Decision Notice Finding of No Significant Impact Designation Order

Upper Forks Parker Creek Research Natural Area Tonto National Forest Pleasant Valley Ranger District Gila County, Arizona

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 Upper Forks Parker Creek Research Natural Area (RNA). It shall be comprised of 1,288 acres (521 hectares) of lands in Gila County, Arizona, on the Pleasant Valley Ranger District of the Tonto National Forest, as described in the section of the Establishment Record entitled "Location".

The Regional Forester recommended the establishment of this RNA in the Record of Decision for the Tonto National Forest Land and Resource Management Plan (Forest Plan) in 1985. 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 Upper Forks Parker Creek area to ensure the environmental effects of establishing the area as an RNA have not changed since 1985. 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 Upper Forks Parker Creek as an RNA. Alternative A is selected because it provides long-term protection and recognition of white fir/big-toothed maple forest type. Upper Forks Parker Creek RNA will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding RNA's 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 Upper Forks Parker Creek as a "proposed" RNA. Alternative B was not selected because it would only provide short-term protection of the Upper Forks Parker Creek area. 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 Upper Forks Parker Creek area in the Forest Plan. The Tonto Forest Plan is hereby amended to change the allocation of the Upper Forks Parker Creek area 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 Tonto 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 Tonto National Forest 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 RNA's both short-term and long-term physical and biological effects are limited to the local area.

Decision Notice, Upper Forks Parker Creek RNA

B. Intensity.

- 1. There are no known effects on public health and safety.
- There are no known effects on historic or cultural resources, actual or eligible National Register of Historic places sites, Park lands, prime farmlands, wetland, 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 217. Two (2) copies of the Notice of Appeal must be in writing and submitted to:

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

The Notice of Appeal prepared pursuant to 36 CFR 217.9(b) 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 (36 CFR 217.17(d)).

Chief	Date

Environmental Assessment Upper Forks Parker Creek Research Natural Area

Tonto National Forest Pleasant Valley Ranger District Gila County, Arizona

Proposed Action

The proposed action is to establish the Upper Forks Parker Creek "proposed" Research Natural Area (RNA) identified in the Land and Resource Management Plan (Forest Plan) for the Tonto National Forest as the Upper Forks Parker Creek RNA, and to manage it according to the direction provided in the Forest Plan (Management Area 5F, page 163). 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 Upper Forks Parker Creek RNA is to contribute to a series of RNA's 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). Upper Forks Parker Creek RNA contributes to this series of RNA's by providing an example of white fir/big-toothed maple as discussed in the Forest Plan, page 163. An evaluation by the Regional RNA Committee, pursuant to direction in Forest Service Manual (FSM) 4063.04b, of the need for RNA's identified this type as suitable and desirable for inclusion in the national network. Establishment of the Upper Forks Parker Creek RNA provides long-term protection and recognition of the white fir/big-toothed maple vegetative type.

The Upper Forks Parker Creek area was identified in the Forest Plan as a "proposed" RNA based on the relatively undisturbed conditions of white fir/big-toothed maple 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 page 171 of the RIS for the Forest Plan. Site specific conditions and effects are as follows:

- -The area is within the Sierra Ancha Experimental Forest, which is withdrawn from grazing.
- -No known significant mineral resources exist within the area.
- -The area is classified as productive-nonavailable lands and excluded from the Forest's timber base. There is no road access for fuelwood harvest.
- -Recreation use is heavy, and consists mainly of day-hiking on the established trail.
- -Mexican spotted owl and peregrine falcon have been found near the area. No other threatened or endangered plant or animals are known from the area.
- -There are no plans to develop additional roads or trails in the area.

Designation of alternate RNA's for protection of this type was considered during Forest Plan development. Upper Forks Parker Creek was determined at

Environmental Assessment, Upper Forks Parker Creek RNA

that time to provide the most appropriate site for inclusion in the national network for protection of the white fir/big-toothed maple type.

Alternatives and Environmental Consequences

Alternative A, Proposed Action

Alternative A would designate a 1,288-acre (521 hectares) area as the Upper Forks Parker Creek RNA. This alternative will provide long-term protection for the area. Management of the area will limit recreation use to non-motorized dispersed recreation at a low intensity, reduced service level, rangelands will be managed at Level A, and no harvest of forest products, including fuelwood, will be allowed. Wildfires outside the area that endanger the area will be extinguished in an appropriate manner, as will person-caused fires within the area. Unplanned ignitions within the area will receive appropriate suppression action. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition (Forest Plan, page 163). Upper Forks Parker Creek Research Natural Area will be withdrawn from mineral entry should future and as-yet-unknown information be found to require withdrawal for the protection and management of the basic objectives and purposes of the RNA.

The environmental consequences of Alternative A, are described in the EIS for the Tonto Forest Plan (page 171). No adverse or irreversible environmental consequences are envisioned. Irretrievable effects result from resource outputs either reduced or lost as a result of special area designation. There are no significant cumulative effects of establishing the RNA.

Alternative B. No Action

This alternative continues management according to direction in the Forest Plan (page 163) for the "proposed" RNA. Management emphasis is to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep the area in an unmodified or natural condition.

Management of the area will be the same as in Alternative A. However, only short-term protection of the area, dependent on the life of the Forest Plan, will be provided.

The environmental consequences of Alternative B, the "No Action" alternative, are as described in the EIS for the Tonto Forest Plan (page 171). No adverse or irreversible environmental effects are anticipated. Irretrievable effects result from resource outputs either reduced or lost as a result of special area designation.

Agencies and Persons Consulted

In the process of updating information to determine whether or not conditions had changed since adoption of the Forest Plan, several groups and individuals who may have additional information regarding Upper Forks Parker Creek RNA were contacted. Representatives from the national office of The Nature Conservancy, the Arizona Chapter of The Nature Conservancy, Arizona Heritage Program, Arizona Game and Fish Department, and Arizona Cattle Growers Association were contacted. No additional concerns were raised by these groups. Documentation of the contacts made and summaries of the comments are attached to this Environmental Assessment.

MESSAGE SCAN FOR JERRY STEFFERUD

To RNA

From: REGGIE A. FLETCHER: RO3A

Postmark: Apr 01,93 8:41 AM Delivered: Apr 01,93 8:46 AM

Status: Certified Confidential Previously read Urgent

Subject: Forwarded:

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Comments:

From: REGGIE A. FLETCHER:RO3A Date: Apr 01.93 8:41 AM

Enclosed is a summary of contacts Gerald Henke made with the livestock industry on our submitting the draft RNA establishment reports to the Chief for his signature. While it is not spelled out in the summary, Gerald informs me that none of the persons contacted voiced objections to proceeding with those RNA's in the Forest Plans in either state. For new RNA's we will need to contact these individuals once again and if boundaries are changed to any degree we will need to do likewise. Please consider these contacts as adequate for public involvement for these individuals and the organizations they represent. This should be placed in the project file for all of the draft ER's covered by Forest Plans as of this date and for which we are doing public involvement.

Reggie Fletcher, Regional Ecologist April, 1, 1993

Previous comments: From: GERALD HENKE

Date: Mar 31,93 2:48 PM

names added

RESEARCH NATURAL AREAS'S

Discussions have occured within the past two months with the Arizona Cattle Growers' Association (C.B. Lane) and individuals that attended the annual meeting of the New Mexico Range Improvement Task Force concerning those identified Research Natural Areas in Forest Land and Resource Management Plans in Region 3. Discussions focused around the present National Forest public involvement process and that those identified Research Natural Areas in Forest Plans would be forwarded to the Chief's for inclusion into the National Research Natural Areas system. One such discussion with the Arizona Cattle Growers occured by phone on March 30, 1993 while the conversation with the New Mexico Range Improvement Task Force (John Fowler, Jim Knight, Kirk McDaniel, Karl Wood, Dean John Owens) and attendees (David Kincade, Bill Ball, Stearling Carter, Ray Margo, Linden Parker) of that meeting occured on February 18, 1993.

ESTABLISHMENT RECORD

for

UPPER FORKS PARKER CREEK RESEARCH NATURAL AREA

within

Tonto National Forest Gila County, Arizona

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Upper Forks Parker Creek Research Natural Area

Tonto National Forest

Gila County, Arizona

Prepared by Author Jaurenz	Date 4/4/88
Mark H. Cochran, The Nature Cor Andrew W. Laurenzi, The Nature	nservańcy
	Date <u>5-6-88</u>
James R. Soeth, District Ranger Pleasant Valley Ranger Distr	rict
Recommended by	Date 5-16-88
James L. Kimball, Forest Sur Tonto National Forest	pervisor,
	Date 5-24-88
John W. Russell, Chairperson Southwestern Research Natura Area/Committee	
Λ	_Date
Southwestern Region	ster,
	Date Sept 28, 1988
Charles M./Loveless, Station	
Rocky Mountain Forest and Rocky Mountain Forest and Rocky	ange
Experiment Station	

INTRODUCTION

Upper Forks Parker Creek Research Natural Area (RNA) comprises about 1,288 acres (521 hectares) on the Pleasant Valley Ranger District of the Tonto National Forest in Gila County, Arizona, on reserved public domain National Forest System land. This area is within the Sierra Ancha Experimental Forest, which was originally withdrawn for research purposes on 18 May 1932 and is currently managed by the Rocky Mountain Forest and Range Experiment Station, Flagstaff, Arizona.

Upper Forks Parker Creek RNA is outside and adjacent to the western boundary of the Sierra Ancha Wilderness and includes the upper watersheds of the North and South forks of Parker Creek. The Sierra Ancha Research Station is located on the South Fork of Parker Creek at the western edge of the RNA. These facilities are currently under lease by special-use permit to the Center for Environmental Studies at Arizona State University for research and educational purposes. The site contains an operational weir on the South Fork of Parker Creek.

Land Management Planning. The Regional Guide (USDA Forest Service, 1983) and Tonto National Forest Plan (USDA Forest Service, 1985a) include the Upper Forks Parker Creek RNA. The environmental analysis conducted as part of the Forest planning process supports the recommendation to establish Upper Forks Parker Creek RNA (USDA Forest Service, 1985b).

OBJECTIVES

The objectives for establishing Upper Forks Parker Creek RNA are as follows:

- 1. To continue to provide an undisturbed area for long-term watershed research.
- 2. To provide an example of virgin white fir/big-toothed maple habitat type for research.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

The primary justification to establish Upper Forks Parker Creek RNA is its long history of watershed research as a control watershed within the Sierra Ancha Experimental Forest. Most of the research station facilities adjoining the RNA are currently under a five year, renewable special-use permit by the Center for Environmental Studies at Arizona State University. This use agreement with one of Arizona's major universities makes this RNA especially attractive for research purposes.

The site also includes an outstanding example of the white fir Abies concolor/big-toothed maple Acer grandidentatum habitat type (Moir and Ludwig, 1979; USDA Forest Service, 1986), a relatively widespread habitat type in the mountains of southern Arizona and New Mexico. The need to include this habitat type within the RNA system has been stated in the Southwestern Region RNA Progress Report (USDA Forest Service, 1984). The presence of this habitat type within Upper Forks Parker Creek RNA provides an additional justification for its establishment.

¹Nomenclature and authority for common and scientific names of plants follow that of Lehr (1979) and Little (1979), and Banks et al. (1987), for animals.

PRINCIPAL DISTINGUISHING FRATURES

A virgin stand of the white fir/big-toothed maple habitat type occurs along the canyon bottoms at elevations above 6,200 feet (1,890 meters) within Upper Forks Parker Creek RNA. The lower stretches of the intermittent North and South forks of Parker Creek support limited, but well-developed, stands of mixed-deciduous broadleaf, riparian forest. Predominant trees include sycamore Platanus wrightii, walnut Juglans major, and Arizona white oak Quercus arizonica. The need for greater representation of mixed-deciduous broadleaf forest types has also been identified in the Southwestern Region RNA Progress Report (USDA Forest Service, 1984).

LOCATION

Upper Forks Parker Creek RNA can be reached via Arizona State Highway 288. Proceed north from the junction of Arizona State Highways 288 and 88 19.4 miles (31.2 kilometers) to the bridged crossing of Parker Creek. About 0.2 miles (0.3 kilometers) past this crossing is a gated road turnoff to the Sierra Ancha Research Station (Figs. 1 and 2).

Upper Forks Parker Creek RNA is located within the Pleasant Valley
Ranger District of the Tonto National Forest in Gila County, Arizona. The
area is at 33° 48' North latitude and 110° 56' West longitude. It is within
portions of Sections 1 and 12 of Township 5 North, Range 13 East, Sections 5,
6, 7, and 8, of Township 5 North, Range 14 East, and Section 31 of Township 6
North, Range 14 East, Gila and Salt River Meridian, Arizona.

