural Areas with additional comments on Largo Mesa.

for Robert Partido

W. R. SNYDER
Director of Range Management

Enclosures

cc:
Bill Dunmire, NC
Will Moir
Earl Aldon, RM



RABBITTRAP RNA

Collections/Notations made by Reggie Fletcher
September 13, 1983 and May 9, 1984

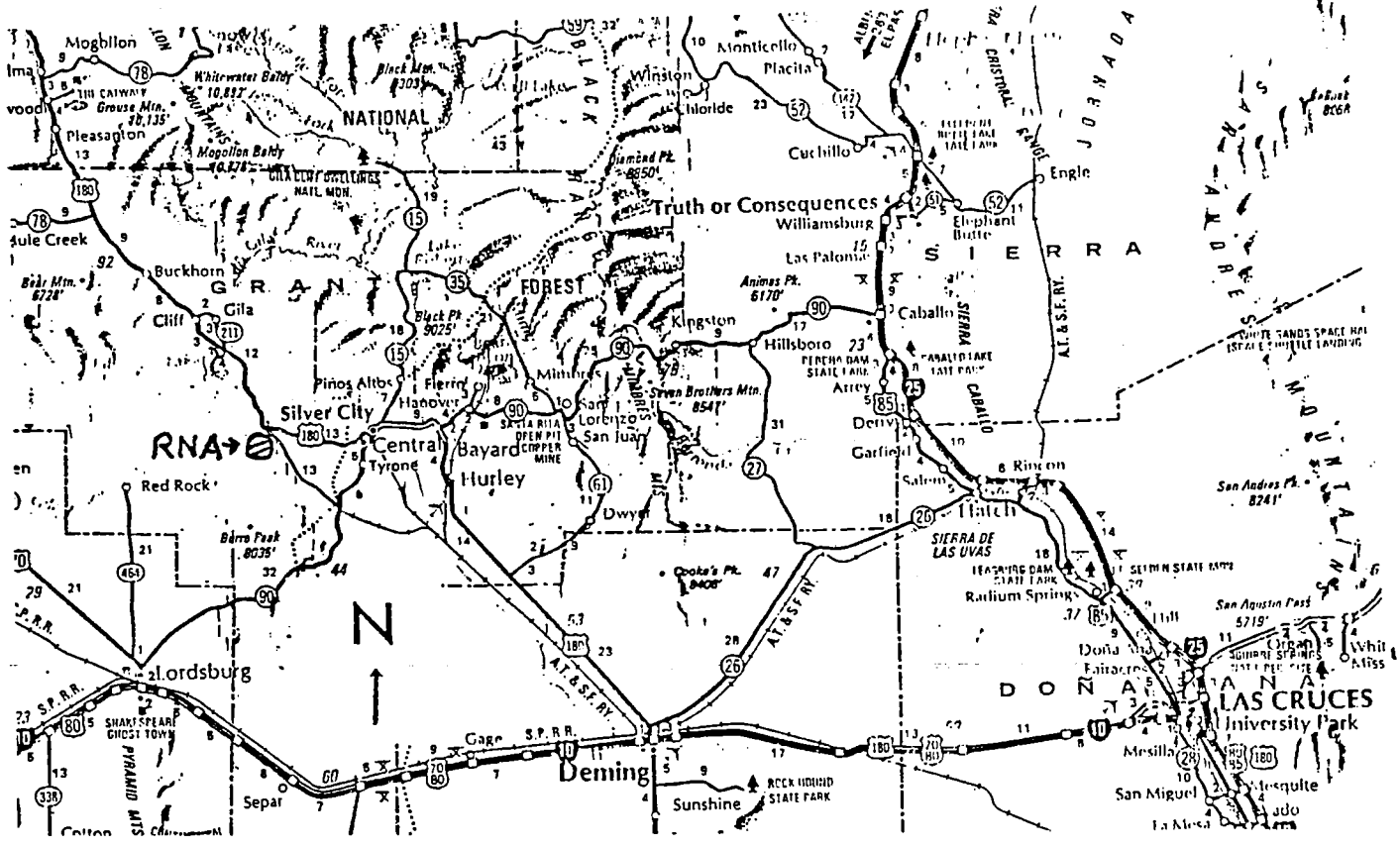
Abutilon incanum	R
Acacia angustissima var. texensis	I
Amaranthus palmeri	I
Andropogon barbinoidis	R
Arabis perennans	R
Argemone pleiacantha ssp. pleiacantha	R
Aristida divaricata	R
Aristida fendleriana	R
Aristida glauca	C
Aristida longiseta	C
Aristida orcuttiana	C
Aristida purpurea	C
Aristida ternipes var. minor	C
Aristida wrightii	C
Artemisia dranunculoides	C
Artemisia ludoviciana ssp. albula	C
Asclepias asperula	R
Astragalus allochrous	C
Astragalus humistratus var. crispulus	R
Astragalus mollissimus var. mollissimas	R
Atriplex canescens	R
Baccharis pternoides	I
Bahia dissecta	C
Baileya multiradiata	C
Berlandiera lyrata	R
Boerhavia coulteri	C
Boerhavia purpurascens	C
Bouteloua curtispindula	C
Bouteloua eriopoda	C
Bouteloua gracilis	C
Bouteloua hirsuta	C
Brickellia scabra	I
Calochortus ambiguus	R
Cassia bahinioides var. bahinioides	R
Cassia leptadenia	R
Castilleja integra	R
Ceanothus greggii	C
Celtis reticulata	I
Cercocarpus montanus	C
Chenopodium hians	I
Chenopodium watsonii var. angustissimus	R
Chilopsis linearis	C
Cirsium neomexicanum	C
Commelina erecta	R
Convolvulus incanus	I
Conyza scheideana	R

