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USDA Forest Service Northern Region, Rocky Mountain Region, Southwestern Region, Intermountain Region, Rocky Mountain Research Station, and the Montana Natural Heritage Program

GILA RIVER

General Information S.USNAHP*91

- Created: 1972
- Size: 402 (acres)
- Elevation Range: 4250 - 4600ft
- Location: *The RNA is located in the Big Burro Mountains, about 12 miles south of Cliff and 30 road miles west of Silver City, New Mexico.*

Site Description

This RNA encompasses about a 1.5 mile reach of the Gila River and its associated tributaries, as it cuts through the Big Burro Mountains. The primary purpose of RNA designation was to protect riparian habitat for rare and endangered bird species. Riparian habitat within the RNA has been subject to disturbance and inventories in 1986 indicate very few cottonwood trees remain and that overall riparian habitat conditions are sub-optimal. The majority of the RNA supports upland desert shrub communities dominated by soapweeds (Yucca spp.), sotol (Dasylirion wheeleri), white-thorn (Acacia constricta), wait-a-bit (Mimosa biuncifera) and desert buckthorn (Ceanothus greggii). Associated grass species include gramas (Bouteloua spp.) sprangletop (Leptochloa dubia), and three-awns (Aristida orcuttiana and others). This permanent segment of the Gila provides habitat for at least 5 native fish species. Bird species that utilize this portion of the Gila River include: Peregrine falcon, Mexican black hawk, grey hawk, and Zone-tailed hawk.

Climate and Enviromental Information

Data not Available

Vegetation - Gila River

Cottonwood-willow (SAF 235) Grama-Tobosa Shrubsteppe (K 52) Pinyon-Juniper (SAF 239)

ESTABLISHMENT REPORT

GILA RIVER RESEARCH NATURAL AREA

Gila National Forest

Grant County, New Mexico
July 1, 1969
NARRATIVE REPORT

a. Principal Distinguishing Feature

The Gila River Research Natural Area straddles the Gila River as it enters the middle gorge in the Big Burrow Mountains. The river is a permanent stream at this point, and the topography is relatively rough. The river and the hardwoods along the bank are the home of many rare and endangered bird species.

b. Location

The area is described as the $E\frac{1}{2}E\frac{1}{2}$ sec. 32 in the $NW\frac{1}{4}$, $W\frac{1}{2}SW\frac{1}{4}$ sec. 33, T. 17 S., R. 17 W., NMPM. It is some 10 miles south of Cliff and 32 miles west of Silver City. It is within the Silver City Ranger District of the Gila National Forest.

c. Area By Cover Types

The overall cover types are desert shrub (K-58) and pinyon-juniper (SAF 239) with a narrow, riparian, hardwood type on the river (probably SAF 235 best describes it). Areas by type are:

pinyon-juniper - 125 acres
riparian hardwood - 52 acres
desert shrub - 225 acres

402 acres

d. Physical and Climatical Conditions

The topography is generally rough consisting of the relatively flat stream bottom some 5 to 10 chains in width along the river with steep slopes and some rock outcroppings on either side. Elevations range from approximately 4,250 feet to 4,600 feet above sea level. The drainage is all into the Gila River and westward to the Colorado.

The climate is moderate. Summers are warm with temperatures in excess of 100° F. Winters are mild with temperatures seldom reaching 0° F. The average precipitation is about 15" annual.

e. Description of Values

The principal value of the area is habitat for a particularly rich and unique avifauna that includes the American Peregrine Falcon (Falco peregrinus anatum), an endangered species. The area also provides habitat for such species as Northern Gray Hawk (Buteo nitidus maximus), Northern Black Hawk (Buteo anthracinus anthracinus), and Zone-tailed Hawk (Buteo albonotatus), whose occurrence in the United States is at the edge of their natural ranges. These peripheral species must be managed carefully if they are to remain a part of the Nation's fauna. A list of the birds observed is in the appendix. Also listed in the appendix are the plants observed at the time of the inspection of the area. Dale A. Zimmerman, professor and chairman, Department of Biological Sciences, Western New Mexico University, has prepared a paper covering the bird life in the Gila. A copy is in the appendix.

The geology is principally undivided lavas of the Datil formation with out-croppings of beartooth quartzite and Colorado shale of the Cretaceous formation, and the north end of the Precambrian granitic uplift. For the most part the soils are the western brown forest group, relatively thin and heavy texture. Along the river bottom, the soils are alluviums, relatively deep and fertile.

On the east side of the Big Burrow Mountains, Phellps Dodge is reopening their mines in the vicinity of Tyrone. So far as is presently known, this ore body does not extend into the proposed Research Natural Area. However, to the north and along the east side of the river there are many copper claims in the undivided Datil formation. Samples running 4% copper have been collected. Total tonnage figures are not known, and therefore, the probability of a paying mine has not been determined. Because of this possible conflict with mining, the proposed Research Natural Area has been located below the optimum habitat for the birds and hardwood stand. If the mine is determined to be invalid, the area should be extended up the river approximately ½ mile.

In the proposed area recreation use is very light. There are no well developed roads or trails. Those in existence are used to manage livestock and for hunter access in the fall of the year. The closest access by motor vehicle was to the mine in the NE¼ of sec. 33. If the mine is declared invalid, this road can be closed. If the mine is valid, probably a better road will be constructed to it. Either way a barrier can be easily established to keep undue travel out of the Research Natural Area as now proposed.

Grazing by domestic livestock will undoubtedly affect the plant community along the river. Some controls on this use would be

helpful. However, it is doubtful that this use materially interfers with the wildlife or bird habitat. Under the circumstances it is not felt to be fatal to the establishment of the Research Natural Area.

At the point where the Gila River flows through the Research Natural Area, the water has been obligated to uses further down the stream. None is available to the adjacent land, nor is there opportunity to use it for irrigation purposes. The only possible conflict would result from use of the Redrock Dam site rather than the Hooker Dam proposed in the Central Arizona Project. If the Redrock site is used, all of the present river bottom will be flooded at the high water level. The time table for construction for either the Hooker or Redrock Dam is most uncertain. The chance that the Redrock site will be selected is even more uncertain. And if this site is developed, no habitat will remain for these rare and endangered species. Under the present circumstances it appears logical and in the best interest of science to establish the proposed area as a Research Natural Area.

There are no other foreseen conflicts with the proposed establishment.

Gila Forest Supervisor

Regional Forester

Director, Rocky Mountain Station

Director, Div. of Recreation

Deputy Chief, Research

ORDER

By virtue of the authority vested in me by the Secretary of Agriculture under Title 36, Section 251.23, of the Code of Federal Regulations, I hereby designate as the Gila River Research Natural Area the lands described in the preceding report by the Region 3 Research Natural Area Committee dated July 1, 1969; said lands shall hereafter be administered as a Research Natural Area, subject to the said Regulations and instructions thereunder.