The boundaries of Upper Forks Parker Creek RNA are more particularly described as follows:

BEGINNING at a point on the thread of Parker Creek where said thread intersects the eastern Right-of-way line of Arizona State Highway 288, said Right-of-way being 25 feet (7.6 meters) east of and parallel to the centerline of said highway;

THENCE, westerly, northerly, and northeasterly on said Right-of-way line for approximately 0.27 miles (0.43 kilometers) to a bend in said highway from northeast to west;

THENCE, North 37° East on a straight line for approximately 0.08 miles (0.13 kilometers) to a point on the hydrographic divide between the North Fork of Parker Creek on the east and an unnamed tributary to Parker Creek on the west:

THENCE, northeasterly on said hydrographic divide for approximately 0.56 miles (0.90 kilometers) to the intersection with the hydrographic divide between the North Fork of Parker Creek to the south and Rose Creek to the northwest;

THENCE, northeasterly on said hydrographic divide between Parker and Rose creeks for approximately 0.54 miles (0.87 kilometers) to the intersection with the hydrographic divide between the North and South forks of Parker Creek to the south and Workman Creek to the north;

THENCE, easterly on said hydrographic divide between Parker and Workman creeks for approximately 1.48 miles (2.38 kilometers) to the top of Carr Peak with a shown elevation of 7,602 feet (2,317 meters);

THENCE, southerly on the hydrographic divide between the South Fork of Parker Creek to the west and Coon Creek to the east for approximately 1.41 miles (2.27 kilometers) to a summit with a shown elevation of 7,089 feet (2,161 meters);

THENCE, westerly on the hydrographic divide between the South Fork of Parker Creek to the north and Pocket Creek to the south, for approximately

0.89 miles (1.43 kilometers) to the top of Grantham Peak with a shown elevation of 6,591 feet (2,009 meters);

THENCE, northwesterly on the hydrographic divide between the South Fork of Parker Creek to the north and ravines draining into Parker Creek to the west for approximately 0.77 miles (1.24 kilometers) to the thread of Parker Creek and the Point-of-BEGINNING.

Lands herein described and topographic features referred to are based on 7.5' United States Geological Survey Quadrangle Sheet AZTEC PEAK, ARIZONA, Provisional Edition, dated 1986. Upper Forks Parker Creek RNA contains 1,288 acres (385 hectares), more or less. The boundaries include the entire upper watershed of the North and South forks of Parker Creek to just below their confluence where Parker Creek crosses Arizona State Highway 288 (Fig. 3). Elevations are 5,000 to 7,602 feet (1,524 to 2,317 meters).

AREA BY COVER TYPES

Information on cover types was obtained from the Southwestern Region RNA Progress Report (USDA Forest Service, 1984) and field reconnaissance. Table 1 provides details of surface area of cover types.

<u>Küchler</u>. Upper Forks Parker Creek RNA includes Pine-Douglas Fir Forest (K-17), Arizona Pine Forest (K-18), and Mixed Conifer (K-5) Potential Natural Vegetation types (Küchler, 1966). The riparian forest and non-forested portions are not described (Fig. 4).

Society of American Foresters. Upper Forks Parker Creek RNA includes Interior Douglas Fir (SAF-210), Interior Ponderosa Pine (SAF-237) and White Fir (SAF-211) (Byre, 1980). The riparian forest and non-forested portions of the RNA are not described.

Habitat Types or Plant Association. Three habitat types occur within the Upper Forks Parker Creek RNA: ponderosa pine Pinus ponderosa/Emory oak Quercus emoryi (PIPO/QUEM), Douglas fir Pseudotsuga menziesii/Arizona white oak (PSME/QUAR), and white fir/big-tooth maple (ABCO/ACGR) habitat types (Muldavin et al., 1986). The riparian forest and non-forested portions of the RNA are not described.

Table 1. Estimated areas of vegetative cover type of Upper Forks Parker Creek RNA.

USFS Type ¹	SAF Type ²	Küchler Type³	Surface Area Acres (Hectares)
PIPO/QUEM	SAF-237	K-18	230 (93)
PSME/QUAR	SAF-210	K-17	200 (81)
ABCO/ACGR	SAF-211	K-5	535 (216)
Non-forested	None	None	303 (123)
Riparian	None	None	20 (8)
Total			1,288 (521)

Muldavin et al., 1986

²Eyre, 1980

³Küchler, 1966

PHYSICAL AND CLIMATIC CONDITIONS

Upper Forks Parker Creek RNA is located in the Sierra Ancha Mountains, which consist largely of a thick succession of nearly horizontal formations of the Apache Group in which quartzite predominates, forming the cap and base of the mountain mass. The RNA includes the entire watersheds of the North and South forks of Parker Creek. These two intermittent streams head on the southwestern slopes of the Sierra Ancha Mountain mass at an elevation of 7,400 feet (2,255 meters). The upper portions of the drainages are bordered by high, perpendicular quartzite cliffs that form a rugged, scenic canyon. The lower portions of the drainages are flanked by high ridges that slope steeply to the bench that borders the mountain. Steep topographical relief characterizes the RNA.

The climate is temperate continental with hot summers at the lower elevations passing to cold summers at high elevation (USDA Forest Service 1986). Mean annual temperature above 6,200 feet (1,890 meters) is 41° F (5° C). Average monthly temperatures in July and January are 62° F (17° C) and 21° F (-6° C), respectively. Below 6,200 feet (1,890 meters) average temperatures are generally 9° to 12° F (4° to 6° C) warmer. The frost-free period is 100 days at the higher elevations and 170 days at the lower elevations. Annual precipitation averages 25 inches (64 centimeters) with 30 percent falling during the summer months (June-September) as a result of summer convective storms that arise on the Sierra Ancha mountain mass. Average annual snowfall accumulation at the higher elevations is 55 inches (140 centimeters) (Pase and Johnson, 1968). Data on weather was gathered onsite at the Sierra Ancha Experimental Forest headquarters during the period 1935 to 1968.

DESCRIPTION OF VALUES

Flora. Upper Forks Parker Creek RNA contains a diverse mosaic of plant communities that correspond closely to topographic position. At elevations above 6,200 feet (1,890 meters), along stream bottoms and extending up the immediate adjoining slopes is the white fir/big-toothed maple habitat type (Moir and Ludwig, 1979; Muldavin et al., 1986). White fir in association with Douglas fir form the overstory. Big-toothed maple is a common understory tree component in association with gambel oak and walnut. Common understory herbs or low shrubs include mountain-love Pachistima myrsinites, snowberry Symphoricarpus oreophilus, lead-plant Amorpha fruticosa, yellow columbine Aquilegia chyrsantha, canada violet Viola canadensis, meadow rue Thalictum fendleri, valerian Valeriana arizonica, and false Solomon's seal Smilicina racemosa.

At the lower elevations, along both forks of Parker Creek, a limited, but well developed, mixed-deciduous broadleaf, riparian forest occurs, which is dominated by walnut, sycamore and Arizona white oak. Important associated tree species include Arizona alder Alnus oblongifolia, southwestern chokecherry Prunus serotina, emory oak, Douglas fir, ponderosa pine and an occasional white fir. Important shrubs include Virginia creeper Parthenocissus inserta, Arizona wild grape Vitis arizonica, California buckthorn Rhamnus californica, poison ivy Rhus radicans, smooth sumac Rhus glabra, and numerous grasses and sedges.

The remaining communities include the Douglas fir/Arizona oak habitat type, which occurs on the north-facing slopes along both forks. Douglas fir and ponderosa pine are the predominant overstory trees with an occasional white fir. Arizona white oak is the predominate understory tree in association with alligator juniper Juniperus deppeana. Additional understory

trees include Emory oak and Gambel oak. Yucca Yucca sp. is a common component of the shrub understory. Scattered bunchgrasses Muhlenbergia spp. occur in the herb layer.

In the central portions of the RNA, a level plateau area extends out between the watersheds of the North and South forks. On this plateau, the Ponderosa pine/emoryi oak habitat type occurs. Ponderosa pine and alligator juniper typify the canopy overstory. The understory tree layer is predominately Arizona white oak in association with Emory oak. Common shrubs include deerbrush Ceanothus fendleri, manzanita Arctostaphylos pungens, and mountain mahogany Cercocarpus montanus. The herb layer is sparse.

At the lower elevation, on south-facing slopes that adjoin the two forks, a chaparral association predominates. Scrub oak Quercus turbinella, deerbrush, and Emory oak are the shrub canopy predominates. Other important shrub components are siltassels Garrya wrightii and G. flavescens, manzanita Arctostaphylos pungens, and squawbush Rhus trilobat.

Flora of Upper Forks Parker Creek RNA has not been thoroughly collected, described, or studied. A general flora compiled for the Sierra Ancha Experimental Forest should provide a good working list (Pase and Johnson, 1968). A rare fleabane Erigeron pringlei, a USFWS Category 2 plant (USDI Fish and Wildlife Service, 1985) under consideration for listing as threatened or endangered is documented from quartzite cliffs. Similar cliffs are found within the RNA and the plant is to be expected on these.

Fauna. For a complete list of vertebrate species, we refer the reader to the vertebrate survey complied for the Sierra Ancha Experimental Forest (Reynolds and Johnson, 1964). No threatened, endangered, or sensitive species are known from the RNA. The Mexican spotted owl Strix occidentalis lucida has been found in the Workman Creek drainage just north of Upper Forks Parker Creek RNA. Similar habitat occurs in the RNA and the bird is likely to occur there.

Geology. The majority of the area is underlain by sedimentary rocks: limestone, shale, sandstone, quartzite and conglomerate. The east and west sides are underlain by diabase sills and dikes (Arizona Highway Department, 1961).

Soils. The lower elevations of these narrow riparian corridors are dominated by Typic Ustifluvents: loamy-skeletal, mixed, nonacid, mesic, and Aquic Ustivluvents: loamy-skeletal, mixed, nonacid, mesic. Above approximately 6,300 feet (1,920 meters) at the transition from evergreen to deciduous oaks, the soil temperature and moisture regime changes but the gross soil morphology does not (USDA Forest Service, 1986). Soils here are classified as Typic Udifluvent: loamy-skeletal, mixed, nonacid, frigid and Aquic Udivluvents: Loamy-skeletal, mixed, nonacid, frigid. Soils of the surrounding uplands are variable due to the diversity of parent materials, microclimate and relief, and are not reported here.

 $\underline{\text{Lands}}.$ Upper Forks Parker Creek RNA is wholly reserved National Forest System lands.

<u>Cultural</u>. No archaeological sites have been reported within the boundaries of Upper Forks Parker Creek RNA. However, several sites have been identified adjacent to it. Archaeological sites located near the RNA include cliff dwellings and other sites along the Coon Creek drainages, which were reported in the late 1920's. Little survey work has occurred in the area since then.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources. Considerable uranium prospecting activity occurred in the 1950's, and a small commercial mine (abandoned) is located at the mouth of the North Fork of Parker Creek. Applications were approved in 1983 and 1984 for oil and gas exploration within the experimental forest, but not within the proposed RNA. No activity occurred. Asbestos was actively mined on Zimmerman Point 2 miles (3.2 kilometers) south of the area. The mining claims are located immediately west of the RNA boundary.

Grazing. Upper Forks Parker Creek RNA is within the Sierra Ancha Experimental Forest, which is closed to grazing. Some grazing from the adjoining A Cross Cattle Allotment has occurred sporadically in the past due to dilapidated Experimental Forest fences and low standard cattleguards on State Highway 288. Additional fencing completed in 1985 and cattleguard maintenance appear to have eliminated trespass grazing.

<u>Timber</u>. There are 800+ acres (324+ hectares) of ponderosa pine and Douglas fir timber. It is classified as productive-nonavailable lands and excluded from the Tonto National Forest timber base. Approximately 200 acres (81 hectares) would be suitable for commercial forest land.

There is a small amount of pinyon-juniper that would be suitable for fuelwood, but road access is non-existent.

Watershed Values. Parker Creek is a tributary to Roosevelt Lake on the Salt River. The primary watershed value is the fact that it has been studied as a research watershed for more than 50 years, and since it is a relatively undisturbed riparian watershed, can provide valuable baseline data for long-term streamflow and watershed analysis. Sedimentation, water quality, quantity, and precipitation patterns are just some of the information available. Considerable research findings specific to Parker Creek are available through the Rocky Mountain Forest and Range Experiment Station. An operational weir is located on the South Fork of Parker Creek about 0.5 mile (0.8 kilometer) above the headquarters of the Sierra Ancha Research Station.

Recreation Values. Parker Creek Trail (Forest Trail 160) is the most popular wilderness recreation trail in the Sierra Ancha Wilderness, with an estimated use of 6,000 visitor days per year. It is popular due to the low elevation trailhead; the trail gradient, although steep, results in almost immediate climatic relief from the adjacent high desert. The wide variety of vegetation is extremely appealing, especially the fall colors (aspen, Rocky Mountain maple, oak, sumac, etc.). The complex geology and scenic red cliffs are superb scenery. Recreational use is primarily confined to the trails and is not expected to detract from the integrity of the RNA.

<u>Wildlife and Plant Values</u>. Area wildlife includes both mule and white-tail deer, black bear, turkey, javelina, mountain lion, fox, coyote, numerous birds, including raptors, and undoubtedly peregrine falcon, since an eyrie is on the east side of the Sierra Ancha Wilderness.