R = rare
I = infrequent
C = common

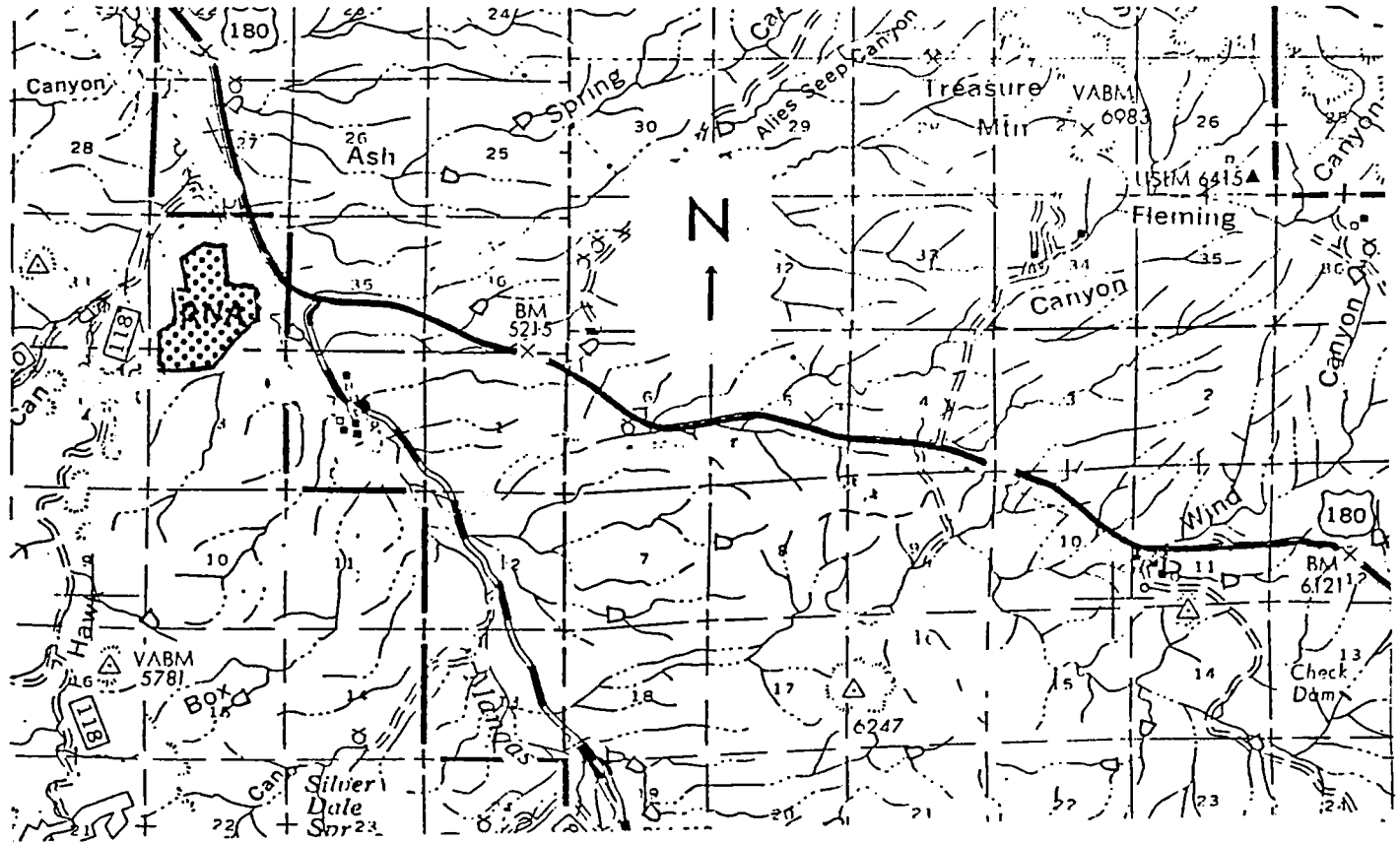
<i>Corydalis aurea</i>	R
<i>Coryphantha vivipara</i> var. <i>arizonica</i>	R
<i>Crotalaria pumila</i>	R
<i>Croton texensis</i>	R
<i>Cryptantha angustifolia</i>	R
<i>Cryptantha jamesii</i>	R
<i>Cucurbita foeditissima</i>	I
<i>Cyperus fendlerianus</i>	I
<i>Dalea calycosa</i>	R
<i>Dalea formosa</i>	C
<i>Dalea jamesii</i>	I
<i>Dalea lachnostachys</i>	I
<i>Dalea ordiae</i>	C
<i>Dasyilirion wheeleri</i>	C
<i>Datura meteloides</i>	R
<i>Datura stramonium</i> var. <i>stramonium</i>	R
<i>Delphinium virescens</i> ssp. <i>wootonii</i>	R
<i>Descurainia obtusa</i> ssp. <i>brevisiliqua</i>	C
<i>Descurainia sophia</i>	I
<i>Draba cuneifolia</i> var. <i>cuneifolia</i>	R
<i>Echinocereus fendleri</i> var. <i>rectispina</i>	I
<i>Eragrostis curtipedicellata</i>	R
<i>Eragrostis poaeoides</i>	I
<i>Eriastrum diffusum</i>	R
<i>Erigeron flagellaris</i>	C
<i>Eriogonum abertanum</i>	C
<i>Eriogonum pharneioides</i>	C
<i>Eriogonum wrightii</i>	C
<i>Erodium cicutarium</i>	R
<i>Erysimum capitatum</i>	R
<i>Escholtzia mexicana</i>	I
<i>Euphorbia albomarginata</i>	C
<i>Euphorbia dentata</i> var. <i>dentata</i>	R
<i>Euphorbia fendleri</i> var. <i>fendleri</i>	I
<i>Euphorbia fendleri</i> var. <i>chactocalyx</i>	I
<i>Euphorbia revoluta</i>	R
<i>Evovulus pilosus</i>	R
<i>Fallugia paradoxa</i>	R
<i>Fendlera rupicola</i>	C
<i>Festuca octaflora</i> var. <i>tenella</i>	C
<i>Franseria confertiflora</i>	R
<i>Funastrum crispum</i>	R
<i>Gaillardia pinnatifida</i>	I
<i>Garrya wrightii</i>	
<i>Gaura coccinea</i>	R
<i>Gilia inconspicua</i>	R
<i>Gilia sinuata</i>	R
<i>Gonaphalium chilense</i>	R
<i>Gomphrena caespitosa</i>	R
<i>Gutierrezia sarothrae</i>	C
<i>Haplopappus gracilis</i>	C
<i>Haplopappus larcifolius</i>	R
<i>Haplopappus spinulosus</i> ssp. <i>spinulosus</i>	C
<i>Helianthus petiolaris</i> ssp. <i>fallax</i>	C