JUN 23 1972
Date

John R. McGuire
Chief, Forest Service

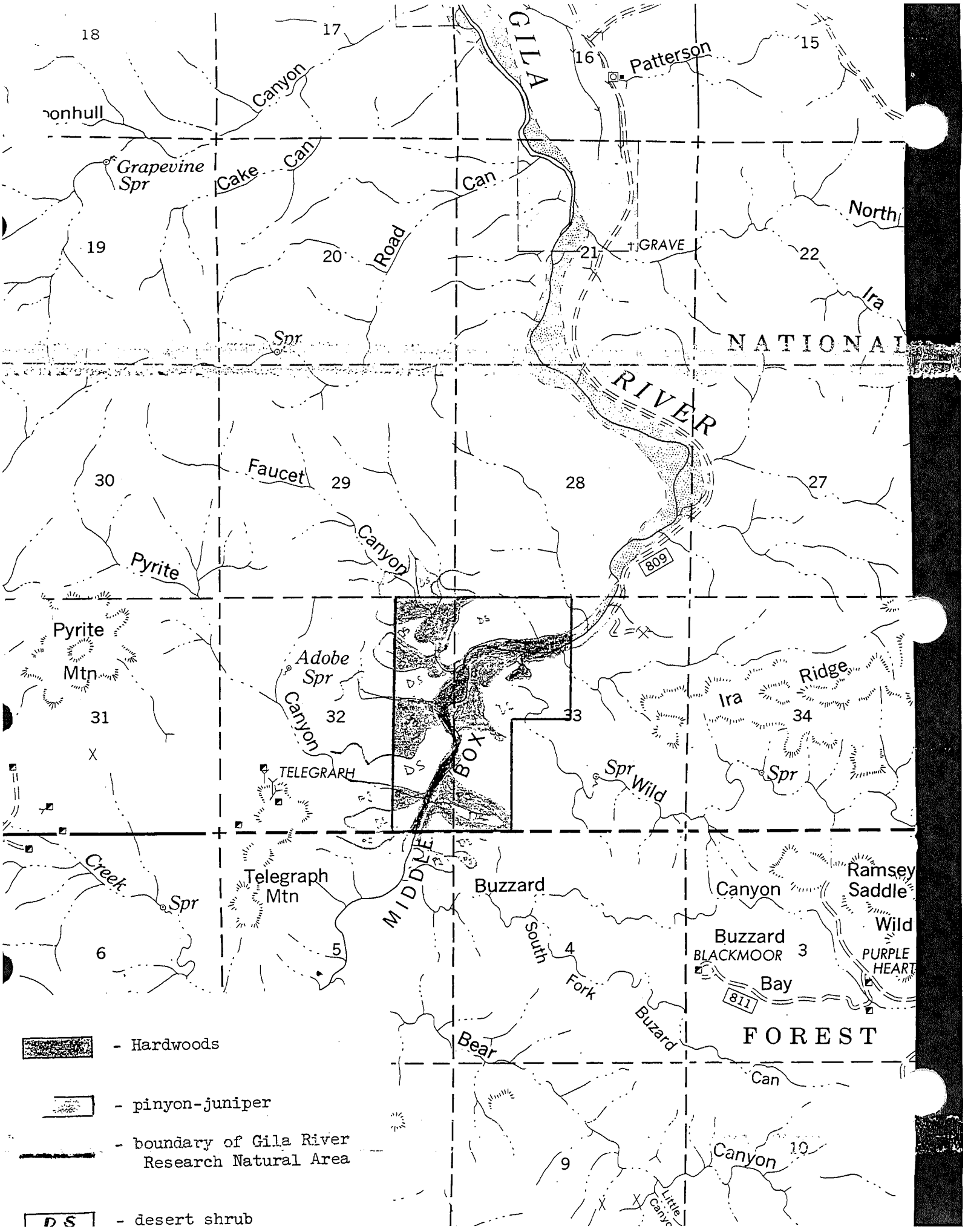
GILA RIVER RESEARCH NATURAL AREA

walnut - Juglans major
boxelder - Acer negundo
sycamore - Platanus wrightii
cottonwood - Populus fremontii
hackberry - Celtis reticulata
willow - Salix taxifolia
ash - Fraxinus velutina
alligator juniper - Juniperus deppeana
one-seed juniper - Juniperus monosperma
pinyon - Pinus edulis
mesquite - Prosopis juliflora
baccharis - Baccharis wrightii
baccaris - Baccharis glutinosa
catclaw - Acacia greggii
brittlebush - Encelia farinosa
Spanish-bayonet - Yucca sp.
staghorn - Opuntia versicolor
prickly pear cactus - Opuntia engelmannii
squawberry - Rhus trilobata
algerita - Mahonia trifoliolata
mistletoe - Phoradendron juniperinum & flavescens
wild hollyhock - Sphaeralcea sp.
beeweed - Cleome serrulata
jimsonweed - Datura stramonium
thistle - Cirsium neomexicanum
clover - Trifolium repens
snakeweed - Gutierrezia sarothrae
tumbleweed - Salsola kali
watercress - Rorippa sp.
rush - Juncus sp.
moss -
sedges - Carex sp.
side-oats grama - Bouteloua curtipendula
feathergrass - Andropogon sp.
Bermudagrass - Cynodon dactylon

fox - Urocyon sp.
coon - Procyon lotor
coyote - Canis latrans
rabbit - Sylvilagus sp.
rock squirrel - Otospermophilus grammurus
herons - Ardeidae sp.
warblers -
House finch - Carpodacus mexicanus
gopher - Citellus sp.

Mearns' quail - Cyrtouyx montezumae mearnsi
Peregrine falcon - Falco peregrinus
Zone-tailed hawk - Buteo albonotatus
Gray hawk - Buteo nitidus
Black hawk - Buteogollus anthracinus
Rivolis hummingbird - Eugenes fulgens
Green heron - Butorides virescens

Datil undivided formations of lava
Cretaceous beartooth quartzite
Colorado shale
Precambrian undivided


GILA
RIVER
MIDDLE
BOX
Patterson
GRAVE
Grapevine Spr
Cake Can
Can
Road
Canyon
North
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NATIONAL
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Pyrite
Pyrite Mtn
Adobe Spr
Canyon
TELEGRAPH
Spr
Wild
Ira
Ridge
Spr
Creek
Spr
Telegraph Mtn
Buzzard
South Fork
Buzzard
Canyon
Ramsey Saddle
Wild
PURPLE HEART
Buzzard
BLACKMOOR
Bay
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FOREST
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Little Canyon
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32
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34
6
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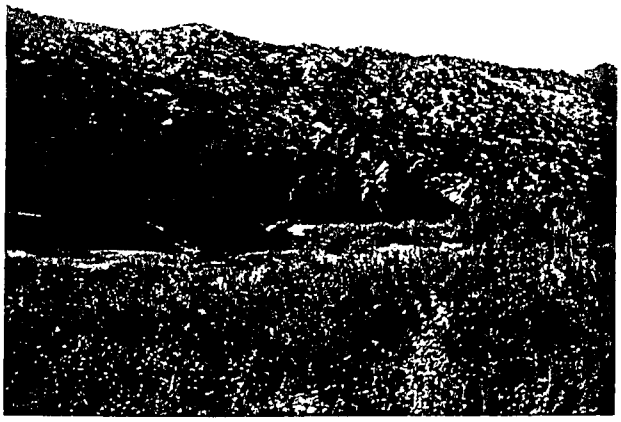
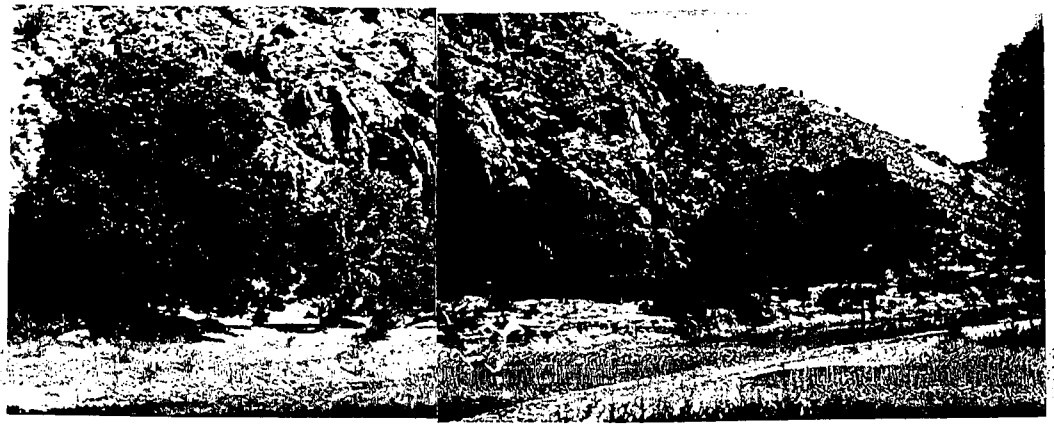
9
10
- Hardwoods
- pinyon-juniper
- boundary of Gila River Research Natural Area
DS - desert shrub

Gila River Research Natural Area



Gila River Research Natural Area



Gila River Research Natural Area
Riparian Hardwoods - Left

Gila River Research Natural
Area - Right

THE GILA RIVER VALLEY IN SOUTHWESTERN NEW MEXICO AS AN IMPORTANT WILDLIFE RESERVOIR

Dale A. Zimmerman

In recent months the Gila River and its valley have attracted much attention owing to interest in the proposed Hooker Dam. Several studies and surveys have been made by various agencies in the areas which might be affected by dam construction and associated activities. However, none of the agency reports, including that by the Bureau of Sport Fisheries and Wildlife, deals adequately with the effects on (a) scenic river values and (b) wildlife habitats. So grossly neglected have been these aspects of the overall problem that I would strongly suggest to all bureaus and agencies concerned that a complete re-evaluation be made of the various river "reclamation" and dam-construction schemes proposed for Arizona and New Mexico.