<u>Special Management Area Values</u>. Upper Forks Parker Creek RNA is immediately to the west of the Sierra Ancha Wilderness.

<u>Transportation Plans</u>. Forest Trail 160 parallels the southern and eastern boundaries of Upper Forks Parker Creek RNA. There are no plans to develop additional transportation facilities.

Utility Corridor Plans. None are proposed.

MANAGEMENT PRESCRIPTIONS

Upper Forks Parker Creek RNA is recommended in Management Area 6D of the Tonto National Forest. Management emphasis is to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep the area in an unmodified or natural condition.

<u>Vegetation Management</u>. No harvest of forest products, including fuelwood, is allowed. Unplanned ignitions within the RNA will receive appropriate suppression action. Wildfires outside the area that threaten the area will be suppressed.

ADMINISTRATIVE RECORDS AND PROTECTION

Administration and protection of Upper Forks Parker Creek RNA will be the responsibility of Tonto National Forest. The District Ranger, Pleasant Valley Ranger District, Arizona has direct responsibility.

The Director of the Rocky Mountain Forest and Range Experiment Station will be responsible for any studies or research conducted in the area, and requests to conduct research in the area should be referred to the Director. The Director 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 Upper Forks Parker Creek RNA will be maintained in the following offices of the USDA Forest Service:

Southwestern Region, Albuquerque, NM Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO Tonto National Forest, Phoenix, AZ Pleasant Valley Ranger District, Young, AZ

REFERENCES

- Arizona Highway Department. 1961. Arizona materials inventory, aggregate sources and geology of Gila County. Arizona Highway Division, Phoenix.
- Banks, R. C., R. W. McDiarmid, and A. L. Gardner (editors). 1987. Checklist of vertebrates of the United States, the U. S. Territories, and Canada. U.S. Fish and Wildlife Service, Resource Publication 166, Washington, D.C. 79 pp.
- Eyre, F. H. (editor). 1980. Forest cover types of the United States and Canada. Society of American Foresters, Washington, D. C. 148 pp.
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INTRODUCTION

Upper Forks Parker Creek Research Natural Area (RNA) comprises about 1,288 acres (521 hectares) on the Pleasant Valley Ranger District of the Tonto National Forest in Gila County, Arizona, on reserved public domain National Forest System land. This area is within the Sierra Ancha Experimental Forest, which was originally withdrawn for research purposes on 18 May 1932 and is currently managed by the Rocky Mountain Forest and Range Experiment Station, Flagstaff, Arizona.

Upper Forks Parker Creek RNA is outside and adjacent to the western boundary of the Sierra Ancha Wilderness and includes the upper watersheds of the North and South forks of Parker Creek. The Sierra Ancha Research Station is located on the South Fork of Parker Creek at the western edge of the RNA. These facilities are currently under lease by special-use permit to the Center for Environmental Studies at Arizona State University for research and educational purposes. The site contains an operational weir on the South Fork of Parker Creek.

<u>Land Management Planning</u>. The Regional Guide (USDA Forest Service, 1983) and Tonto National Forest Plan (USDA Forest Service, 1985a) include the Upper Forks Parker Creek RNA. The environmental analysis conducted as part of the Forest planning process supports the recommendation to establish Upper Forks Parker Creek RNA (USDA Forest Service, 1985b).

OBJECTIVES

The objectives for establishing Upper Forks Parker Creek RNA are as follows:

- 1. To continue to provide an undisturbed area for long-term watershed research.
- 2. To provide an example of virgin white fir/big-toothed maple habitat type for research.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

The primary justification to establish Upper Forks Parker Creek RNA is its long history of watershed research as a control watershed within the Sierra Ancha Experimental Forest. Most of the research station facilities adjoining the RNA are currently under a five year, renewable special-use permit by the Center for Environmental Studies at Arizona State University. This use agreement with one of Arizona's major universities makes this RNA especially attractive for research purposes.

The site also includes an outstanding example of the white fir *Abies concolor*/big-toothed maple *Acer grandidentatum* habitat type (Moir and Ludwig, 1979; USDA Forest Service, 1986a), a relatively widespread habitat type in the mountains of southern Arizona and New Mexico. The need to include this habitat type within the RNA system has been stated in the Southwestern Region RNA Progress Report (USDA Forest Service, 1984). The presence of this habitat type within Upper Forks Parker Creek RNA provides an additional justification for its establishment.

PRINCIPAL DISTINGUISHING FEATURES

¹Nomenclature and authority for common and scientific names of plants and animals follow that of Lehr (1979), and Banks et al. (1987), respectively.

A virgin stand of the white fir/big-toothed maple habitat type occurs along the canyon bottoms at elevations above 6,200 feet (1,890 meters) within Upper Forks Parker Creek RNA. The lower stretches of the intermittent North and South forks of Parker Creek support limited, but well-developed, stands of mixed-deciduous broadleaf, riparian forest. Predominant trees include sycamore Platanus wrightii, walnut Juglans major, and Arizona white oak Quercus arizonica. The need for greater representation of mixed-deciduous broadleaf forest types has also been identified in the Southwestern Region RNA Progress Report (USDA Forest Service, 1984).

LOCATION

Upper Forks Parker Creek RNA can be reached via Arizona State Highway 288. Proceed north from the junction of Arizona State Highways 288 and 188 19.4 miles (31.2 kilometers) to the bridged crossing of Parker Creek. About 0.2 miles (0.3 kilometers) past this crossing is a gated road turnoff to the Sierra Ancha Research Station (Figs. 1 and 2).

Upper Forks Parker Creek RNA is located within the Pleasant Valley Ranger District of the Tonto National Forest in Gila County, Arizona. The area is at 33° 48' North latitude and 110° 56' West longitude. It is within portions of Sections 1 and 12 of Township 5 North, Range 13 East, Sections 5, 6, 7, and 8, of Township 5 North, Range 14 East, and Section 31 of Township 6 North, Range 14 East, Gila and Salt River Meridian, Arizona.

The boundaries of Upper Forks Parker Creek RNA are more particularly described as follows:

BEGINNING at a point on the thread of Parker Creek where said thread intersects the eastern Right-of-way line of Arizona State Highway 288, said Right-of-way being 25 feet (7.6 meters) east of and parallel to the centerline of said highway;

THENCE, westerly, northerly, and northeasterly on said Right-of-way line for approximately 0.27 miles (0.43 kilometers) to a bend in said highway from northeast to west;

THENCE, North 37° East on a straight line for approximately 0.08 miles (0.13 kilometers) to a point on the hydrographic divide between the North Fork of Parker Creek on the east and an unnamed tributary to Parker Creek on the west:

THENCE, northeasterly on said hydrographic divide for approximately 0.56 miles (0.90 kilometers) to the intersection with the hydrographic divide between the North Fork of Parker Creek to the south and Rose Creek to the northwest:

THENCE, northeasterly on said hydrographic divide between Parker and Rose creeks for approximately 0.54 miles (0.87 kilometers) to the intersection with the hydrographic divide between the North and South forks of Parker Creek to the south and Workman Creek to the north;

THENCE, easterly on said hydrographic divide between Parker and Workman creeks for approximately 1.48 miles (2.38 kilometers) to the top of Carr Peak with a shown elevation of 7,602 feet (2,317 meters);

THENCE, southerly on the hydrographic divide between the South Fork of Parker Creek to the west and Coon Creek to the east for approximately 1.41 miles (2.27 kilometers) to a summit with a shown elevation of 7,089 feet (2,161 meters);

THENCE, westerly on the hydrographic divide between the South Fork of Parker Creek to the north and Pocket Creek to the south, for approximately 0.89 miles (1.43 kilometers) to the top of Grantham Peak with a shown elevation of 6,591 feet (2,009 meters);

THENCE, northwesterly on the hydrographic divide between the South Fork of Parker Creek to the north and ravines draining into Parker Creek to the west for approximately 0.77 miles (1.24 kilometers) to the thread of Parker Creek and the Point-of-BEGINNING.

Lands herein described and topographic features referred to are based on 7.5' United States Geological Survey Quadrangle Sheet AZTEC PEAK, ARIZONA, Provisional Edition, dated 1986. Upper Forks Parker Creek RNA contains 1,288 acres (385 hectares), more or less. The boundaries include the entire upper watershed of the North and South forks of Parker Creek to just below their confluence where Parker Creek crosses Arizona State Highway 288 (Fig. 3). Elevations are 5,000 to 7,602 feet (1,524 to 2,317 meters).

AREA BY COVER TYPES

Information on cover types was obtained from the Southwestern Region RNA Progress Report (USDA Forest Service, 1984) and field reconnaissance. Table 1 provides details of surface area of cover types.

<u>Küchler</u>. Upper Forks Parker Creek RNA includes Pine-Douglas Fir Forest (K-17) and Arizona Pine Forest (K-18) Potential Natural Vegetation types (Küchler, 1966). The riparian forest and non-forested portions are not described (Fig. 4).

Society of American Foresters. Upper Forks Parker Creek RNA includes Interior Douglas Fir (SAF-210), Interior Ponderosa Pine (SAF-237) and White Fir (SAF-211) (Eyre, 1980). The riparian forest and non-forested portions of the RNA are not described.

Habitat Types or Plant Association. Three habitat types occur within the Upper Forks Parker Creek RNA: ponderosa pine Pinus ponderosa/Emory oak Quercus emoryi (PIPO/QUEM), Douglas fir Pseudotsuga menziesii/Arizona white oak (PSME/QUAR), and white fir/big-tooth maple (ABCO/ACGR) habitat types (Muldavin et al., 1986). The riparian forest and non-forested portions of the RNA are not described.

Table 1. Estimated areas of vegetative cover type of Upper Forks Parker Creek RNA.

USFS Type ¹	SAF Type ²	Küchler Type³	Surface Area Acres (Hectares)
PIPO/QUEM	SAF-237	K-18	230 (93)
PSME/QUAR	SAF-210	K-17	200 (81)
ABCO/ACGR	SAF-211	None	535 (216)
Non-forested	None	None	303 (123)
Riparian	None	None	20 (8)
Total			1,288 (521)

Muldavin et al., 1986

PHYSICAL AND CLIMATIC CONDITIONS

²Eyre, 1980

³Küchler, 1966

Upper Forks Parker Creek RNA is located in the Sierra Ancha Mountains, which consist largely of a thick succession of nearly horizontal formations of the Apache Group in which quartzite predominates, forming the cap and base of the mountain mass. The RNA includes the entire watersheds of the North and South forks of Parker Creek. These two intermittent streams head on the southwestern slopes of the Sierra Ancha Mountain mass at an elevation of 7,400 feet (2,255 meters). The upper portions of the drainages are bordered by high, perpendicular quartzite cliffs that form a rugged, scenic canyon. The lower portions of the drainages are flanked by high ridges that slope steeply to the bench that borders the mountain. Steep topographical relief characterizes the RNA.

The climate is temperate continental with hot summers at the lower elevations passing to cold summers at high elevation (USDA Forest Service 1986b). Mean annual temperature above 6,200 feet (1,890 meters) is 41° F (5° C). Average monthly temperatures in July and January are 62° F (17° C) and 21° F (-6° C), respectively. Below 6,200 feet (1,890 meters) average temperatures are generally 9° to 12° F (4° to 6° C) warmer. The frost-free period is 100 days at the higher elevations and 170 days at the lower elevations. Annual precipitation averages 25 inches (64 centimeters) with 30 percent falling during the summer months (June-September) as a result of summer convective storms that arise on the Sierra Ancha mountain mass (Pase and Johnson, 1968). Average annual snowfall accumulation at the higher elevations is 55 inches (140 centimeters).

DESCRIPTION OF VALUES

Flora. Upper Forks Parker Creek RNA contains a diverse mosaic of plant communities that correspond closely to topographic position. At elevations above 6,200 feet (1,890 meters), along stream bottoms and extending up the immediate adjoining slopes is the white fir/big-toothed maple habitat type (Moir and Ludwig, 1979; Muldavin et al., 1986). White fir in association with Douglas fir form the overstory. Big-toothed maple is a common understory tree component in association with gambel oak and walnut. Common understory herbs or low shrubs include mountain-love Pachistima myrsinites, snowberry Symphoricarpus oreophilus, lead-plant Amorpha fruticosa, yellow columbine Aquilegia chyrsantha, canada violet Viola canadensis, meadow rue Thalictum fendleri, valerian Valeriana arizonica, and false Solomon's seal Smilicina racemosa.

At the lower elevations, along both forks of Parker Creek, a limited, but well developed, mixed-deciduous broadleaf, riparian forest occurs, which is dominated by walnut, sycamore and Arizona white oak. Important associated tree species include Arizona alder Alnus oblongifolia, southwestern chokecherry Prunus serotina, emory oak, Douglas fir, ponderosa pine and an occasional white fir. Important shrubs include Virginia creeper Parthenocissus inserta, Arizona wild grape Vitis arizonica, California buckthorn Rhamnus californica, poison ivy Rhus radicans, smooth sumac Rhus glabra, and numerous grasses and sedges.