Hilaria belangeri	C
Hilaria mutica	C
Hymenopappus flavescens var. cano-tomentosus	R
Hybanthus verticillatus	R
Ipomoea costellata	R
Ipomopsis multiflora	R
Juniperus deppeana	I
Juniperus monosperma (Juniperus erythrocarpa affinities)	C
Koeleria cristata	R
Krameria lanceolata	I
Layia glandulosa	C
Lepidium medium	R
Lepidium thurberi	I
Leptochloa dubia	R
Lesquerella gordonii var. gordonii	I
Leucelene ericoides	C
Linum lewisii	R
Linum puberulum	I
Lithospermum incisum	R
Lotus humistrutus	R
Lotus wrightii	R
Lycurus phleoides	C
Machaeranthera canesens	I
Machaeranthera tanacetifolia	I
Machaeranthera tephrodes	I
Marrubium vulgare	R
Melampodium leucanthum	C
Mentzelia albicaulis	R
Mentzelia pumila	C
Mimosa biuncifera	C
Mirabilis multiflora	R
Monarda pectinata	I
Morus microphylla	R
Muhlenbergia fragilis	R
Muhlenbergia porteri	I
Muhlenbergia torreyi	I
Nolia microcarpa	C
Oenothera albicaulis	I
Opuntia phaeacantha	R
Opuntia spinosior	R
Oxybaphus linearis var. linearis	R
Panicum hallii	R
Panicum hirticaule	I
Panicum obtusum	R
Parthenium incanum	R
Pectis filipes	C
Penstemon fendleri	R
Penstemon linarioides ssp. linarioides	R
Penstenon linarioides ssp. sileri	R
Phacelia bombycina	R
Phaseolus angustissimus var. angustissimus	R
Phlox austromontana	R
Phoradendron havardianum	R
Pinus edulis	R