An earlier report on Biological Resources of the Gila River in New Mexico dwells little upon the bird life--which, from the recreational viewpoint, is perhaps the most important element of the fauna, attracting as it does scores of bird-students, amateur and professional ornithologists, and others to the Gila River Valley for the primary or sole purpose of bird-watching.

As an ornithologist I can express the concern of both professional zoologists and many bird students and other wildlife enthusiasts who annually visit the Gila over the almost certain effects of dam construction and consequent "development" of the Gila River Valley. Development per se is not the problem, for it can be done with minimal effect upon wildlife. But development schemes--regardless of kind--in our river valleys seem always to involve removal of tress and consequent severe damage (or outright destruction) of natural biotic communities. The Fremont Cottonwood-Arizona Sycamore association along the Gila River downstream from the Hooker dam site is unique in New Mexico and is representative of a sub-tropical Sonoran biotope quite rare north of the Mexican border. Other examples of it in Arizona are themselves threatened by various development schemes. The best and most accessible examples of this habitat anwhere are the strip in question from the Hooker dam site downstream to Cliff and Gila, and in the vicinity of Redrock. It would be tragic to permit ruination of the already limited stands of riparian woody vegetation along the river in these areas. Once the native plant associations are destroyed the bird populations they support are similarly destroyed. These populations, in the case of several species, are already of low density. If they are extirpated from the Gila they have nowhere to go, they will not breed, and will not survive. The strip of suitable habitat for the riparian forms is very restricted. Birds that would be especially adversely affected in this area include:

Abert's Towhee	Mexican Black Hawk	Gray Hawk
Elf Owl	White-winged Dove	Mourning Dove
Wied's Crested Flycatcher	Yellow-billed Cuckoo	Gila Woodpecker
	Lucy's Warbler	

*Professor and Chairman, Department of Biological Sciences, Western New Mexico University, Silver City, New Mexico

Many other species, including most of those on the accompanying list (Appendix I) would have their numbers considerably reduced by any massive disturbance or tree-removal in the Valley. Of the birds listed above, all but the Mourning Dove and Yellow-billed Cuckoo are more or less restricted to the southwestern corner of the State and a major portion of the population of each is in the Gila River Valley. The Abert's Towhee is, in New Mexico, apparently confined to the Valley.

The bird life of the area in question is well known qualitatively but little is yet known about actual densities of the various species. Certainly many of the birds are either restricted to riparian habitats or require tall trees (or both). Thus there is a heavy concentration of birds in the river valley itself--far greater than elsewhere in the region--at all times of year. The reasons are, directly or indirectly, the presence of the woody vegetation in proximity to the water. Many animals (including birds) that occur there are, in other words, definitely dependent upon these plant associations for their existence. Destroying or severely modifying this habitat will eliminate these birds as surely as would systematic poisoning or other direct attack.

The biotic community with which we are concerned is readily recognized by the occurrence of either of two tree species: the sycamore, Platanus wrightii, and especially Fremont's cottonwood, Populus fremontii. The latter might be termed an indicator species of this environment, and it should be confused with neither Populus wislizenii (of the Rio Grande Valley) nor P. angustifolia (the common narrow-leafed cottonwood which replaces P. fremontii along the upper reaches of the Gila and at higher elevations throughout the southwestern mountains). In New Mexico, Populus fremontii is restricted to the lower portions of the Gila and San Francisco rivers, and to a few canyons in the southwestern corner of the State (where, however, there is so little permanent water as to prevent development of the particular riparian community that exists along the Gila).

Other woody plants important to this community are certain willows, especially Salix nigra var. vallicola. The latter sometimes forms an intermediate vegetation stratum between the cottonwood or sycamore canopy and the low dense growths of Baccharis glutinosa, an abundant shrub along the river. On higher, drier ground, this cottonwood-willow-baccharis association includes hackberry (Celtis reticulata), Arizona walnut (Juglans major), a desert olive (Forestieria neomexicana), wild grape (Vitis arizonica), waxberry (Sapindus drummondii), and numerous other woody and herbaceous plants. Still farther away from the edge of the water itself this riparian association grades into a more xerophilous one with junipers (Juniperus spp.), occasional pines (Pinus edulis, P. ponderosa, and the rare P. leiophilla), and numerous leguminous shrubs. These plants in places form dense belts of brush that separate the riparian association from the desert (or other) communities away from the river. These brushlands are important to the riparian animals and they support considerable wildlife populations.

Referring again to the bird populations, certain species require special mention: First, two rare raptors, the Gray Hawk (Buteo nitidus) and Mexican Black Hawk (Buteogallus anthrancinus) nest along the river. These are entirely harmless species of great ornithological interest. Their rarity results in part from irresponsible shooting and habitat destruction. As both of these birds are termed "hawks" they tend to be shot on sight by many gunners. Their future in the United States is bleak if we cannot provide them with refuges that ensure genuine protection. They cannot long withstand the double-barreled onslaught of shooting and elimination of their breeding areas. These species are classed as "peripheral" birds as they occur in Mexico and Central America. However, their populations north of Mexico are very small and probably everywhere diminishing. They are among the more prominent members of the unique "Mexican element" characterizing the avifauna of the Gila River Valley.

At present we know of no pairs of Buteo nitidus remaining in New Mexico, although they probably occur at rare intervals and doubtless would re-establish a breeding nucleus if afforded protection. The last known nesting site in the State was in a "dense (cottonwood) bosque along the Gila east and. . .north of Cliff." (Ligon, 1961: 170). By the early 1950's this handsome species had become a "decidely rare bird" in southern Arizona (Brandt, 1961: 646).

I have elsewhere (Zimmerman, 1965: 475-477) discussed the plight of this bird in New Mexico. Along the Gila, from approximately Turkey Creek to Redrock there are now, in a typical year, four or perhaps five pairs of Buteogallus. They occur only where suitable places exist along the waterways for their feeding, where sufficient tall cottonwoods provide nest sites and shelter, and where human disturbance is minimal. This may well be the entire breeding population of this bird in the State, and there are only a few additional pairs in Arizona. This species is a major attraction to visiting field ornithologists, amateur and professional. A number of people visit the region each year for the sole purpose of seeing this bird, adding it to their lists, or photographing it. In some years I have had as many as twenty requests from various parts of the country from people asking precise directions to where they can see this bird. There is no better spot in the United States, or northern Mexico for finding it in the wild than along the Gila River near Cliff, Gila, Redrock, and north of Gila near the Hooker dam site. Most unfortunately, this bird is rather conspicuous and fearless; hence it is easily shot. With dwindling habitat and constant reduction in numbers from shooting we will probably lose the species from New Mexico within a decade--unless measures are taken.

Although the Black Hawk has been known to nest once northeast of the Hooker dam site, most reports of "Black Hawks" on the Upper Gila are of Zone-tailed Hawks (Buteo albonotatus). This includes some of the erroneous records in Ligon (op. cit.), including the individual pictures on page 91. This volume cites the species from the Mimbres and even the Rio Grande, but there are no recent records, at least away from the Gila. If there was a population along the Mimbres it seems already to have been exterminated.

J. P. Hubbard, of the Smithsonian Institution, wrote (1965: 474) "At the present rate it is only a matter of time until the Black Hawk is extirpated from the United States. Not only will this mean the loss of a fine species of bird from our avifauna, but it will mean that the great river bottom forests of the southwest with their rich birdlife have become an irredeemable memory." That author pleads for a "Save the Cottonwoods" movement and writes further that "Preservation of some of these stands must be accomplished within the next few years or never. Even now an especially fine remnant along the Gila River in Grant County, New Mexico is threatened by a proposed dam and pleasure lake." The reference is to the proposed Hooker dam.