The remaining communities include the Douglas fir/Arizona oak habitat type, which occurs on the north-facing slopes along both forks. Douglas fir and ponderosa pine are the predominant overstory trees with an occasional white fir. Arizona white oak is the predominate understory tree in association with alligator juniper Juniperus deppeana. Additional understory trees include Emory oak and Gambel oak. Yucca Yucca sp. is a common component of the shrub understory. Scattered bunchgrasses Muhlenbergia spp. occur in the herb layer.

In the central portions of the RNA, a level plateau area extends out between the watersheds of the North and South forks. On this plateau, the Ponderosa pine/emoryi oak habitat type occurs. Ponderosa pine and alligator juniper typify the canopy overstory. The understory tree layer is predominately Arizona white oak in association with Emory oak. Common shrubs include deerbrush Ceanothus fendleri, manzanita Arctostaphylos pungens, and mountain mahogany Cercocarpus montanus. The herb layer is sparse.

At the lower elevation, on south-facing slopes that adjoin the two forks, a chaparral association predominates. Scrub oak *Quercus turbinella*, deerbrush, and Emory oak are the shrub canopy predominates. Other important shrub components are siltassels *Garrya wrightii* and *G. flavescens*, manzanita *Arctostaphylos pungens*, and squawbush *Rhus trilobat*.

Flora of Upper Forks Parker Creek RNA has not been thoroughly collected, described, or studied. A general flora compiled for the Sierra Ancha Experimental Forest should provide a good working list (Pase and Johnson, 1968). A rare fleabane Erigeron pringlei, a USFWS Category 2 plant (USDI Fish and Wildlife Service, 1985a) under consideration for listing as threatened or endangered is documented from quartzite cliffs. Similar cliffs are found within the RNA and the plant is to be expected on these.

<u>Fauna</u>. For a complete list of vertebrate species, we refer the reader to the vertebrate survey complied for the Sierra Ancha Experimental Forest (Reynolds and Johnson, 1968). No threatened, endangered, or sensitive species are known from the RNA. The Mexican spotted owl *Strix occidentalis lucida* has been found in the Workman Creek drainage just north of Upper Forks Parker Creek RNA. Similar habitat occurs in the RNA and the bird is likely to occur there.

<u>Geology</u>. The majority of the area is underlain by sedimentary rocks: limestone, shale, sandstone, quartzite and conglomerate. The east and west sides are underlain by diabase sills and dikes (Arizona Highway Department, 1961).

Soils. The lower elevations of these narrow riparian corridors are dominated by Typic Ustifluvents: loamy-skeletal, mixed, nonacid, mesic, and Aquic Ustivluvents: loamy-skeletal, mixed, nonacid, mesic. Above approximately 6,300 feet (1,920 meters) at the transition from evergreen to deciduous oaks, the soil temperature and moisture regime changes but the gross soil morphology does not (USDA Forest Service, 1986). Soils here are classified as Typic Udifluvent: loamy-skeletal, mixed, nonacid, frigid and Aquic Udivluvents: Loamy-skeletal, mixed, nonacid, frigid. Soils of the surrounding uplands are variable due to the diversity of parent materials, microclimate and relief, and are not reported here.

 $\underline{\text{Lands}}$. Upper Forks Parker Creek RNA is wholly reserved National Forest System lands.

<u>Cultural</u>. No archaeological sites have been reported within the boundaries of Upper Forks Parker Creek RNA. However, several sites have been identified adjacent to it. Archaeological sites located near the RNA include cliff dwellings and other sites along the Coon Creek drainages, which were reported in the late 1920's. Little survey work has occurred in the area since then.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources. Considerable uranium prospecting activity occurred in the 1950's, and a small commercial mine (abandoned) is located at the mouth of the North Fork of Parker Creek. Applications were approved in 1983 and 1984 for oil and gas exploration within the experimental forest, but not within the proposed RNA. No activity occurred. Asbestos was actively mined on Zimmerman Point 2 miles (3.2 kilometers) south of the area. The mining claims are located immediately west of the RNA boundary.

<u>Grazing</u>. Upper Forks Parker Creek RNA is within the Sierra Ancha Experimental Forest, which is closed to grazing. Some grazing from the adjoining A Cross Cattle Allotment has occurred sporadically in the past due to dilapidated Experimental Forest fences and low standard cattleguards on State Highway 288. Additional fencing completed in 1985 and cattleguard maintenance appear to have eliminated trespass grazing.

<u>Timber</u>. There are 800+ acres (324+ hectares) of ponderosa pine and Douglas fir timber. It is classified as productive-nonavailable lands and excluded from the Tonto National Forest timber base. Approximately 200 acres (81 hectares) would be suitable for commercial forest land.

There is a small amount of pinyon-juniper that would be suitable for fuelwood, but road access is non-existent.

<u>Watershed Values</u>. Parker Creek is a tributary to Roosevelt Lake on the Salt River. The primary watershed value is the fact that it has been studied as a research watershed for more than 50 years, and since it is a relatively undisturbed riparian watershed, can provide valuable baseline data for long-term streamflow and watershed analysis. Sedimentation, water quality, quantity, and precipitation patterns are just some of the information available. Considerable research findings specific to Parker Creek are available through the Rocky Mountain Forest and Range Experiment Station. An operational weir is located on the South Fork of Parker Creek about 0.5 mile (0.8 kilometer) above the headquarters of the Sierra Ancha Research Station.

Recreation Values. Parker Creek Trail (Forest Trail 160) is the most popular wilderness recreation trail in the Sierra Ancha Wilderness, with an estimated use of 6,000 visitor days per year. It is popular due to the low elevation trailhead; the trail gradient, although steep, results in almost immediate climatic relief from the adjacent high desert. The wide variety of vegetation is extremely appealing, especially the fall colors (aspen, Rocky Mountain maple, oak, sumac, etc.). The complex geology and scenic red cliffs are superb scenery.

<u>Wildlife and Plant Values</u>. Area wildlife includes both mule and white-tail deer, black bear, turkey, javelina, mountain lion, fox, coyote, numerous birds, including raptors, and undoubtedly peregrine falcon, since an eyrie is on the east side of the Sierra Ancha Wilderness.

Special Management Area Values. Upper Forks Parker Creek RNA is immediately to the west of the Sierra Ancha Wilderness.

<u>Transportation Plans</u>. Forest Trail 160 parallels the southern and eastern boundaries of Upper Forks Parker Creek RNA. There are no plans to develop additional transportation facilities.

<u>Utility Corridor Plans</u>. None are proposed.

MANAGEMENT PRESCRIPTIONS

Upper Forks Parker Creek RNA is recommended in Management Area 6D of the Tonto National Forest. Management emphasis is to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep the area in an unmodified or natural condition.

<u>Vegetation Management</u>. No harvest of forest products, including fuelwood, is allowed. Unplanned ignitions within the RNA will receive appropriate suppression action. Wildfires outside the area that threaten the area will be suppressed.

ADMINISTRATIVE RECORDS AND PROTECTION

Administration and protection of Upper Forks Parker Creek RNA will be the responsibility of Tonto National Forest. The District Ranger, Pleasant Valley Ranger District, Arizona has direct responsibility.

The Director of the Rocky Mountain Forest and Range Experiment Station will be responsible for any studies or research conducted in the area, and requests to conduct research in the area should be referred to the Director. The Director 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 Upper Forks Parker Creek RNA will be maintained in the following offices of the USDA Forest Service:

Southwestern Region, Albuquerque, NM Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO Tonto National Forest, Phoenix, AZ Pleasant Valley Ranger District, Young, AZ

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I certify the enclosed boundary description of the Upper Forks Parker Creek Research Natural Area was prepared under my direct supervision.

14220
JAMES L.
YOUNG
Forest Land Surveyor

Date

Seal

APPENDIX

The following pages have been reproduced from the Tonto National Forest Plan.

Management Prescriptions

MANAGEMENT AREA 5F (Upper Forks Parker Creek Research Natural Area)

Prescription: #35

Description: Upper Forks Parker Creek Research Natural Area located within the Experimental Forest on the Pleasant Valley Ranger District. Consists of 1,288 acres of chaparral and woodland vegetative types and currently classified as ungrazed capacity range.

Analysis Areas: 5300, 5301, 5306

Management Emphasis: Manage to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products, including fuelwood.

Wildfires outside the natural area which endanger the area will be extinguished in an appropriate manner as will person-caused fires within the area. Unplanned ignitions within the area will receive appropriate suppression action.

Timber Suitability: All acres unsuitable.

Decision Units	Activities	Applicable Analysis Areas	Standards and Guide	olines
DU 1, 2	A03	ALI	VQO of preservation will be met.	
	A15	All	Manage dispersed recreation at low intensity reduced service level.	
			ORV use prohibited	
			Post all boundaries	••
			Manage ROS Classes inventory as follow	(see Appendix E) according to existing us:
			ROS CLASS	5 of MGMT. AREA
			SPM	100
DU 16	D02	All		ngelands at Level A. Little change in expected during the first decade.
DU 17, 18	D05	All	Minimal range improvements developed, 1.e., boundary fences and appropriate interior fences.	
DU 42	J04	All	Process mineral withdrawals for leasable and locatable minerals by 1988. Issue no surface occupancy stipulations for leasing activities.	
DU 56	P08, P09	All	Unplanned ignitions action.	will receive appropriate suppression
		•	Wildfires burning of suppressed.	outside which threaten area will be

DESIGNATION ORDER

By virtue of the authority vested in me by the Secretary of Agriculture under regulations 7 CFR 2.42 and 36 CFR 251.23, I hereby establish the Upper Forks Parker Creek Research Natural Area. The Upper Forks Parker Creek Research Natural Area shall be comprised of the following land: The area is at 33° 48' north latitude and 110° 56' west longitude. Specifically the area lies in portions of section 1 and 12 of T.5N R.13E, sections 5, 6, 7, and 8, of T.5N R.14E, and section 31 of T.6NE on the USGS McFadden Peak 15' topographic guadrangle. The boundaries include the entire upper watershed of the North and South Forks of Parker Creek to just below their confluence where Parker Creek crosses Arizona State Highway 288 (Figure 3). Elevations range from 5000-7400 ft. (1500-2220 m)..

Regional Forester, Sotero Muniz, recommended the establishment of the Upper Forks Parker Creek Research Natural Area in the Tonto National Forest Land and Resource Plan. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. The results of the Regional Forester's analysis are documented in the Final Environmental Impact Statement for the National Forest Land and Resource Management Plan and the Establishment Record which are available to the public.

The Upper Forks Parker Creek Research Natural Area will be managed in compliance with all relevant laws, regulations, and manual direction regarding Research Natural Areas. The Upper Forks Parker Creek Research Natural Area will be administered in accordance with the management direction identified in the Establishment Record.

The Tonto National Forest Land and Resource Management Plan is hereby amended to be consistent with the management direction identified in the Establishment Record and this designation order. Directions on pages of the Tonto National Forest Land and Resource Management Plan are replaced by the directions on pages of the Establishment Record. This direction will remain in effect unless amended pursuant to 36 CFR 219.10. This is a nonsignificant amendment of the Tonto National Forest Land and Resource Management Plan.

The Forest Supervisor of the Tonto National Forest shall notify the public of this amendment and will mail a copy of the Designation Order and amended direction to all persons on the Tonto Land and Resource Management Plan mailing list.

Based on the environmental analysis documented in the National Forest Land and Resource Management Plan and the Establishment Record I find that the designation of the The Upper Forks Parker Creek Research Natural Area is not a major federal action significantly affecting the quality of the human environment.

This decision is subject to appeal pursuant to 36 CFR 211.18. A Notice of Appeal must be in writing and submitted to:

Chief
USDA, Forest Service
P.O. Box 96090
Washington, D.C. 20013-6090

The Notice of Appeal must be submitted within 45 days form the date of this decision. Within five days of receipt, the Chief will transmit the Notice of Appeal and a copy of the Designation order to the Secretary of Agriculture for review at the Secretary's discretion. The appeal will be deemed denied if the Secretary takes no action within ten days of receiving the appeal.

Chief	Date
-------	------



Reply to:

4060 Research Facilities

Date: November 1, 1982

Subject:

Proposed Research Natural Area-Tonto N.F.

RNA Committee

Enclosed is our report and recommendations upon reviewing the proposed RNA program for the Tonto National Forest. The field review was conducted July 26-30, 1982, by Larry Schmidt, Will Moir, and Dave Stewart plus various district staff of the Tonto National Forest. We feel that Dave Stewart did an outstanding job in preparing for and conducting this review with us. It is clear that the Tonto's staff has good understanding of the Federal Research Natural Area program and the contributions that RNA lands can make to improved forest management.

We sincerely appreciate the efforts of the Tonto's staff in making this a successful review.

LARRY SCHMIDT

RNA Task Group Leader

Enclosure



Upper Forks Parker Creek RNA

Ecosystems: Mixed broadleaf riparian (223.22 and 223.32) and associated chaparral and coniferous forests on canyon sideslopes and summits (Pase and Johnson 1968).