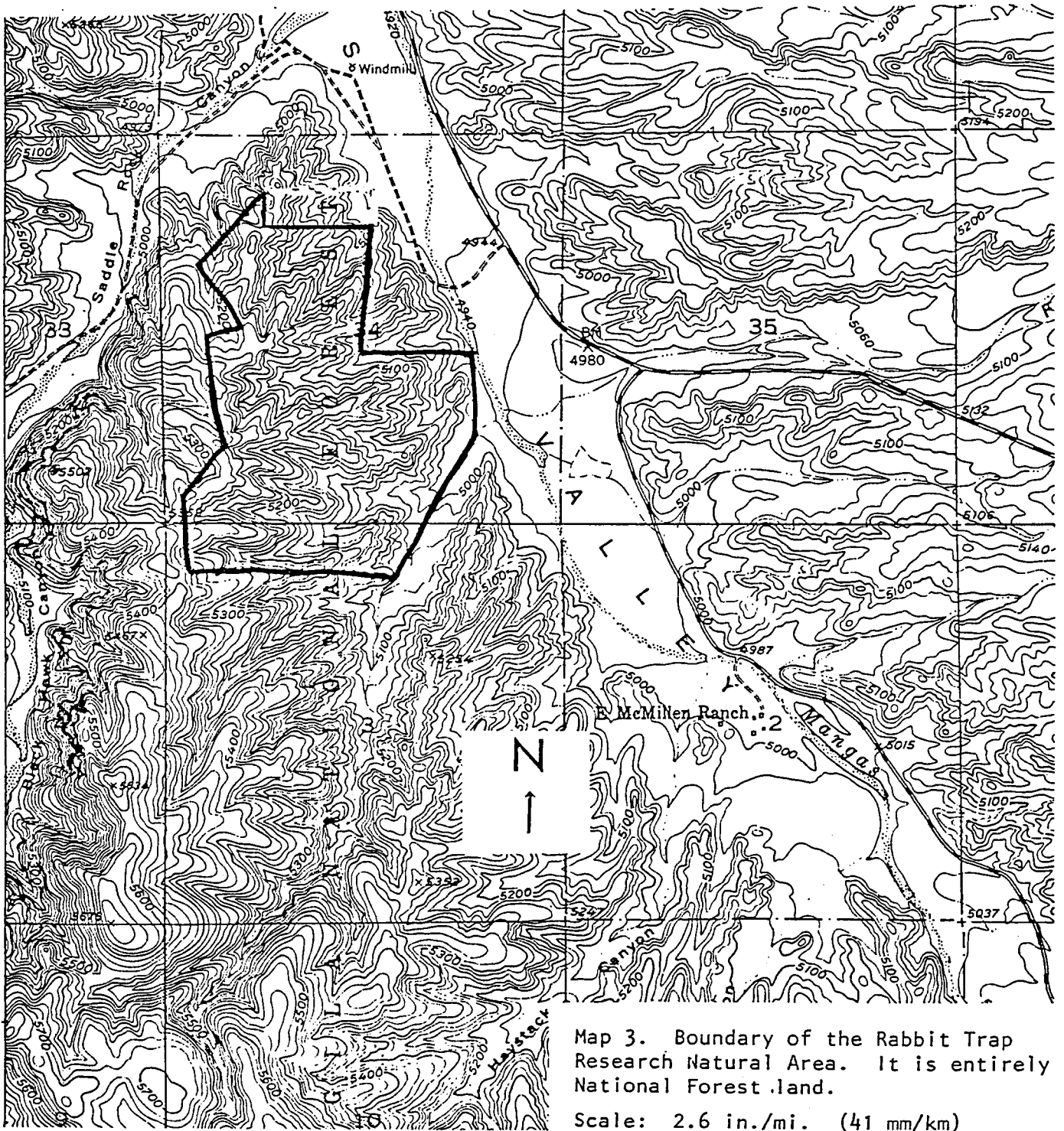
Plagiobothrys arizonicus	R
Plantago purshii var. purshii	I
Poa fendleriana	I
Polainisia trachysperma	C
Proboscidea parviflora	R
Prosopis glandulosa var. torreyana	C
Psoralea tenuiflora	R
Quercus grisea	C
Rhus trilobata var. anisophylla	C
Rhus trilobata var. pilosissima	C
Salsola kali	I
Salvia reflexa	R
Sanvitalia abertii	R
Sapindus saponaria	R
Senecio douglasii var. longilobus	R
Senecio neomexicanus	R
Setaria macrostachya	R
Sitanion hystrix	C
Solanum eleagnifolium	C
Spermolepis echinata	R
Sphaeralcea digitata var. digitata	R
Sphaeralcea fendleri	C
Sporobolus contractus	I
Stachys coccinea	R
Stephanomeria pauciflora	I
Stipa neomexicana	C
Thelesperma megapotamicum	C
Tragia stylaris	R
Tridens pulchellus	C
Verbena bipinnatifida	I
Vicia ludoviciana	C
Viguiera annua	C
Viguiera dentata	I
Yucca baccata	I
Yucca elata	C
Zinnia grandiflora	C