Myiarchus tyrannulus, the Mexican (or Wied's) Crested Flycatcher is another species characteristic of southern Arizona and Mexico that enjoys a limited range in New Mexico. In the latter state it is found in a few canyons where sycamore trees grow, and along the Gila River. The tree Platanus wrightii appears to be almost essential to this bird's existence in an area. Wherever sycamores remain in numbers along the Gila this flycatcher occurs, but such places are now scarce. It is another bird that must be considered rare to very rare in New Mexico. Probably 15 pairs exist in the Gila Valley between Redrock and Turkey Creek.

The Gila Woodpecker, Centurus uropygialis, also nests in dead trees and holes excavated in large dead branches. It seems to prefer cottonwoods, and as it occurs only in those parts of southwestern New Mexico where Populus fremontii grows, it is not surprising that the main part of this bird's range here is in the Gila River Valley.

The tiny Elf Owl, Micrathene whitneyi, is another cavity nesting species largely restricted to cottonwoods; in New Mexico it is confined almost entirely to the southwest corner of the state, with the major population along the Gila River. This species is another major attraction for wildlife-conscious visitors.

Parts of the Gila Valley are important breeding areas for White-winged and Mourning doves, which require the trees for breeding. The White-wings nest largely in the big sycamore trees; Mourning Doves prefer the willows for nesting. Owing to drainage of small ponds, removal of trees near remaining waters, and the omnipresent shooting problem, the various herons have become rare in southwestern New Mexico. The Great Blue, Green, and Black-crowned Night herons all would return as breeding species in the vicinity of Cliff, Gila, and Redrock if suitable areas were placed under protection.

The Mexican Duck, Anas diazi, known to breed in our country only in New Mexico, is now gone from much of its range. Habitat for nesting ducks has been largely destroyed along our river systems--including the Gila. As recently as ten years ago this species summered and probably bred in small marshy ponds adjacent to the river near Gila and Cliff, but these

sites have been destroyed. The bird doubtless could stage a comeback to the region (and thus increase its dangerously low numbers) with proper management and protection. The few areas in New Mexico where it currently is breeding are too few, and the numbers too small, to ensure a safe future for the species. The bird also occurs in Mexico, but we have no reliable information on its status there. Personal observation in much of Mexico indicates that the bird is probably declining there as well as north of the border.

Many other bird species occur along the parts of the Gila River with which we are concerned here. Space prohibits discussion of these but the attached lists of the Gila River bird species (see Appendix I and II) disclose the Valley's diversity as an avian habitat. What it does not show is the abundance of individual birds. As yet we have no actual censuses to cite*, but that the Valley is endowed with a very rich avifauna is unquestionable. This is reflected by the number of bird-students, amateur ornithologists, and other naturalists who visit the area each spring and summer. During an average year, over the past five or six years, I have personally received scores of requests for specific places where visitors might hopefully see the above-mentioned birds (particularly the two hawks) and/or requests for my printed check-lists of birds of this region. Until the latter check-list was made known to the public in Audubon Magazine I would not have guessed that so many individuals from all parts of the country were interested in the Gila Valley's birds to the extent of making special trips there. During some seasons I have received such a volume of correspondence from prospective bird-conscious visitors as to make replies difficult or impossible. I finally duplicated bird-finding directions to special places along the Gila to which I could refer such people. It is impossible at this writing to say how many requests I have had for information of this sort, but the number since 1964 has been at least 200--and during three of these summers I have been absent from New Mexico with no way of knowing how many visitors came then to see birds. In addition to persons writing in advance, many others visit me in person, or telephone, for information on where they can see birds in the Gila Valley. There also have been several groups from various colleges and universities over the years. While writing this report a couple from southeast Texas solicited bird-finding information from me. They stated, prior to their return home, that they felt a section of the Gila Valley should be established as a National Wildlife Refuge similar to the Santa Ana Refuge near their home.

Ligon (1961: 310), in referring to the Bosque del Apache National Wildlife Refuge on the Rio Grande, mentions that the 264 species of birds known from there is "the greatest number yet recorded at a single station in the state." It is interesting to note that the Gila, from Redrock to Turkey Creek, boasts a list of over 250 species without the benefit of permanently resident naturalists as in the case of the Bosque Refuge.

The portions of the Gila in question have several times been the choice of the New Mexico Ornithological Society for their annual spring field sessions; the group is meeting here again this spring. Some of

*On May 4, 1968, a crude census of birds at five sites along the Gila in southwestern New Mexico revealed 139 species and 4,122 individual birds. Other censuses are in progress.

its officers have expressed the opinion that the region cannot be surpassed in New Mexico for bird-viewing possibilities; I absolutely concur. In a lifetime of experience in many parts of North America, and all of Mexico, I know of few better places in which one can see a variety of unusual birds. The Gila is without doubt the very best place for this in the entire state of New Mexico, and one of the best in the entire Southwest. This fact results from not only the rare species of Mexican affinities, but the presence in the Valley of several different plant associations in close proximity; xeric scrub, marshes (now almost gone), farmlands, irrigated fields, brush-lined secondary roads, rocky side canyons, et cetera all contribute to the variety, with the river itself being the main "core" of the system of course. The Gila here is still a living river. Despite gross misuse by some landowners, the river is not destroyed. But its unique web of wild-life--not only the birds but the fascinating mammals such as beavers and otters which still occur along its banks--is now hanging by a very tenuous thread. Overdevelopment (which means any significant increase in reduction of the wild areas and forested river bed still remaining) will either drastically alter or entirely destroy the Gila Valley as a natural ecosystem.

In summary, the concern of ornithologists and other zoologists and conservationists over protection of the riparian biota along the Gila River in New Mexico stems from the fact that this is the only well-developed example of this ecosystem in the State. It is unique in New Mexico, and one of the few such rivers in the entire country. Furthermore, it is readily accessible to visitors from near and far who may have but a few hours or days to spend in the exotic environment provided by the secluded reaches of the Valley. Almost nowhere else in the United States can one see the particular combination of birds found along the Gila--or see them with so little effort.

It is clear, however, that with continued misuse the unique qualities which render the Gila attractive to scientists, students and wildlife-conscious tourists will not remain much longer. The Valley already has lost a good share of its attractiveness during the past decade; the next five or ten years can ruin it if constructive action is not taken. The major disturbance and destructive factors are (1) outright destruction of the big trees, (2) unrestricted and concentrated grazing of domestic stock which prevents regeneration of the flood-plain forest, (3) irresponsible year-round shooting, (4) potential damage to both the aquatic and terrestrial environment through dam construction and associated construction and exploitation activities.

It should be stressed that the habitat with which we are concerned is confined to an exceedingly narrow river bed in an arid to semi-arid region. The amount of acreage it covers is very small, and thus its carrying capacity for wildlife is limited. Animals concentrate there--for watering, feeding, breeding, roosting, etc.--and are therefore not only largely or wholly restricted to that small area but in many cases absolutely dependent upon it. Under genuine protection wildlife can in most cases adjust to changes imposed upon the environment by man if these changes are moderate and if they do not come about too rapidly. The wildlife in our national parks and refuges offers

abundant evidence of this. But if the changes involve wholesale clearing of breeding and/or feeding areas, if they so disturb the river as to affect its biota and/or water quality, and if overt destructive or frightening practices such as gunning, motorboating, or vandalism are introduced (which too often occur as by-products to developmental schemes), then the wildlife values of the Gila River as we know it today will be lost for us and for future generations.

Many of us feel that the Gila River is destined to be converted to little better than ditch or canal status, largely treeless (and shadeless) and essentially birdless, the monotony broken perhaps by a biotically inert recreational reservoir or two, regularly stocked with introduced fishes so that fishermen can pursue their sport in crowded company with one another instead of the streamside solitude in wild but not unfriendly country where fishing takes on another dimension entirely.

If this occurs, there will be no reason for the scores of binocular-toting naturalists, or university ecology or zoology classes to visit this area. Their generally unassuming visits, being of necessity not loud or boistrous, unaccompanied by shooting, or by dogs, tend to go unnoticed. The bird-watching and naturalist fraternity is by and large a well-behaved, non-littering, non-polluting lot as compared with the general picknicking throngs which each holiday and weekend leave our roadsides and once-pleasant wooded glens studded with cans, broken bottles, damaged signs and fences, empty .22 cases and assorted illegally killed non-game birds. These and kindred doings are sufficiently offensive, as anyone who visits our national forests knows. But at least in our mountain forests they tend to be more spread out and not concentrated in a narrow belt where all damage is conspicuous and where indigenous wildlife has little chance to avoid it. Near established towns the Gila Valley already is suffering. Wanton shooting has made serious inroads into some bird species. The biotic resources cannot tolerate an expansion of such activity, and whatever developmental schemes are introduced must take into account wildlife values and requirements if we hope to preserve a vestige of a unique heritage which the next generation has a right to enjoy as have we.