The area delineated for RNA candidacy is a portion of the Sierra Ancha Experimental Forest originally withdrawn for research purposes on May 18, 1932. The critical ecosystem is the canyon bottom forest along both forks of Parker Creek. The Regional RNA Task Force recommends the Upper Forks of Parker Creek as a research natural area and the preferred alternative in the Tonto National Forest Plan for the following reasons.

- l. The forks contain excellent examples of preserved riparian vegetation gradients ranging from sycamore-walnut-Arizona alder forest near the head-quarters to White fir-big-toothed maple forest at higher elevations. Benchmark riparian areas for research are in high demand and short supply in Region 3, and representation of such canyon bottom forests within the RNA program will fill part of our deficiency.
- 2. There has already been a long record of research in and around this area, but opportunities for continued study or educational use are still available in a wide range of biological and environmental fields. These opportunities are enhanced by the already existing facilities (including a V-notch weir near the headquarters).
- 3. This opportunity to include mixed broadleaf riparian to the needed representation of Region 3's research natural program is attended by a minimum of alternative land use conflicts here.

We describe briefly this riparian resource as represented along the South Fork Parker Creek.

The lower stretches of the intermittent, 3rd order streamside contain sycamore-walnut forest. The most common trees are sycamores, Arizona walnut, Arizona alder, large specimens of Arizona white oak, and chokecherry (for scientific names see Pase and Johnson 1968). Conifers are Douglas-fir, ponderosa pine, and occasional white fir. Some of the understory shrubs and herbs are wild grape, Virginia creeper, poison ivy, California and hollyleaf buckthorns, skunkbush sumac, smooth sumac, box elder, rose, wild rasberry, bracken fern, purple geranium, blue wildrye, and numerous other grasses and sedges.

The Task Force suggests that this forest, while representative of mixed broad-leaf vegetation along major drainages of canyons bottoms in the Region south of the Mogollon Rim, yet presents some major riparian features that contribute to its uniqueness. For example, the absence of Arizona cypress from the canyon above the headquarters sets this vegetation apart from sycamore-cypress riparian forests elsewhere (especially on the Coronado National Forest).

At higher elevations (above about 6200 feet) the canyon bottom forest becomes dominated by white fir and big-toothed maple. This is the Abies concolor/-Acer grandidentatum habitat type described by Moir and Ludwig (1979) and relatively widespread in mountains of southern Arizona and New Mexico. The Task Force feels that such stretch of more or less representative forest is a needed and welcome addition to the ecosystems within the RNA network. Associated trees are white fir, Douglas-fir, ponderosa pine, and occasional Arizona walnut. There are large specimens of canyon live oak up to about 6400 feet, and gambel oak continues at higher, cooler elevations. Big-toothed maple is common along much of upper South Fork. Common understory herbs or low shrubs include mountain-lover (Pachistima myrsinites), snowberry, lead-plant (Amorpha fruticosa), yellow columbine, canada violet, sweet cicely, meadow rue, valerian (Valeriana arizonica), false Solomon's seal (Smilacina racemosa), and many other boreal and Rocky Mountain Cordilleran species (cf. Whittaker and Niering 1964).

We are fortunate in having considerable hydrological and climatological data for this area. This data-much of it unpublished-will be most helpful in interpreting the resources of the Upper Forks of Parker Creek for subsequent scientific and educational purposes. For example, data from the Workman Creek station represent the montane climate of this proposed RNA (the White fir/Douglas-fir/Ponderosa pine subseries of the Terrestrial Ecosystem Survey). The Regional RNA Task Force is grateful to John Kelsey, Tonto National Forest, for making this climatic data (enclosed in this report) available to us.

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Environmental Assessment Upper Forks Parker Creek Research Natural Area

Tonto National Forest Pleasant Valley Ranger District Gila County, Arizona

Proposed Action

The proposed action is to establish the Upper Forks Parker Creek "proposed" Research Natural Area (RNA) identified in the Land and Resource Management Plan (Forest Plan) for the Tonto National Forest as the Upper Forks Parker Creek RNA, and to manage it according to the direction provided in the Forest Plan (Management Area 5F, page 163). 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 Upper Forks Parker Creek RNA is to contribute to a series of RNA's 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). Upper Forks Parker Creek RNA contributes to this series of RNA's by providing an example of white fir/big-toothed maple as discussed in the Forest Plan, page 163. An evaluation by the Regional RNA Committee, pursuant to direction in Forest Service Manual (FSM) 4063.04b, of the need for RNA's identified this type as suitable and desirable for inclusion in the national network. Establishment of the Upper Forks Parker Creek RNA provides long-term protection and recognition of the white fir/big-toothed maple vegetative type.

The Upper Forks Parker Creek area was identified in the Forest Plan as a "proposed" RNA based on the relatively undisturbed conditions of white fir/big-toothed maple 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 page 171 of the EIS for the Forest Plan. Site specific conditions and effects are as follows:

- -The area is within the Sierra Ancha Experimental Forest, which is withdrawn from grazing.
- -No known significant mineral resources exist within the area.
- -The area is classified as productive-nonavailable lands and excluded from the Forest's timber base. There is no road access for fuelwood harvest.
- -Recreation use is heavy, and consists mainly of day-hiking on the established trail.
- -Mexican spotted owl and peregrine falcon have been found near the area. No other threatened or endangered plant or animals are known from the area.
- -There are no plans to develop additional roads or trails in the area.

Designation of alternate RNA's for protection of this type was considered during Forest Plan development. Upper Forks Parker Creek was determined at

Environmental Assessment, Upper Forks Parker Creek RNA

that time to provide the most appropriate site for inclusion in the national network for protection of the white fir/big-toothed maple type.

Alternatives and Environmental Consequences

Alternative A, Proposed Action

Alternative A would designate a 1,288-acre (521 hectares) area as the Upper Forks Parker Creek RNA. This alternative will provide long-term protection for the area. Management of the area will limit recreation use to non-motorized dispersed recreation at a low intensity, reduced service level, rangelands will be managed at Level A, and no harvest of forest products, including fuelwood, will be allowed. Wildfires outside the area that endanger the area will be extinguished in an appropriate manner, as will person-caused fires within the area. Unplanned ignitions within the area will receive appropriate suppression action. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition (Forest Plan, page 163). Upper Forks Parker Creek Research Natural Area will be withdrawn from mineral entry should future and as-yet-unknown information be found to require withdrawal for the protection and management of the basic objectives and purposes of the RNA.

The environmental consequences of Alternative A, are described in the EIS for the Tonto Forest Plan (page 171). No adverse or irreversible environmental consequences are envisioned. Irretrievable effects result from resource outputs either reduced or lost as a result of special area designation. There are no significant cumulative effects of establishing the RNA.

Alternative B, No Action

This alternative continues management according to direction in the Forest Plan (page 163) for the "proposed" RNA. Management emphasis is to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep the area in an unmodified or natural condition.

Management of the area will be the same as in Alternative A. However, only short-term protection of the area, dependent on the life of the Forest Plan, will be provided.

The environmental consequences of Alternative B, the "No Action" alternative, are as described in the EIS for the Tonto Forest Plan (page 171). No adverse or irreversible environmental effects are anticipated. Irretrievable effects result from resource outputs either reduced or lost as a result of special area designation.

Agencies and Persons Consulted

In the process of updating information to determine whether or not conditions had changed since adoption of the Forest Plan, several groups and individuals who may have additional information regarding Upper Forks Parker Creek RNA were contacted. Representatives from the national office of The Nature Conservancy, the Arizona Chapter of The Nature Conservancy, Arizona Heritage Program, Arizona Game and Fish Department, and Arizona Cattle Growers Association were contacted. No additional concerns were raised by these groups. Documentation of the contacts made and summaries of the comments are attached to this Environmental Assessment.

MESSAGE SCAN FOR JERRY STEFFERUD

To RNA

. i. -

From: REGGIE A. FLETCHER: RO3A

Postmark: Apr 01,93 8:41 AM Delivered: Apr 01,93 8:46 AM

Status: Certified Confidential Previously read Urgent

Subject: Forwarded:

Comments:

From: REGGIE A. FLETCHER:RO3A Date: Apr 01,93 8:41 AM

Enclosed is a summary of contacts Gerald Henke made with the livestock industry on our submitting the draft RNA establishment reports to the Chief for his signature. While it is not spelled out in the summary, Gerald informs me that none of the persons contacted voiced objections to proceeding with those RNA's in the Forest Plans in either state. For new RNA's we will need to contact these individuals once again and if boundaries are changed to any degree we will need to do likewise. Please consider these contacts as adequate for public involvement for these individuals and the organizations they represent. This should be placed in the project file for all of the draft ER's covered by Forest Plans as of this date and for which we are doing public involvement.

Reggie Fletcher, Regional Ecologist April, 1, 1993

Previous comments: From: GERALD HENKE

Date: Mar 31,93 2:48 PM

names added

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RESEARCH NATURAL AREAS'S

Discussions have occured within the past two months with the Arizona Cattle Growers' Association (C.B. Lane) and individuals that attended the annual meeting of the New Mexico Range Improvement Task Force concerning those identified Research Natural Areas in Forest Land and Resource Management Plans in Region 3. Discussions focused around the present National Forest public involvement process and that those identified Research Natural Areas in Forest Plans would be forwarded to the Chief's for inclusion into the National Research Natural Areas system. One such discussion with the Arizona Cattle Growers occured by phone on March 30, 1993 while the conversation with the New Mexico Range Improvement Task Force (John Fowler, Jim Knight, Kirk McDaniel, Karl Wood, Dean John Owens) and attendees (David Kincade, Bill Ball, Stearling Carter, Ray Margo, Linden Parker) of that meeting occured on February 18, 1993.

ESTABLISHMENT RECORD

for

UPPER FORKS PARKER CREEK RESEARCH NATURAL AREA

within

Tonto National Forest Gila County, Arizona

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Upper Forks Parker Creek Research Natural Area

Tonto National Forest

Gila County, Arizona

Prepared by Andrew Jaurent
Recommended by Aures R. Soeth, District Ranger Pleasant Valley Ranger District
Recommended by
Recommended by John W. Russell, Chairperson, Southwestern Research Natural Area Committee
Recommended by Muliz Regional Forester, Southwestern Region
Recommended by Moles M. Dueless Date 128, 1988 Charles M. Loveless, Station Director, Rocky Mountain Forest and Range Experiment Station

INTRODUCTION

Upper Forks Parker Creek Research Natural Area (RNA) comprises about 1,288 acres (521 hectares) on the Pleasant Valley Ranger District of the Tonto National Forest in Gila County, Arizona, on reserved public domain National Forest System land. This area is within the Sierra Ancha Experimental Forest, which was originally withdrawn for research purposes on 18 May 1932 and is currently managed by the Rocky Mountain Forest and Range Experiment Station, Flagstaff, Arizona.

Upper Forks Parker Creek RNA is outside and adjacent to the western boundary of the Sierra Ancha Wilderness and includes the upper watersheds of the North and South forks of Parker Creek. The Sierra Ancha Research Station is located on the South Fork of Parker Creek at the western edge of the RNA. These facilities are currently under lease by special-use permit to the Center for Environmental Studies at Arizona State University for research and educational purposes. The site contains an operational weir on the South Fork of Parker Creek.

Land Management Planning. The Regional Guide (USDA Forest Service, 1983) and Tonto National Forest Plan (USDA Forest Service, 1985a) include the Upper Forks Parker Creek RNA. The environmental analysis conducted as part of the Forest planning process supports the recommendation to establish Upper Forks Parker Creek RNA (USDA Forest Service, 1985b).

OBJECTIVES

The objectives for establishing Upper Forks Parker Creek RNA are as follows:

- 1. To continue to provide an undisturbed area for long-term watershed research.
- 2. To provide an example of virgin white fir/big-toothed maple habitat type for research.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

The primary justification to establish Upper Forks Parker Creek RNA is its long history of watershed research as a control watershed within the Sierra Ancha Experimental Forest. Most of the research station facilities adjoining the RNA are currently under a five year, renewable special-use permit by the Center for Environmental Studies at Arizona State University. This use agreement with one of Arizona's major universities makes this RNA especially attractive for research purposes.

The site also includes an outstanding example of the white fir Abies concolor/big-toothed maple Acer grandidentatum habitat type (Moir and Ludwig, 1979; USDA Forest Service, 1986), a relatively widespread habitat type in the mountains of southern Arizona and New Mexico. The need to include this habitat type within the RNA system has been stated in the Southwestern Region RNA Progress Report (USDA Forest Service, 1984). The presence of this habitat type within Upper Forks Parker Creek RNA provides an additional justification for its establishment.

¹Nomenclature and authority for common and scientific names of plants follow that of Lehr (1979) and Little (1979), and Banks et al. (1987), for animals.