Map 1. Location of RNA (Southwest New Mexico)

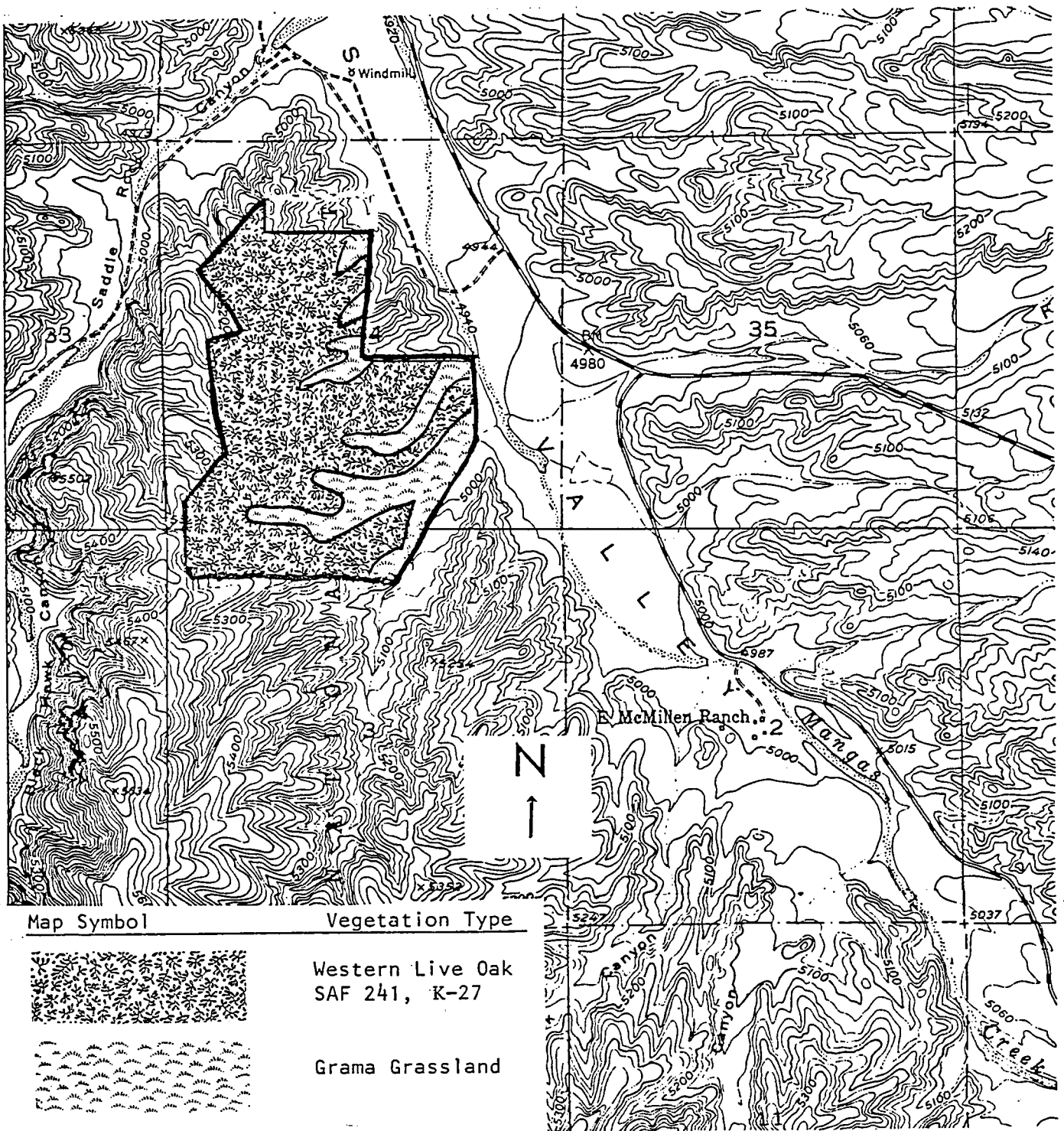


Map 2. Access Route to Rabbit Trap RNA



Map 3. Boundary of the Rabbit Trap Research Natural Area. It is entirely National Forest land.