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APPENDIX I: SUMMER AND PROBABLE BREEDING BIRDS OF THE GILA VALLEY FROM REDROCK NORTH TO TURKEY CREEK

All species positively known to breed in the valley are marked with an asterisk. Those with 2 such marks are either largely restricted to this area (in our state) or have their center of abundance there, being scarce to very rare in most other parts of New Mexico.

**Ardea herodias. Great Blue Heron
**Butorides virescens. Green Heron
*Anas platyrhynchos. Mallard
Anas diazi. Mexican Duck
Carthartes aura. Turkey Vulture
*Accipiter cooperi. Cooper's Hawk
**Buteo nitidus. Gray Hawk
*Buteo jamaicensis. Red-tailed Hawk
Buteo albonotatus. Zone-tailed Hawk
*Buteo swainsoni. Swainson's Hawk
**Buteogallus anthracinus. Mexican Black Hawk
Aquila chrysaetos. Golden Eagle
*Falco sparverius. Sparrow Hawk
Crytonyx montezumae. Harlequin Quail
Callipepla squamata. Scaled Quail
*Lophortyx gambelii. Gambel's Quail
*Phasianus colchicus. Ring-necked Pheasant
Alectoris graeca. Chukar
Meleagris gallopavo. Turkey
Fulica americana. American Coot
*Charadrius vociferus. Killdeer
*Actitus macularia. Spotted Sandpiper
*Zanaidura macroura. Mourning Dove
**Zenaida asiatica. White-winged Dove
Scardafella inca. Inca Dove
Columbiagellina passerina. Ground Dove
Columba fasciata. Band-tailed Pigeon
*Coccyzus americanus. Yellow-billed Cuckoo
*Geococcyx californianus. Roadrunner
Tyto alba. Barn Owl
*Bubo virginianus. Great Horned Owl
**Micrathene whitneyi. Elf Owl
Phalaenoptilus nuttallii. Poor-will
Chordeiles acutipennis. Lesser Nighthawk
*Archilochus alexandri. Black-chinned Hummingbird
*Colaptes cafer. Red-shafted Flicker
**Centurus uorpygialis. Gila Woodpecker
*Melanerpes formicivorus. Acorn Woodpecker
*Dendrocopos villosus. Hairy Woodpecker
*Dendrocopos scalaris. Ladder-backed Woodpecker
*Tyrannus vociferans. Cassin's Kingbird
*Tyrannus verticalis. Western Kingbird
**Myiarchus tyrannulus. Wied's Crested Flycatcher
*Myiarchus cinerascens. Ash-throated Flycatcher
*Sayornis saya. Say's Phoebe
*Sayronis nigricans. Black Phoebe
*Empidonax traillii. Traill's Flycatcher
*Contopus sordidulus. Western Wood Pewee

*Pyrocephalus rubinus. Vermilion Flycatcher
Eremophila alpestris. Horned Lark
*Stelgidopteryx ruficollis. Rough-winged Swallow
*Petrochelidon pyrrhonota. Cliff Swallow
*Tachycineta thalassina. Violet-green Swallow
*Aphelocoma caerulescens. Scrub Jay
Aphelocoma ultramarina. Mexican Jay
Corvus corax. Common Raven
Corvus cryptoleucus. White-necked Raven
*Parus wollweberi. Bridled Titmouse
*Auriparus flaviceps. Verdin
*Sitta carolinensis. White-breasted Nuthatch
*Thryomanes bewickii. Beweck's Wren
*Campylorhynchus brunneicapillum. Cactus Wren
Catherpes mexicanus. Canyon Wren
Salpinctes obsoletus. Rock Wren
*Mimus polyglottos. Mockingbird
Toxostoma bendirei. Bendire's Thrasher
*Toxostoma dorsale. Crissal Thrasher
*Toxostoma curvirostre. Curve-billed Thrasher
*Turdus migratorius. Robin
Polioptilla caerulea. Blue-gray Gnatcatcher
Plioptila melanura. Black-tailed Gnatcatcher
Phailopepla nitens. Phainopepla
Lanius ludovicianus. Loggerhead Shrike
*Sturnus vulrgaris. Starling
Vireo bellii. Bell's Vireo
Vireo vicinior. Gray Vireo
*Vireo solitarius. Solitary Vireo
*Vermivora luciae. Lucy's Warbler
*Dendroica petechia. Yellow Warbler
*Geothylypis trichas. Yellowthroat
*Icteria virens. Yellow-breasted Chat
Passer domesticus. House Sparrow
*Sturnella magna. Eastern Meadowlark
*Agelaius phoeniceus. Red-winged Blackbird
*Icterus cucullatus. Hooded Oriole
*Icterus parisorum. Scott's Oriole
*Icterus bullockii. Bullock's Oriole
*Molothrus ater. Brown-headed Cowbird
*Tangavius aeneus. Bronzed Cowbird
*Pirange rubra. Summer Tanager
*Richmondena cardinalis. Cardinal
Pyrrhuloxia sinuata. Pyrrhuloxia
*Pheucticus melanocephalus. Black-headed Grosbeak
*Guiraca caerulea. Blue Grosbeak
Passerina cyanea. Indigo Bunting
*Carpodacus mexicanus. House Finch
*Spinus psaltria. Lesser Goldfinch
*Pipilo fuscus. Brown Towhee
**Pipilo aberti. Abert's Towhee
*Chondestes grammacus. Lark Sparrow
*Aimophila ruficeps. Rufous-crowned Sparrow
*Amphispiza bilineata. Black-throated Sparrow
Spizella passerina. Chipping Sparrow
Spizella atrogularis. Black-chinned Sparrow

APPENDIX II

TOTAL BIRD SPECIES RECORDED IN THE GILA RIVER VALLEY FROM REDROCK TO TURKEY CREEK

This list, of common names only, incorporates recent records and those gleaned from the ornithological literature. It does not include a few species of doubtful occurrence (such as Costa's Hummingbird) despite mention of these in the literature. Another 12 to 15 species, not yet known from that part of the Gila under consideration, may be expected to occur. Most of the "accidental" or other highly unusual species here listed are supported by specimen evidence some of which is as yet unreported in the scientific journals.

Eared Grebe
Western Grebe
Pied-billed Grebe
Double-crested Cormorant
Olivaceous (Mexican) Cormorant
Great Blue Heron
Green Heron
Snowy Egret
Black-crowned Night Heron
Yellow-crowned Night Heron
White-faced Ibis
Canada Goose
Snow Goose
Mallard
Mexican (New Mexican) Duck
Gadwall
Pintail
Green-winged Teal
Blue-winged Teal
Cinnamon Teal
American Widgeon
Shoveler
Wood Duck
Redhead
Ring-necked Duck
Canvasback
Lesser Scaup
Bufflehead
Ruddy Duck
Common (American) Merganser
Turkey Vulture
Goshawk
Sharp-shinned Hawk
Cooper's Hawk
Red-tailed Hawk
Swainson's Hawk
Zone-tailed Hawk
Ferruginous Hawk
Gray Hawk (Mexican Goshawk)
Harris' Hawk
Black (Mexican) Hawk

Golden Eagle
Bald Eagle
Marsh Hawk
Osprey (Fish Hawk)
Prairie Falcon
Peregrine Falcon
Pigeon Hawk
Sparrow Hawk
Scaled Quail
Gambel's Quail
Harlequin (Mearns') Quail
Ring-necked Pheasant
Chukar
Turkey
Sandhill Crane
Sora (Carolina Rail)
Gallinule Common (Florida)
American Coot
Killdeer
Common (Wilson's) Snipe
Spotted Sandpiper
Solitary Sandpiper
Willet
Greater Yellowlegs
Lesser Yellowlegs
Pectoral Sandpiper
Least Sandpiper
Long-billed Dowitcher
Wilson's Phalarope
Northern Phalarope
Ring-billed Gull
Franklin's Gull
Band-tailed Pigeon
Rock Dove
White-winged Dove
Mourning Dove
Ground Dove
Inca Dove
Yellow-billed Cuckoo
Roadrunner
Barn Owl