PRINCIPAL DISTINGUISHING FEATURES

A virgin stand of the white fir/big-toothed maple habitat type occurs along the canyon bottoms at elevations above 6,200 feet (1,890 meters) within Upper Forks Parker Creek RNA. The lower stretches of the intermittent North and South forks of Parker Creek support limited, but well-developed, stands of mixed-deciduous broadleaf, riparian forest. Predominant trees include sycamore Platanus wrightii, walnut Juglans major, and Arizona white oak Quercus arizonica. The need for greater representation of mixed-deciduous broadleaf forest types has also been identified in the Southwestern Region RNA Progress Report (USDA Forest Service, 1984).

LOCATION

Upper Forks Parker Creek RNA can be reached via Arizona State Highway 288. Proceed north from the junction of Arizona State Highways 288 and 88 19.4 miles (31.2 kilometers) to the bridged crossing of Parker Creek. About 0.2 miles (0.3 kilometers) past this crossing is a gated road turnoff to the Sierra Ancha Research Station (Figs. 1 and 2).

Upper Forks Parker Creek RNA is located within the Pleasant Valley Ranger District of the Tonto National Forest in Gila County, Arizona. The area is at 33° 48' North latitude and 110° 56' West longitude. It is within portions of Sections 1 and 12 of Township 5 North, Range 13 East, Sections 5, 6, 7, and 8, of Township 5 North, Range 14 East, and Section 31 of Township 6 North, Range 14 East, Gila and Salt River Meridian, Arizona.

The boundaries of Upper Forks Parker Creek RNA are more particularly described as follows:

BEGINNING at a point on the thread of Parker Creek where said thread intersects the eastern Right-of-way line of Arizona State Highway 288, said Right-of-way being 25 feet (7.6 meters) east of and parallel to the centerline of said highway;

THENCE, westerly, northerly, and northeasterly on said Right-of-way line for approximately 0.27 miles (0.43 kilometers) to a bend in said highway from northeast to west;

THENCE, North 37° East on a straight line for approximately 0.08 miles (0.13 kilometers) to a point on the hydrographic divide between the North Fork of Parker Creek on the east and an unnamed tributary to Parker Creek on the

THENCE, northeasterly on said hydrographic divide for approximately 0.56 miles (0.90 kilometers) to the intersection with the hydrographic divide between the North Fork of Parker Creek to the south and Rose Creek to the northwest;

THENCE, northeasterly on said hydrographic divide between Parker and Rose creeks for approximately 0.54 miles (0.87 kilometers) to the intersection with the hydrographic divide between the North and South forks of Parker Creek to the south and Workman Creek to the north;

to the south and Workman Creek to the north;

THENCE, easterly on said hydrographic divide between Parker and Workman creeks for approximately 1.48 miles (2.38 kilometers) to the top of Carr Peak with a shown elevation of 7,602 feet (2,317 meters);

THENCE, southerly on the hydrographic divide between the South Fork of Parker Creek to the west and Coon Creek to the east for approximately 1.41 miles (2.27 kilometers) to a summit with a shown elevation of 7,089 feet (2,161 meters);

THENCE, westerly on the hydrographic divide between the South Fork of Parker Creek to the north and Pocket Creek to the south, for approximately

Establishment Record, Upper Forks Parker Creek RNA

0.89 miles (1.43 kilometers) to the top of Grantham Peak with a shown elevation of 6,591 feet (2,009 meters);

THENCE, northwesterly on the hydrographic divide between the South Fork of Parker Creek to the north and ravines draining into Parker Creek to the west for approximately 0.77 miles (1.24 kilometers) to the thread of Parker Creek and the Point-of-BEGINNING.

Lands herein described and topographic features referred to are based on 7.5' United States Geological Survey Quadrangle Sheet AZTEC PEAK, ARIZONA, Provisional Edition, dated 1986. Upper Forks Parker Creek RNA contains 1,288 acres (385 hectares), more or less. The boundaries include the entire upper watershed of the North and South forks of Parker Creek to just below their confluence where Parker Creek crosses Arizona State Highway 288 (Fig. 3). Elevations are 5,000 to 7,602 feet (1,524 to 2,317 meters).

AREA BY COVER TYPES

Information on cover types was obtained from the Southwestern Region RNA Progress Report (USDA Forest Service, 1984) and field reconnaissance. Table 1 provides details of surface area of cover types.

<u>Küchler</u>. Upper Forks Parker Creek RNA includes Pine-Douglas Fir Forest (K-17), Arizona Pine Forest (K-18), and Mixed Conifer (K-5) Potential Natural Vegetation types (Küchler, 1966). The riparian forest and non-forested portions are not described (Fig. 4).

Society of American Foresters. Upper Forks Parker Creek RNA includes Interior Douglas Fir (SAF-210), Interior Ponderosa Pine (SAF-237) and White Fir (SAF-211) (Eyre, 1980). The riparian forest and non-forested portions of the RNA are not described.

Habitat Types or Plant Association. Three habitat types occur within the Upper Forks Parker Creek RNA: ponderosa pine Pinus ponderosa/Emory oak Quercus emoryi (PIPO/QUEM), Douglas fir Pseudotsuga menziesii/Arizona white oak (PSME/QUAR), and white fir/big-tooth maple (ABCO/ACGR) habitat types (Muldavin et al., 1986). The riparian forest and non-forested portions of the RNA are not described.

Table 1. Estimated areas of vegetative cover type of Upper Forks Parker Creek RNA.

USFS Type ¹	SAF Type ²	Küchler Type³	Surface Area Acres (Hectares)
PIPO/QUEM	SAF-237	K-18	230 (93)
PSME/QUAR	SAF-210	K-17	200 (81)
ABCO/ACGR	SAF-211	K-5	535 (216)
Non-forested	None	None	303 (123)
Riparian	None	None	20 (8)
Total			1,288 (521)

Muldavin et al., 1986

²Eyre, 1980

3Küchler, 1966

PHYSICAL AND CLIMATIC CONDITIONS

Upper Forks Parker Creek RNA is located in the Sierra Ancha Mountains, which consist largely of a thick succession of nearly horizontal formations of the Apache Group in which quartzite predominates, forming the cap and base of the mountain mass. The RNA includes the entire watersheds of the North and South forks of Parker Creek. These two intermittent streams head on the southwestern slopes of the Sierra Ancha Mountain mass at an elevation of 7,400 feet (2,255 meters). The upper portions of the drainages are bordered by high, perpendicular quartzite cliffs that form a rugged, scenic canyon. The lower portions of the drainages are flanked by high ridges that slope steeply to the bench that borders the mountain. Steep topographical relief characterizes the RNA.

The climate is temperate continental with hot summers at the lower elevations passing to cold summers at high elevation (USDA Forest Service 1986). Mean annual temperature above 6,200 feet (1,890 meters) is 41° F (5° C). Average monthly temperatures in July and January are 62° F (17° C) and 21° F (-6° C), respectively. Below 6,200 feet (1,890 meters) average temperatures are generally 9° to 12° F (4° to 6° C) warmer. The frost-free period is 100 days at the higher elevations and 170 days at the lower elevations. Annual precipitation averages 25 inches (64 centimeters) with 30 percent falling during the summer months (June-September) as a result of summer convective storms that arise on the Sierra Ancha mountain mass. Average annual snowfall accumulation at the higher elevations is 55 inches (140 centimeters) (Pase and Johnson, 1968). Data on weather was gathered onsite at the Sierra Ancha Experimental Forest headquarters during the period 1935 to 1968.

DESCRIPTION OF VALUES

Flora. Upper Forks Parker Creek RNA contains a diverse mosaic of plant communities that correspond closely to topographic position. At elevations above 6,200 feet (1,890 meters), along stream bottoms and extending up the immediate adjoining slopes is the white fir/big-toothed maple habitat type (Moir and Ludwig, 1979; Muldavin et al., 1986). White fir in association with Douglas fir form the overstory. Big-toothed maple is a common understory tree component in association with gambel oak and walnut. Common understory herbs or low shrubs include mountain-love Pachistima myrsinites, snowberry Symphoricarpus oreophilus, lead-plant Amorpha fruticosa, yellow columbine Aquilegia chyrsantha, canada violet Viola canadensis, meadow rue Thalictum fendleri, valerian Valeriana arizonica, and false Solomon's seal Smilicina racemosa.

At the lower elevations, along both forks of Parker Creek, a limited, but well developed, mixed-deciduous broadleaf, riparian forest occurs, which is dominated by walnut, sycamore and Arizona white oak. Important associated tree species include Arizona alder Alnus oblongifolia, southwestern chokecherry Prunus serotina, emory oak, Douglas fir, ponderosa pine and an occasional white fir. Important shrubs include Virginia creeper Parthenocissus inserta, Arizona wild grape Vitis arizonica, California buckthorn Rhamnus californica, poison ivy Rhus radicans, smooth sumac Rhus glabra, and numerous grasses and sedges.

The remaining communities include the Douglas fir/Arizona oak habitat type, which occurs on the north-facing slopes along both forks. Douglas fir and ponderosa pine are the predominant overstory trees with an occasional white fir. Arizona white oak is the predominate understory tree in association with alligator juniper Juniperus deppeana. Additional understory

Establishment Record, Upper Forks Parker Creek RNA

trees include Emory oak and Gambel oak. Yucca Yucca sp. is a common component of the shrub understory. Scattered bunchgrasses Muhlenbergia spp. occur in the herb layer.

In the central portions of the RNA, a level plateau area extends out between the watersheds of the North and South forks. On this plateau, the Ponderosa pine/emoryi oak habitat type occurs. Ponderosa pine and alligator juniper typify the canopy overstory. The understory tree layer is predominately Arizona white oak in association with Emory oak. Common shrubs include deerbrush Ceanothus fendleri, manzanita Arctostaphylos pungens, and mountain mahogany Cercocarpus montanus. The herb layer is sparse.

At the lower elevation, on south-facing slopes that adjoin the two forks, a chaparral association predominates. Scrub oak Quercus turbinella, deerbrush, and Emory oak are the shrub canopy predominates. Other important shrub components are siltassels Garrya wrightii and G. flavescens, manzanita Arctostaphylos pungens, and squawbush Rhus trilobat.

Flora of Upper Forks Parker Creek RNA has not been thoroughly collected, described, or studied. A general flora compiled for the Sierra Ancha Experimental Forest should provide a good working list (Pase and Johnson, 1968). A rare fleabane Erigeron pringlei, a USFWS Category 2 plant (USDI Fish and Wildlife Service, 1985) under consideration for listing as threatened or endangered is documented from quartzite cliffs. Similar cliffs are found within the RNA and the plant is to be expected on these.

Fauna. For a complete list of vertebrate species, we refer the reader to the vertebrate survey complied for the Sierra Ancha Experimental Forest (Reynolds and Johnson, 1964). No threatened, endangered, or sensitive species are known from the RNA. The Mexican spotted owl Strix occidentalis lucida has been found in the Workman Creek drainage just north of Upper Forks Parker Creek RNA. Similar habitat occurs in the RNA and the bird is likely to occur there.

<u>Geology</u>. The majority of the area is underlain by sedimentary rocks: limestone, shale, sandstone, quartzite and conglomerate. The east and west sides are underlain by diabase sills and dikes (Arizona Highway Department, 1961).

Soils. The lower elevations of these narrow riparian corridors are dominated by Typic Ustifluvents: loamy-skeletal, mixed, nonacid, mesic, and Aquic Ustivluvents: loamy-skeletal, mixed, nonacid, mesic. Above approximately 6,300 feet (1,920 meters) at the transition from evergreen to deciduous oaks, the soil temperature and moisture regime changes but the gross soil morphology does not (USDA Forest Service, 1986). Soils here are classified as Typic Udifluvent: loamy-skeletal, mixed, nonacid, frigid and Aquic Udivluvents: Loamy-skeletal, mixed, nonacid, frigid. Soils of the surrounding uplands are variable due to the diversity of parent materials, microclimate and relief, and are not reported here.

<u>Lands</u>. Upper Forks Parker Creek RNA is wholly reserved National Forest System lands.

<u>Cultural</u>. No archaeological sites have been reported within the boundaries of Upper Forks Parker Creek RNA. However, several sites have been identified adjacent to it. Archaeological sites located near the RNA include cliff dwellings and other sites along the Coon Creek drainages, which were reported in the late 1920's. Little survey work has occurred in the area since then.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources. Considerable uranium prospecting activity occurred in the 1950's, and a small commercial mine (abandoned) is located at the mouth of the North Fork of Parker Creek. Applications were approved in 1983 and 1984 for oil and gas exploration within the experimental forest, but not within the proposed RNA. No activity occurred. Asbestos was actively mined on Zimmerman Point 2 miles (3.2 kilometers) south of the area. The mining claims are located immediately west of the RNA boundary.

Grazing. Upper Forks Parker Creek RNA is within the Sierra Ancha Experimental Forest, which is closed to grazing. Some grazing from the adjoining A Cross Cattle Allotment has occurred sporadically in the past due to dilapidated Experimental Forest fences and low standard cattleguards on State Highway 288. Additional fencing completed in 1985 and cattleguard maintenance appear to have eliminated trespass grazing.

<u>Timber</u>. There are 800+ acres (324+ hectares) of ponderosa pine and Douglas fir timber. It is classified as productive-nonavailable lands and excluded from the Tonto National Forest timber base. Approximately 200 acres (81 hectares) would be suitable for commercial forest land.