Scale: 2.6 in./mi. (41 mm/km)



Map 4. Distribution of vegetation types in the Rabbit Trap Research Natural Area.

USDA-FOREST SERVICE <h2 style="text-align: center;">PHOTOGRAPHIC RECORD</h2> <p style="text-align: center;">(See FSM 1643.52)</p>	PHOTOGRAPHER <p style="text-align: center;">William W. Dunmire</p>	DATE SUBMITTED <p style="text-align: center;">Nov. 16, 1987</p>
HEADQUARTERS UNIT		LOCATION

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
				ALL: New Mexico Gila NF Silver City Dist. Grant Co.		ALL: 24x36mm color slides
1.			11-5-86		West across Mangas Valley Road and Mangas Valley toward Rabbit Trap RNA.	
2.			11-5-86		Looking north along west boundary fence in middle portion of Rabbit Trap RNA.	
3.			11-5-86		South toward shrub-covered, north-facing slopes across alluvial wash near east boundary of Rabbit Trap RNA. Photo point is near center of Sec. 4.	
4.			11-5-86		South-facing slope showing sparsity shrub cover at west (upper) end of Rabbit Trap RNA.	
5.			11-5-86		North-facing slope at upper (west) end of Rabbit Trap RNA with shrub cover including gray oak, squawberry and mountain-mahogany.	
6.			11-5-86		Alluvial grassland at west edge of Rabbit Trap RNA. South-southeast toward wash that forms southeast boundary of the RNA.	
7.			11-5-86		Alluvial grassland near southwest boundary of Rabbit Trap RNA.	
8.			11-5-86		Patch of cane bluestem on alluvial grassland near southeast boundary of Rabbit Trap RNA.	
9.			11-5-86		<u>Chilopsis linearis</u> growing in wash near east boundary of Rabbit Trap RNA.	
10.			11-5-86		Restabilized erosion gully at upper (west) end of Rabbit Trap.	

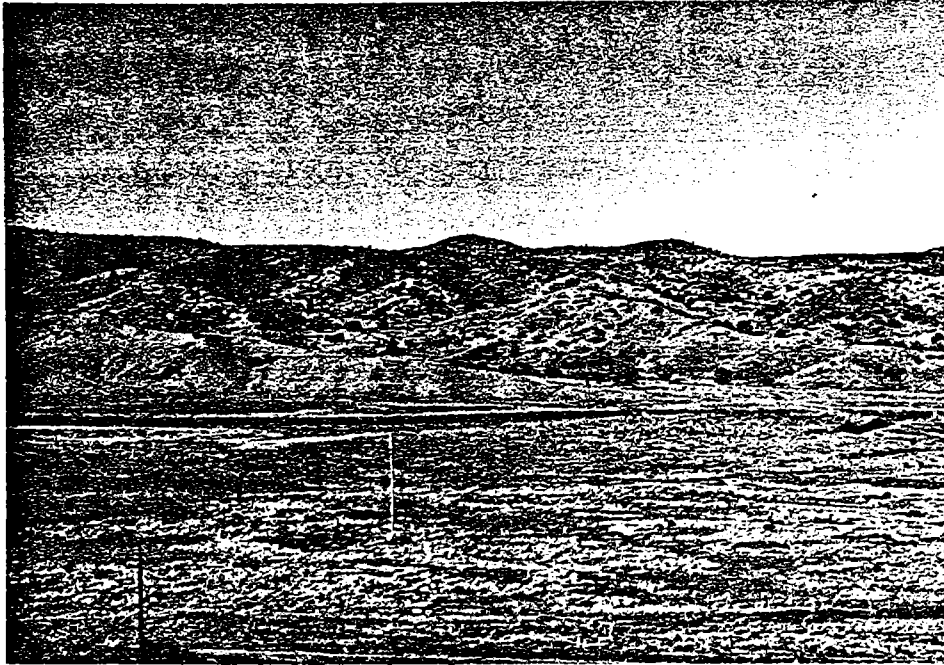


Photo 1. West toward Rabbit Trap RNA from Mangas Valley Road. The distant hills are in the south and middle portion of the RNA.



Photo 2. Rabbit Trap has been a fenced enclosure since the 1940s. Forest grazing allotment on the left; Rabbit Trap RNA to the right of the fence.



Photo 3. About half the ground cover is comprised of shrubs on north and northeast-facing slopes as seen across a grassland wash in the foreground.