Screech Owl
Great Horned Owl
Elf Owl
Spotted Owl
Poor-will
Common Nighthawk
Lesser (Texas) Nighthawk
Black Swift
White-throated Swift
Black-chinned Hummingbird
Broad-tailed Hummingbird
Rufous Hummingbird
Calliope Hummingbird
Belted Kingfisher
Red-shafted Flicker
Gila Woodpecker
Acorn Woodpecker
Lewis' Woodpecker
Yellow-bellied Sapsucker
Williamson's Sapsucker
Hairy Woodpecker
Downy Woodpecker
Ladder-backed Woodpecker
Western Kingbird
Cassin's Kingbird
Scissor-tailed Flycatcher
Wied's Crested Flycatcher
Ash-throated Flycatcher
Eastern Phoebe
Black Phoebe
Say's Phoebe
Traill's Flycatcher
Hammond's Flycatcher
Dusky (Wright's) Flycatcher
Gray Flycatcher
Western Flycatcher
Western Wood Pewee
Olive-sided Flycatcher
Vermilion Flycatcher
Horned Lark
Violet-green Swallow
Tree Swallow
Bank Swallow
Rough-winged Swallow
Barn Swallow
Cliff Swallow
Purple Martin
Stellen's Jay
Scrub (Woodhouse) Jay
Mexican (Arizona) Jay
Common (American) Raven
White-necked Raven
Common Crow
Pinyon Jay
Clark's Nutcracker
Mountain Chickadee
Plain Titmouse
Bridled Titmouse
Verdin
Common Bushtit
White-breasted Nuthatch
Red-breasted Nuthatch
Pygmy Nuthatch
Brown Creeper
Dipper
House Wren
Bewick's Wren
Cactus Wren
Long-billed Marsh Wren
Canyon Wren
Rock Wren
Mockingbird
Bendire's Thrasher
Curve-billed Thrasher
Crissal Thrasher
Sage Thrasher
Robin
Hermit
Swainson's Thrush
Western Bluebird
Mountain Bluebird
Townsend's Solitaire
Blue-gray (Western) Gnatcatc
Black-tailed Gnatcatcher
Ruby-crowned Kinglet
Water (American) Pipit
Cedar Waxwing
Phainopepla
Loggerhead Shrike
Starling
Hutton's Vireo
Bell's (Least) Vireo
Gray Vireo
Solitary (Plumbeous) Vireo
Warbling Vireo
Orange-crowned Warbler
Nashville Warbler
Tennessee Warbler
Virginia's Warbler
Lucy's Warbler
Yellow Warbler
Myrtle Warbler
Audubon's Warbler
Black-throated Gray War

Townsend's Warbler
Blackpoll Warbler
Grace's Warbler
Palm Warbler
Northern (Grinnell's) Waterthrush
MacGillivray's Warbler
Yellowthroat
Yellow-breasted
Red-faced Warbler
Wilson's (Pileolated) Warbler
American Redstart
Painted Redstart
House Sparrow
Western Meadowlark
Yellow-headed Blackbird
Redwinged Blackbird
Hooded Oriole
Scott's Oriole
Bullock's Oriole
Brewer's Blackbird
Boat-tailed (Great-tailed) Grackle
Common (Bronzed) Grackle
Brown-headed Cowbird
Bronzed Cowbird
Western Tanager
Hepatic Tanager
Summer (Cooper's) Tanager
Cardinal
Pyrrhuloxia
Black-headed Grosbeak
Blue Grosbeak
Lazuli Bunting
Indigo Bunting
Evening Grosbeak
Cassin's Finch
House Finch
Pine Siskin
American (Common) Goldfinch
Lawrence's Goldfinch
Red Crossbill
Green-tailed Towhee
Rufous-sided (Spotted) Towhee
Brown (Canyon) Towhee
Abert's Towhee
Lark Bunting
Savannah Sparrow
Baird's Sparrow

Vesper Sparrow
Lark Sparrow
Rufous-crowned Sparrow
Black-throated (Desert) Spa
Sage Sparrow
Slate-colored Junco
Oregon (Shufeldt's) Junco
Gray-headed Junco
Chipping Sparrow
Brewer's Sparrow
Black-chinned Sparrow
White-crowned Sparrow
Golden-crowned Sparrow
White-throated Sparrow
Fox Sparrow
Lincoln's Sparrow
Swamp Sparrow
Song Sparrow

United States Department of Agriculture

Forest Service

Reply to: 4060 Research Facilities

Date: JUN 18 1982

Subject: Progress Evaluation on RNA Program

To: Forest Supervisor, Gila NF

We appreciate your recognition of the need for RNA's. You have also identified some of the potential difficulties that may be encountered with respect to finding unaltered sites and obtaining mineral withdrawals. We believe that our current approach recognizes these challenges and allows some flexibility in meeting them. Also, the new Washington Office policy, allowing establishment in wilderness, provides a wider range of opportunities for establishment.

We agree with your earlier assessment that Fort Bayard's current allocation to manipulative research probably precludes identifying a viable RNA in that area. However, we have been unable to find suitable pinyon-juniper areas in reviews of the Cibola and Lincoln National Forests. Therefore, we must increase our emphasis on finding suitable representations for this ecosystem.

During our March Research Natural Area (RNA) Committee meeting, we reviewed responses to our 4060 letter of January 13. The RNA Task Group was asked to review National and Regional ecosystem representation needs in depth.

Initially, our Regional targets were specified by State with opportunities identified by Forest. Our attempt was designed to allow maximum latitude to the Forests in evaluating and establishing RNA's in the Forest planning process. It appears that this approach was confusing, and we need to establish specific targets and responsibilities by Forest. In this way, management needs can be met, and we can be responsive to a National concern and a Regional issue.

Accordingly, we have enclosed a listing of six ecosystem representation needs. These six proposed ecosystems representations or suitable alternatives should be considered as tenative targets for establishment in the Gila Forest Plan. We will make the RNA Task Group available to assist in the review of these or other alternative areas. After review by the RNA Task Group, we can consider adjustments according to how candidate areas meet RNA standards.

We have also included an updated exhibit 5C from our earlier briefing paper that includes the names/location of other alternatives you may wish to consider. We also believe that there is an opportunity to work cooperatively with Nature Conservancy in a Sycamore riparian area they are establishing below the proposed Hooker Dam site on the Gila River. We will send more information on this later.

For the present, our emphasis is on identifying potential areas that meet essential Regional and National representation needs. Mineral withdrawal is desirable in the long run, if possible. However, we do not consider this a prerequisite to establishment.

As you indicate, we are looking for unmanipulated areas. This criteria requires judgement and is based on the primary representation being sought. Certainly, areas that have been chained or are currently in an overgrazed condition do not meet the criteria. Areas with light or intermittent grazing certainly have the potential to be representative areas with a few years of protection. In fact, on a case-by-case basis, some areas may require periodic grazing or prescribed fire to maintain the ecosystem being represented.

Considerable concern was expressed by the public regarding the need for RNA in response to the Draft Regional Plan. While the proposed RNA's on the Gila National Forest only amount to one tenth of one percent of the land area, they fulfill a number of important purposes. These include benchmarks for monitoring, gene pool reserves, sources of knowledge for integrated pest management, sources of medicinal compounds, and experimental controls for research studies. The Gila has a unique opportunity to contribute to this program.

JAMES C. OVERBAY
Deputy Regional Forester

Enclosure

Targeted RNA Representation Needs Gila National Forest

1. Grama Tobosa Shrub Steppe--K-58

a. Possible location, Engineer Canyon, portions of Sections 1 and 12 T.22S., R.17W. Approximate area, 300 acres.

b. Discussion--No current representation in Southwest.