There is a small amount of pinyon-juniper that would be suitable for fuelwood, but road access is non-existent.

<u>Watershed Values</u>. Parker Creek is a tributary to Roosevelt Lake on the Salt River. The primary watershed value is the fact that it has been studied as a research watershed for more than 50 years, and since it is a relatively undisturbed riparian watershed, can provide valuable baseline data for long-term streamflow and watershed analysis. Sedimentation, water quality, quantity, and precipitation patterns are just some of the information available. Considerable research findings specific to Parker Creek are available through the Rocky Mountain Forest and Range Experiment Station. An operational weir is located on the South Fork of Parker Creek about 0.5 mile (0.8 kilometer) above the headquarters of the Sierra Ancha Research Station.

Recreation Values. Parker Creek Trail (Forest Trail 160) is the most popular wilderness recreation trail in the Sierra Ancha Wilderness, with an estimated use of 6,000 visitor days per year. It is popular due to the low elevation trailhead; the trail gradient, although steep, results in almost immediate climatic relief from the adjacent high desert. The wide variety of vegetation is extremely appealing, especially the fall colors (aspen, Rocky Mountain maple, oak, sumac, etc.). The complex geology and scenic red cliffs are superb scenery. Recreational use is primarily confined to the trails and is not expected to detract from the integrity of the RNA.

<u>Wildlife and Plant Values</u>. Area wildlife includes both mule and white-tail deer, black bear, turkey, javelina, mountain lion, fox, coyote, numerous birds, including raptors, and undoubtedly peregrine falcon, since an eyrie is on the east side of the Sierra Ancha Wilderness.

Special Management Area Values. Upper Forks Parker Creek RNA is immediately to the west of the Sierra Ancha Wilderness.

<u>Transportation Plans</u>. Forest Trail 160 parallels the southern and eastern boundaries of Upper Forks Parker Creek RNA. There are no plans to develop additional transportation facilities.

Utility Corridor Plans. None are proposed.

Establishment Record, Upper Forks Parker Creek RNA

MANAGEMENT PRESCRIPTIONS

Upper Forks Parker Creek RNA is recommended in Management Area 6D of the Tonto National Forest. Management emphasis is to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep the area in an unmodified or natural condition.

<u>Vegetation Management</u>. No harvest of forest products, including fuelwood, is allowed. Unplanned ignitions within the RNA will receive appropriate suppression action. Wildfires outside the area that threaten the area will be suppressed.

ADMINISTRATIVE RECORDS AND PROTECTION

Administration and protection of Upper Forks Parker Creek RNA will be the responsibility of Tonto National Forest. The District Ranger, Pleasant Valley Ranger District, Arizona has direct responsibility.

The Director of the Rocky Mountain Forest and Range Experiment Station will be responsible for any studies or research conducted in the area, and requests to conduct research in the area should be referred to the Director. The Director 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 Upper Forks Parker Creek RNA will be maintained in the following offices of the USDA Forest Service:

Southwestern Region, Albuquerque, NM Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO Tonto National Forest, Phoenix, AZ Pleasant Valley Ranger District, Young, AZ

REFERENCES

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I certify the enclosed boundary description of the Upper Forks Parker Creek Research Natural Area was prepared under my direct supervision.

14220
JAMES L.
YOUNG
Forest Land Surveyor

Date

Seal

APPENDIX

The following pages have been reproduced from the Tonto National Forest Plan.

Management Prescriptions

MANAGEMENT AREA 5F (Upper Forks Parker Creek Research Natural Area)

Prescription: #35

Description: Upper Forks Parker Creek Research Natural Area located within the Experimental Forest on the Pleasant Valley Ranger District. Consists of 1,288 acres of chaparral and woodland vegetative types and currently classified as ungrazed capacity range.

Analysis Areas: 5300, 5301, 5306

Management Emphasis: Manage to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products, including fuelwood.

Wildfires outside the natural area which endanger the area will be extinguished in an appropriate manner as will person-caused fires within the area. Unplanned ignitions within the area will receive appropriate suppression action.

Timber Suitability: All acres unsuitable.

Decision Units	Activities	Applicable Analysis Areas	Standards and Guidelines	,			
DU 1, 2	A03	ALL	VQO of preservation will be met.				
	A15	All	Manage dispersed recreation at low intensity reduced service level.				
			ORV use prohibited.				
			Post all boundaries.				
			Manage ROS Classes (see Appendix E) according to existing inventory as follows:				
			ROS CLASS	% of MGMT. AREA			
			SPM	100			
DU 16	D02	All		s at Level A. Little change in ad during the first decade.			
DU 17, 18	D05	ALL	Minimal range improvements developed, i.e., boundary fences and appropriate interior fences.				
DU 42	J04	All	Process mineral withdrawals for leasable and locatable minerals by 1988. Issue no surface occupancy stipulations for leasing activities.				
DU 56	P08, P09	All	Unplanned ignitions will raction.	receive appropriate suppression			
		•	Wildfires burning outside suppressed.	which threaten area will be			

Upper Forks Parker Creek RNA Peg Boland

Looks good!

Whitmore Comments

- 1. Great maps!
- 2. P.1 or P. 4 of ER: refer to E.L.Little.
- 3. P. 1 & P. 8 of ER: Reference missing in References section (USDA-FS 1986a). Also P. 4, para 2: USDA-FS 1986b.
- 4. P. 2 of ER: Rt. 188 must be Rt. 88; (since 188 & 288 don't meet, according to the map).
- 5. SAF = K-11; SAF = K-5; & K-17 = SAF 237. So which ones are we dealing with?
- 6. No reference to a weather station; neither length of record nor distance to.
- 7. Will day-hiking be discouraged?? (6000 visitors per year!).
- 8. Pl. of ER, last line: Lehr 1979 or 1978??
- 9. P. 5 of ER, para 3: USDI-F&WS 1985a = 1985?P. 5 of ER, para 4: Reynolds & J. 1968 or 1964??

Cheers!

--Les--

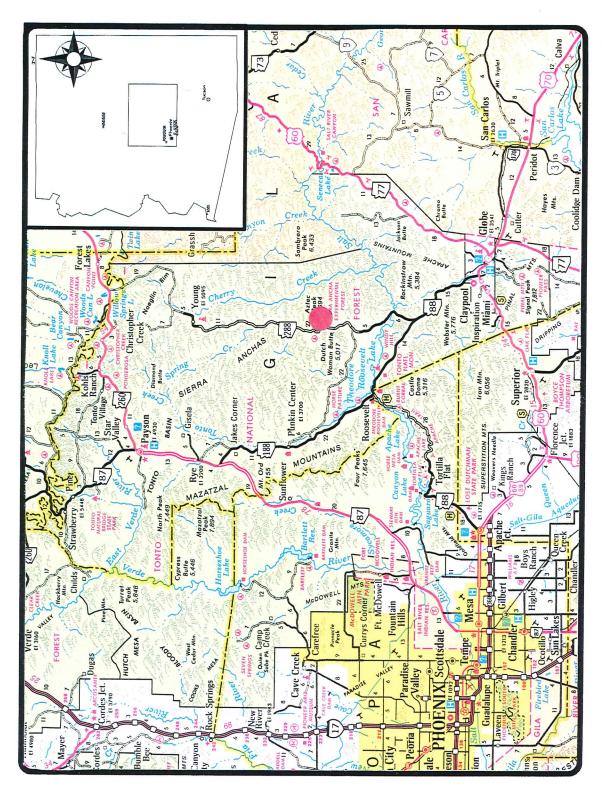


Figure 1. General location of Upper Forks of Parker Creek Research Natural Area, Arizona, showing nearby cities. Scale: 1 inch=16 miles (1 centimeter=10 kilometers).

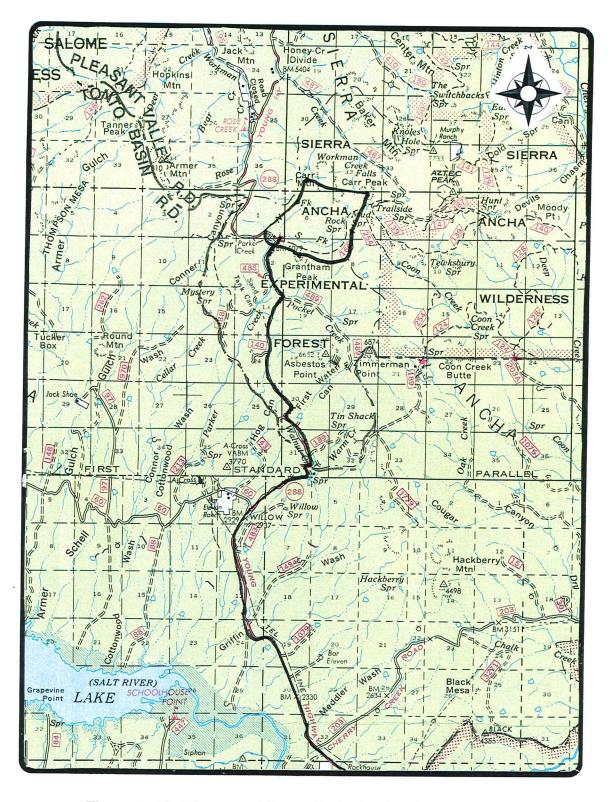


Figure 2. Vicinity map of Upper Forks Parker Creek Research Natural Area, Arizona, showing recommended access. Scale: 1 inch=2 miles (1 centimeter=1.27 kilometers).

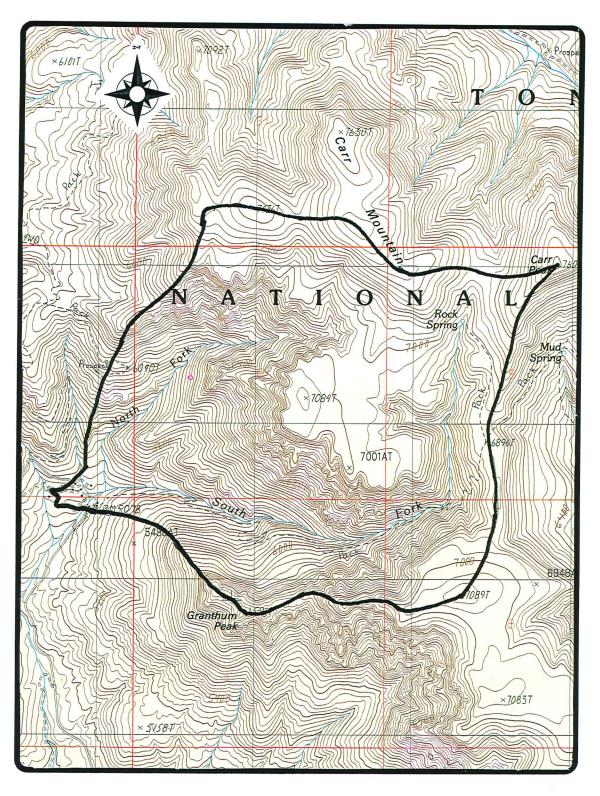
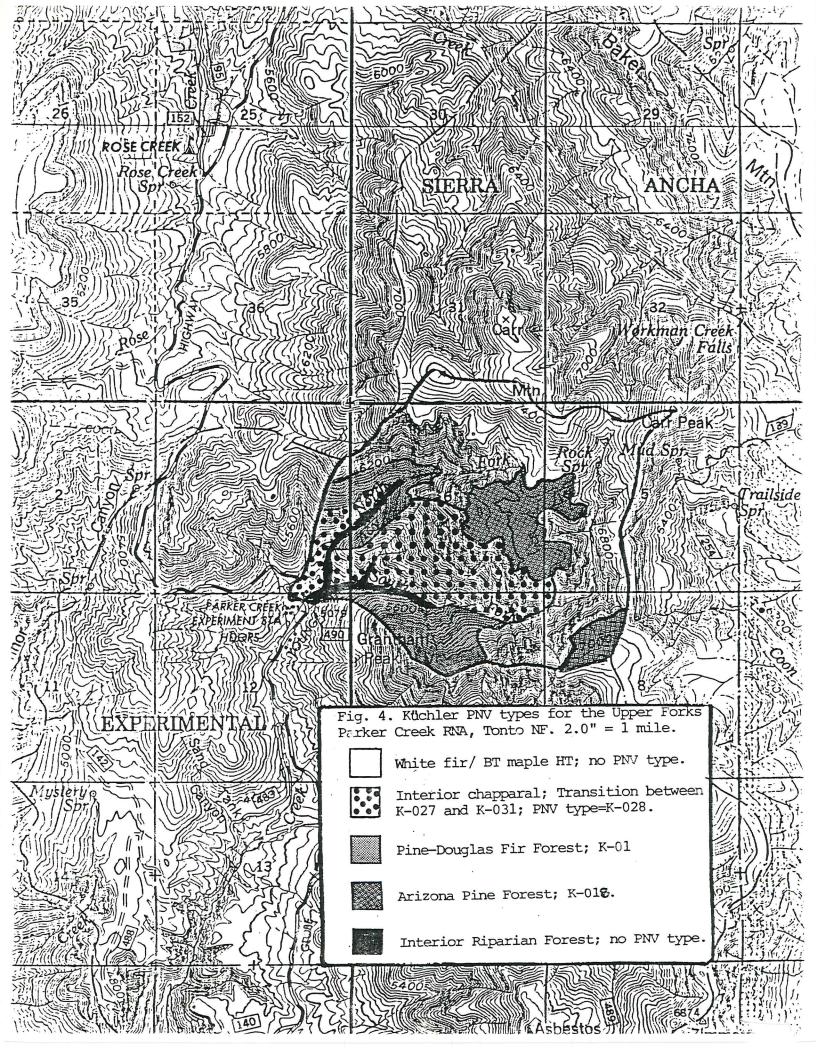


Figure 3. Boundary map of Upper Forks Parker Creek Research Natural Area, Arizona, with elevations shown in feet. Scale: 2.64 inches=1 mile (42 millimeters=1 kilometer).