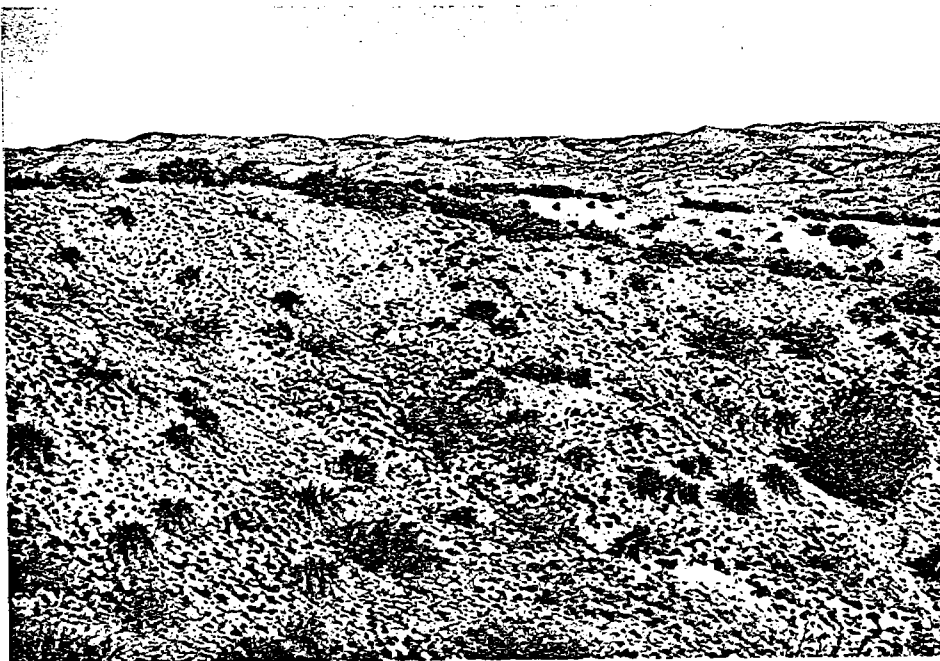


Photo 4. Shrub cover rarely exceeds 10 percent on south and southeast-facing slopes. Principal species here are Nolina microcarpa and Prosopis glandulosa with a grass cover of Bouteloua curtipendula and Aristida sp.



Photo 5. A shrub form of Quercus grisea, Cercocarpus montanus and Rhus trilobata are the most common shrubs on north-facing slopes, keying to QUGR/CEMO Habitat Type.

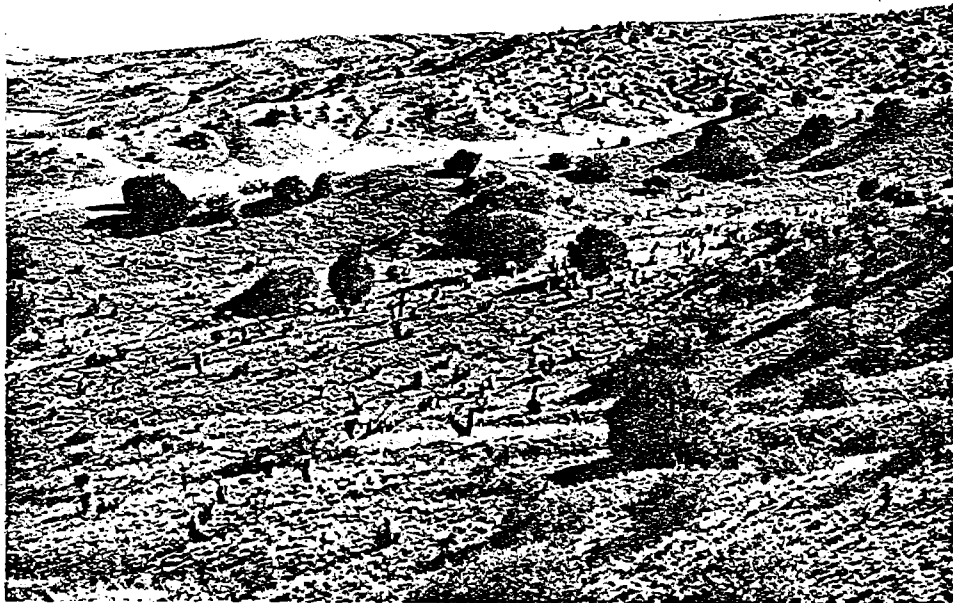


Photo 6. Vegetation becomes an alluvial grassland where the arroyos open toward the Mangas Valley. Shrubs include soaptree yucca, one-seed juniper and gray oak.