2. Gramagrass land

a. Possible location proposed Rabbit Trap Natural Area, portions of both Section 34 T.17S., R16W. and Section 3 T.18S., R.16W. Approximate area, 300 acres.

b. Discussion--Region 3 also has a significant gap in RNA grassland represenation. Southern New Mexico must bear a major responsibility for finding the Grama-Tobosa and Scrub-Grassland ecosystems as indicated in Appendix F of the Regional Forest Plan. We admit this is hard to do, since many allotments need all the grass they contain to maintain present stocking. However, there are areas on the Gila inaccessible to livestock by virtue of lack of water, difficult terrain, or management enclosure. There is, for example, a possible location in the Rabbit Trap Enclosure. Perhaps the Forest staff can suggest other grassland locations that can address this RNA need. Possibly, a significant grassland acreage can be merged with P-J or open Juniper savanna to satisfy two of the Region's most deficient RNA ecosystem representations within a single area.

3. Pinyon-Juniper--K-23

a. Possible location--Proposed McComas Peak RNA primarily Section 24, T.17S., R.14W. Approximate area 400 acres.

b. Discussion--About 65 percent of Region 3's AUM commitment is on allotments with significant Pinyon-Juniper (P-J) ecosystem (including Juniper savanna). In adition, the fuelwood-cordwood commodity demand from this ecosystem is expected to increase in the future. Currently, not a single RNA in the entire Region has P-J (or its related Juniper/grassland) as its major, primary ecosystem. Because of its importance, we strongly recommend that the Gila National Forest include a P-J ecosystem within its RNA planning.

4. Riparian--

a. Possible Site--Turkey Creek proposed RNA Gila Wilderness T. 14S., R.16W., portions of Sections 3, 4, 9, 10, 11, 15 and 16. Area approximately 1335 acres.

b. Discussion--Riparian areas in the Southwest currently have limited representation. They are among the most critical and sensitive ecosystems which we manage. Turkey Creek is a unique opportunity to provide a substantial representation of a wide variety of riparian hardwoods common to the Southwest. The area also provides representation for desert shrub, P-J and small areas of Interior Douglas fir and Ponderosa pine. (See enclosed RNA establishment report). The area had been submitted to the Chief previously for establishment, but was not established because of policy on establishment in wilderness at that time. Current policy allows establishment in wilderness.

5. Mountain Meadows--Arizona fescue

a. Possible locations--Loco mountain, vicinity T. 10S., R. 16W., or N-Bar Park Section 34 T. 9 S., R. 17 W.

b. Discussion--Mountain Meadows are not adequately represented in the Southwest Region. Yet they are most important rangelands for cool season grasses and summer pastures.

6. Pinus strobiformis--Spiranthese parasitica

a. Possible location--Meadow Creek Section 11 T. 16S., R. 13W. Size approximately 400 acres.

b. Discussion--This area is primarily of interest because of the rare plant species. The pinus strobiformis would also be a desirable representation. The overall priority for this area is lower than that for grasslands and P-J.

Exhibit 5C

NEW MEXICO

GILA NATIONAL FOREST

A. EXISTING DESIGNATIONS

m) Gila River (Gila Bird Areas-Riparian-Fremont-Cottonwood, pinyon-juniper

B. POTENTIAL AREAS

76) Animas Creek Watershed--Riparian

77) Indian Creek--unique species botanical area

78) Diamond Creek--Gila Trout and Riparian

79) Ft. Bayard--Desert grassland--Pinyon Juniper

80) Silver City Watershed--Pinyon Juniper (See 93)

81) Mogollon Creek (USGS Benchmark)--mixed species

82) Sandy Point--Willow Mountain--mixed conifer--corkbark fir

83) Iron Creek Mesa--Ponderosa pine

84) Mckenna Park--

85) O-Bar-O--

86) Little Creek Watershed--Ecological Variation

87) Willow Creek--Blue spruce

88) Spider-Spruce Dry Watersheds

89) Mineral Creek--Riparian

90) Cemetary Hill--Pipo. Fear, Ange

90A) Loco Mtn--Mountain Meadow

90B) N-Bar-Park--Mountain Meadow

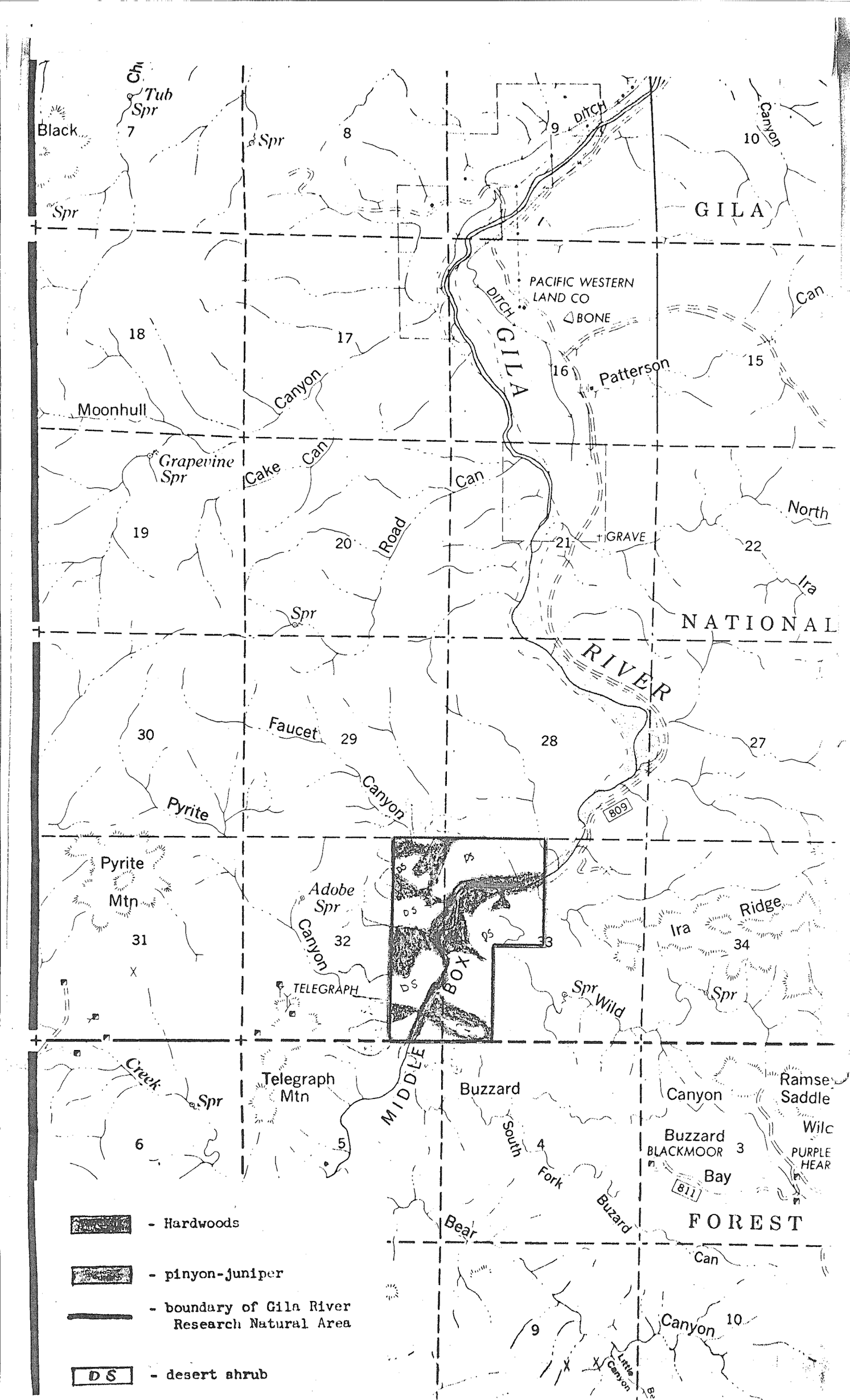
90C) Sacaton Creek--Riparian--Encinal--Pine

C. PREVIOUS STUDIES

91) Rabbit Trap Enclosure (3-7-72)

92) Turkey Creek (7-15-69) (Gila Wilderness)--Riparian Mtn. Maple

93) McComas Peak (Silver City Watershed) (3-2-72)