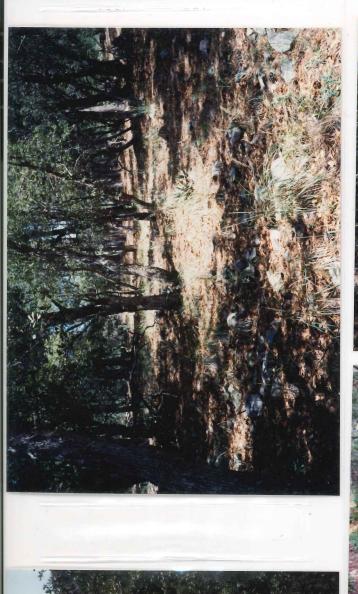
Ref Number:1206 Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View into riparian zone along South Fork Parker Creek. August 1992: 20

Ref Number:1208
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View looking easterly
across riparian zone of South Fork of
Parker Creek. August 1992: 23

Ref Number:1209
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. Sign at headquarters
of Sierra Ancha Experimental Forest along
Arizona State Highway 288. August 1992: 23

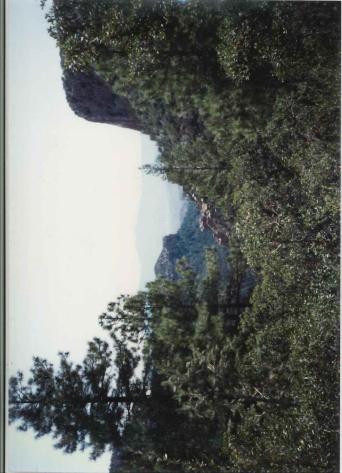
Ref Number:1207
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View along South Fork
of Parker Creek. August 1992: 21

Ref Number:1210
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View from Arizona
State Highway 288 looking into riparian
zone of Parker Creek. August 1992: 24









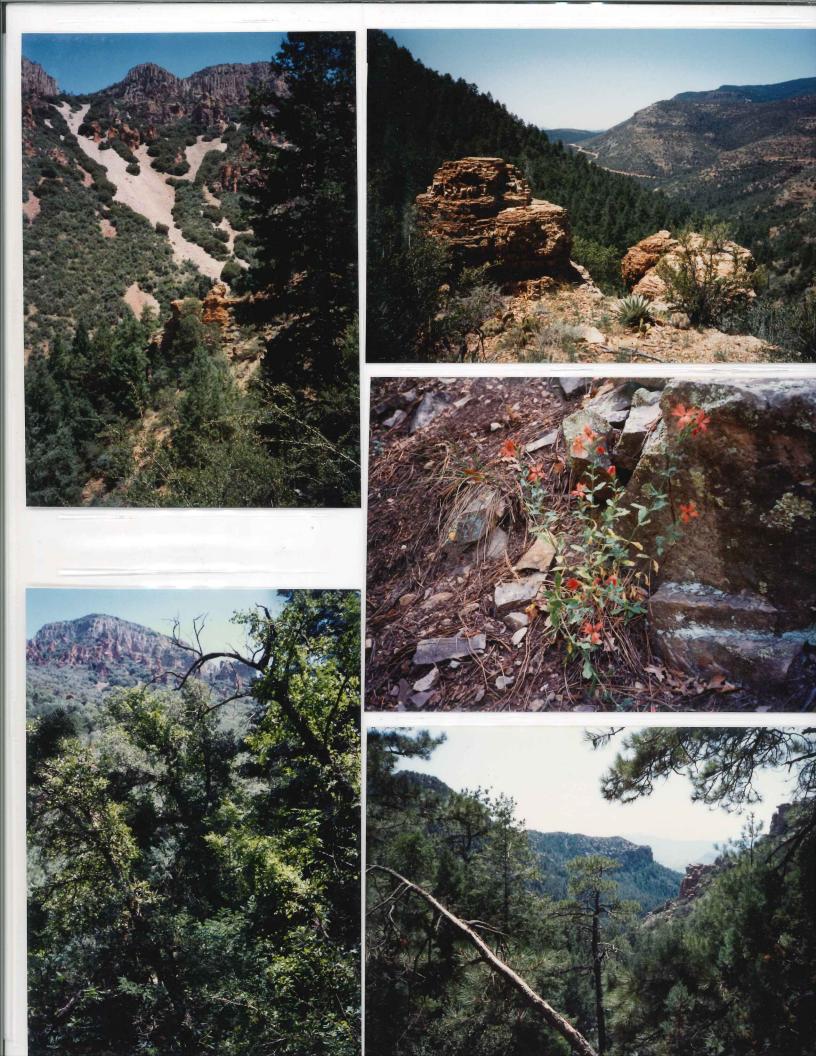


Ref Number:1203
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. Ponderosa pine/Emory
oak habitat type at elevation 6,900 feet
along Forest Trail 160, T05N R14E Sec
05SW. August 1992: 17

Ref Number:1204 Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View along Forest Trail 160. August 1992: 18

Ref Number:1205 Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View from Forest Trail 160. August 1992: 19 Ref Number:1201
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View of Ponderosa
pine/Emory oak habitat type at elevation
6,800 feet, Forest Trail 160, T05N R14E
Sec 05SW. August 1992: 15

Ref Number:1202
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View looking westerly
towards Four Peaks from Forest Trail 160.
August 1992: 15



Ref Number:1198
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View from Forest
Trail 160 looking westerly towards Arizona
State Highway 288. August 1992: 12

Ref Number:1199
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View of vegetation along Forest Trail 160. August 1992: 13

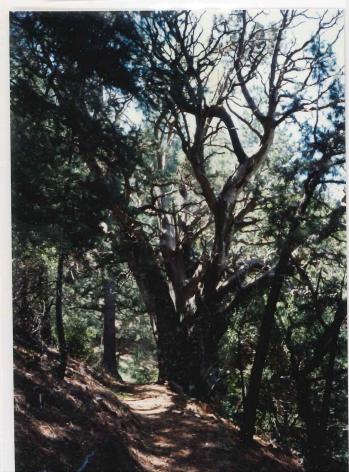
Ref Number:1200 Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View looking westerly from Forest Trail 160, T05N R14E Sec 07NE. August 1992: 14 Ref Number:1196
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View from Forest Trail 160 looking northeasterly towards interior of RNA. August 1992: 10

Ref Number:1192
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View from Forest Trail 160 looking northeasterly towards interior of RNA across South Fork Parker Creek, T05N R14E Sec07NW. August 1992: 6











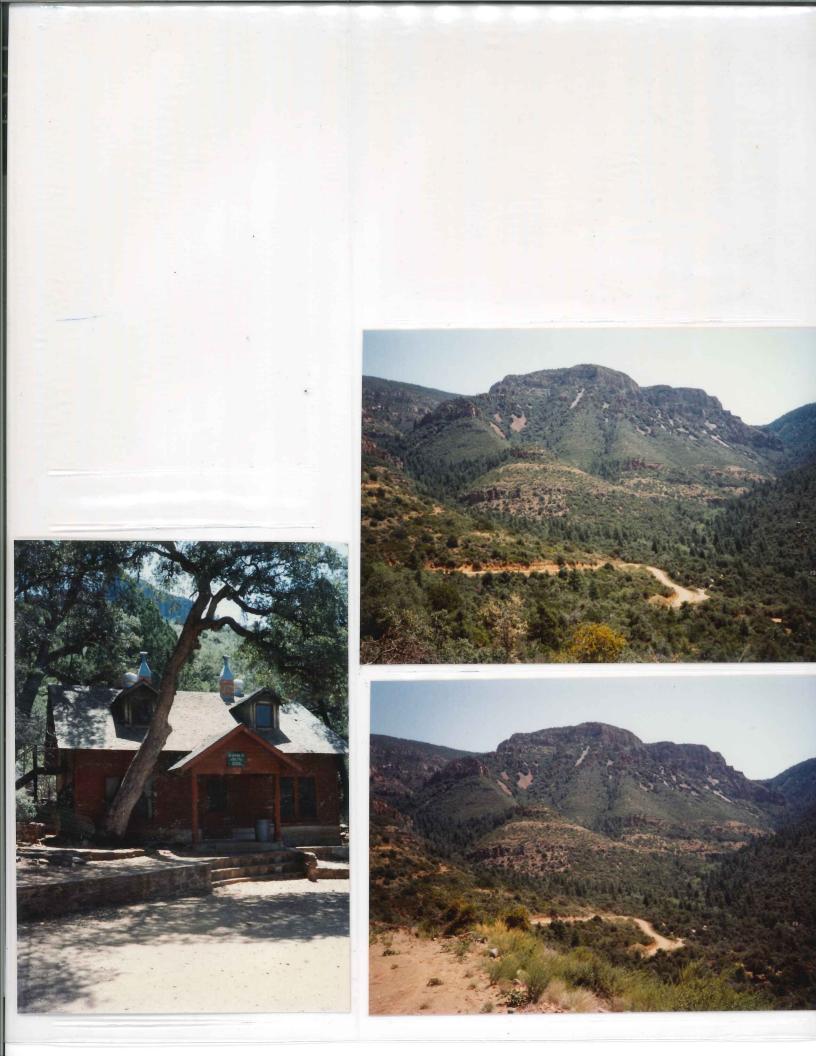
Ref Number:1191 Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View of trailhead sign at Sierra Ancha Experimental Forest. August 1992: 5

Ref Number:1197
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View of vegetation along Forest Trail 160, T05N R14E Sec07NE. August 1992: 11

Ref Number:1194
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. Stream gaging station on South Fork of Parker Creek, T05N R14E Sec07NW. August 1992: 8

Ref Number:1193
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View from Forest
Trail 160, T05N R14E Sec07NW. August 1992:

Ref Number:1195
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. Alligator juniper on Forest Trail 160, T05N R14E Sec 07NW.
August 1992: 9



Ref Number:1188
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View from Arizona State Highway 288 looking southeasterly at confluence of North and South Forks of Parker Creek. August 1992: 2

Ref Number:1189
Upper Forks Parker Creek RNA, Tonto NF,
AZ. 02 August 1992. View of confluence of
North and South Forks of Parker Creek from
Arizona State Highway 288, T05N R13E Sec
01. August 1992: 3

Ref Number:1190
Upper Forks Parker Creek RNA, Tonto NF, AZ. 02 August 1992. View of office at Sierra Ancha Experimental Forest headquarters. August 1992: 4

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	1190				.,	Upper Forks Parker Creek RNA. Office HQ at Sierra Ancha Exp. Forest.	
	1191					Upper Forks Parker Creek RNA. Trailhead sign at Sierra Ancha Exp. Forest.	
	1192				"	Upper Forks Parker Creek RNA. From Forest Trail 160 looking NE towards interior of RNA across SF Parker Creek. T05N R14E Sec 07 NW.	
İ	1193					Upper Forks Parker Creek RNA. From Forest Trail 160, T05N R14E Sec 07NW.	,,
7	1154				,.	Upper Forks Parker Creek RNA. Stream gaging station, SF Parker Creek, T05N R14E Sec 07NW.	
	1197					Upper Forks Parker Creek RNA. Alligator juniper on Forest Trail 160, T05N R14E Sec 07 NW.	
7	1196	· 				Upper Forks Parker Creek RNA. Looking NE from Forest Trail 160 towards interior of RNA.	
1	1197					Upper Forks Parker Creek RNA. Vegetation along Forest Trail 160. T05N R14E Sec 07 NE.	· ·
	1198		,	"	n	Upper Forks Parker Creek RNA. Looking W from Forest Trail 160 towards AZ Hiway 288.	
7	1199				,,	Upper Forks Parker Creek RNA. Vegetation along Forest Trail 160.	
	1200					Upper Forks Parker Creek RNA. Looking W from Forest Trail 160, T05N R14E Sec 07 NE.	
7	1201					Upper Forks Parker Creek RNA. Ponderosa pine/Emory oak habitat type at elevation 6800', along Forest Trail 160. T05N R14E Sec 05 SW.	
	1202	i '			••	Upper Forks Parker Creek RNA. Looking W towards Four Peaks from Forest Trail 160.	"

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