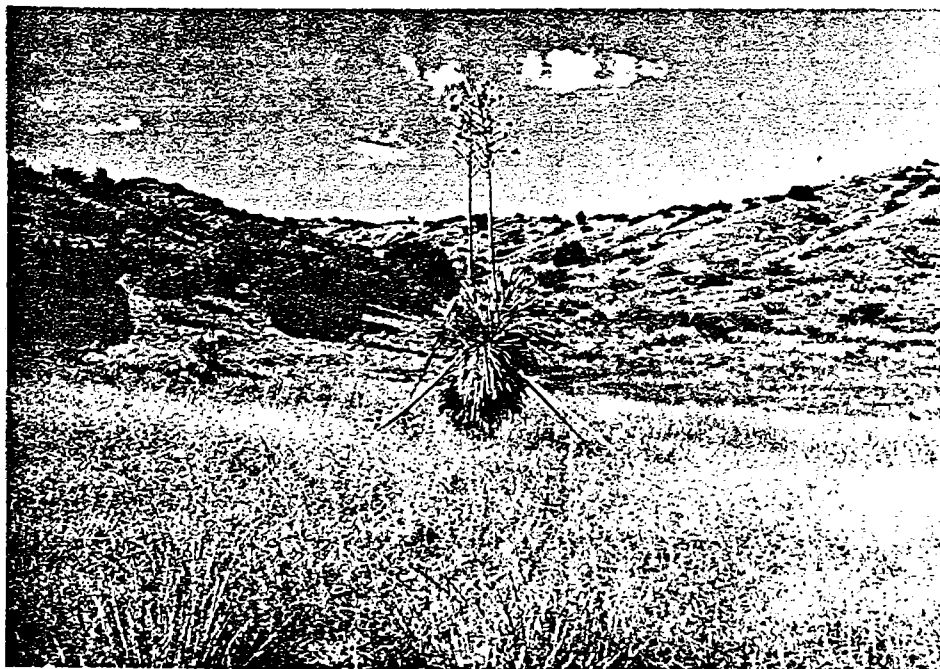


Photo 7. Alluvial grasslands are luxuriant with Bouteloua curtipendula, B. gracilis and Aristida orcuttiana the principal species. Yucca elata is an occasional shrub here.

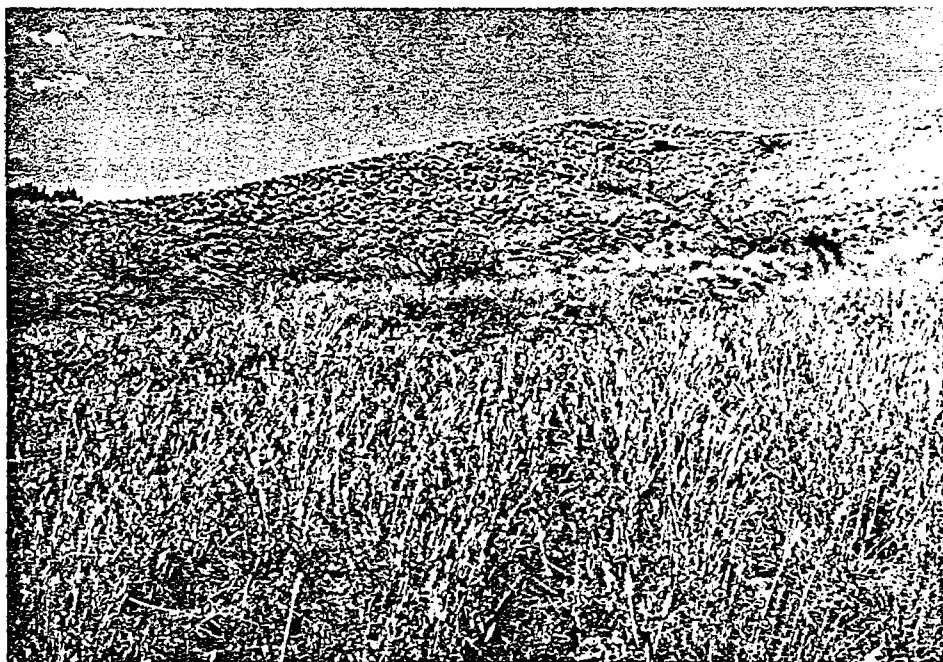


Photo 8. Patches of cane bluestem (Andropogon barbinodis) commonly grow in the alluvial grasslands, here reaching 4 feet (1.2 M) tall.



Photo 9. Desertwillow is a frequent component of the washes at the lower end of Rabbit Trap RNA.



Photo 10. 40 years of protection from grazing have allowed erosion gullies to stabilize with shrubs such as desert ceanothus, mesquite and squawberry along with grasses, principally side-oats grama and cane bluestem.