Tub Spr
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Canyon
Grapevine Spr
Cake Can
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Road
GRAVE
North
Ira
NATIONAL
RIVER
Spr
Faucet
Canyon
Pyrite
809
Pyrite Mtn
Adobe Spr
Canyon
TELEGRAPH
DS
BOX
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Ira
Ridge
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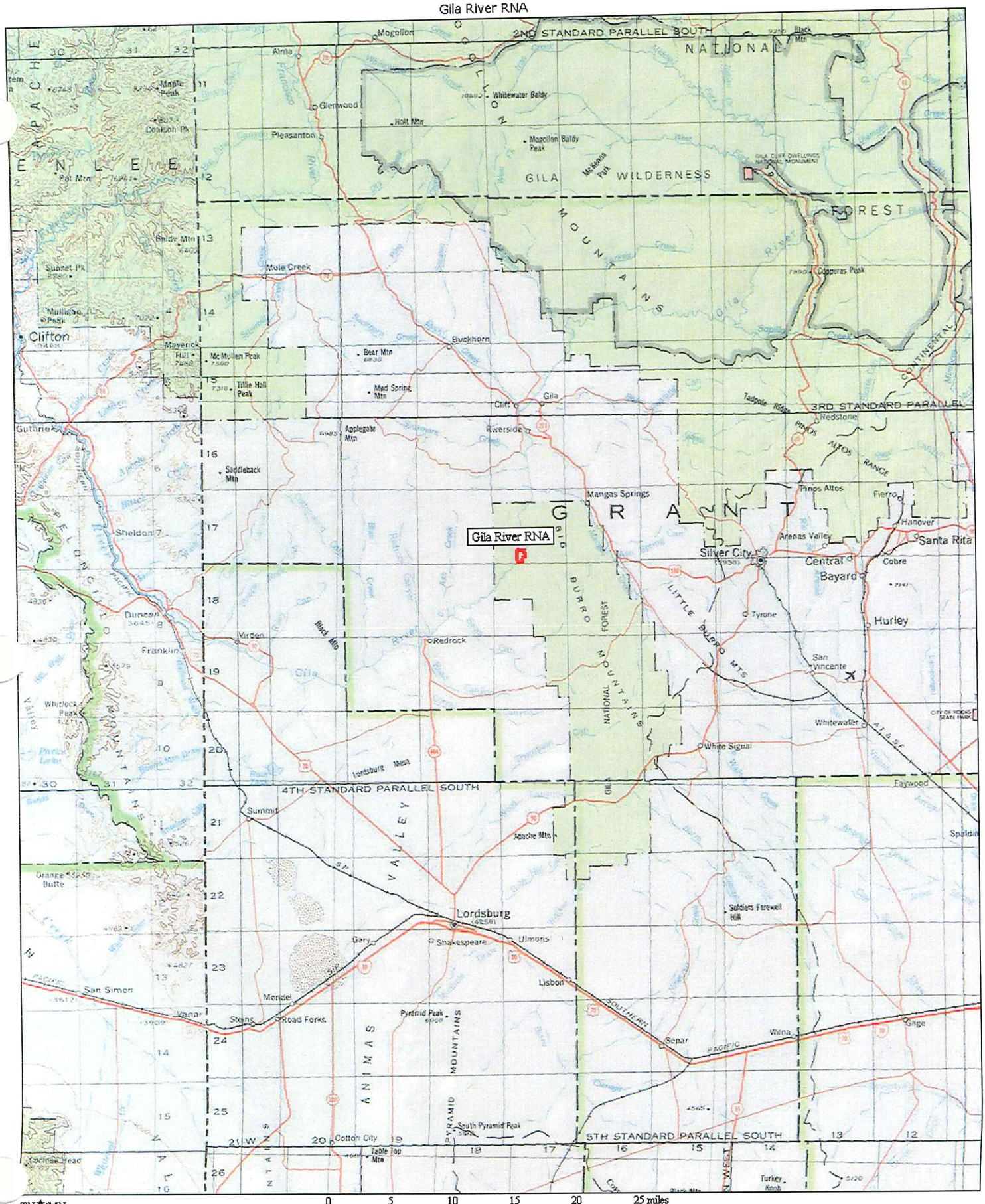
Creek
Spr
Telegraph Mtn
MIDDLE
Buzzard
South Fork Buzzard
Bear
Canyon
Ramse Saddle
Wilc
Buzzard
BLACKMOOR
Bay
811
PURPLE HEAR
FOREST
Can
Canyon
Little Canyon
- Hardwoods
- pinyon-juniper
- boundary of Gila River Research Natural Area
DS - desert shrub

Gila River RNA



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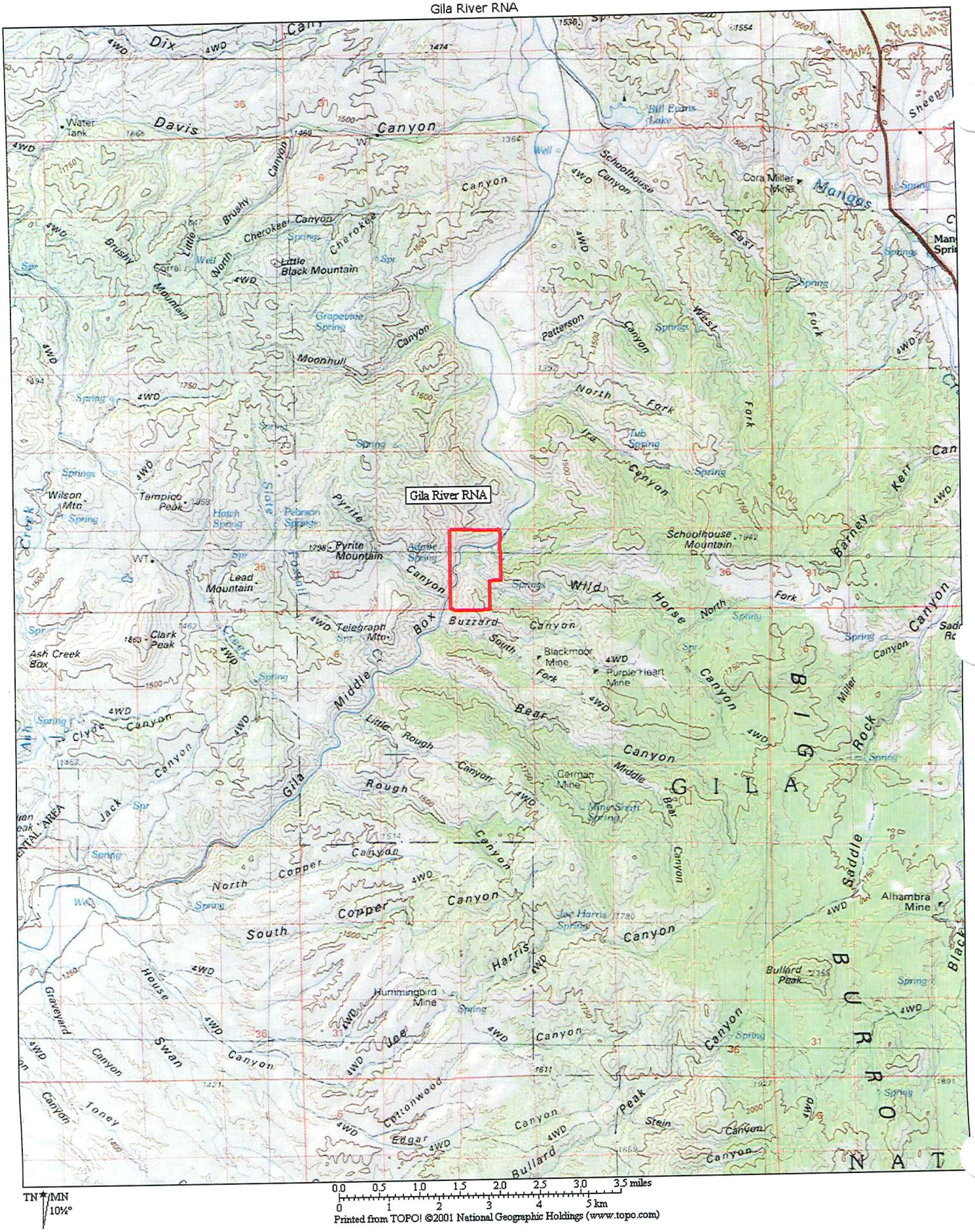
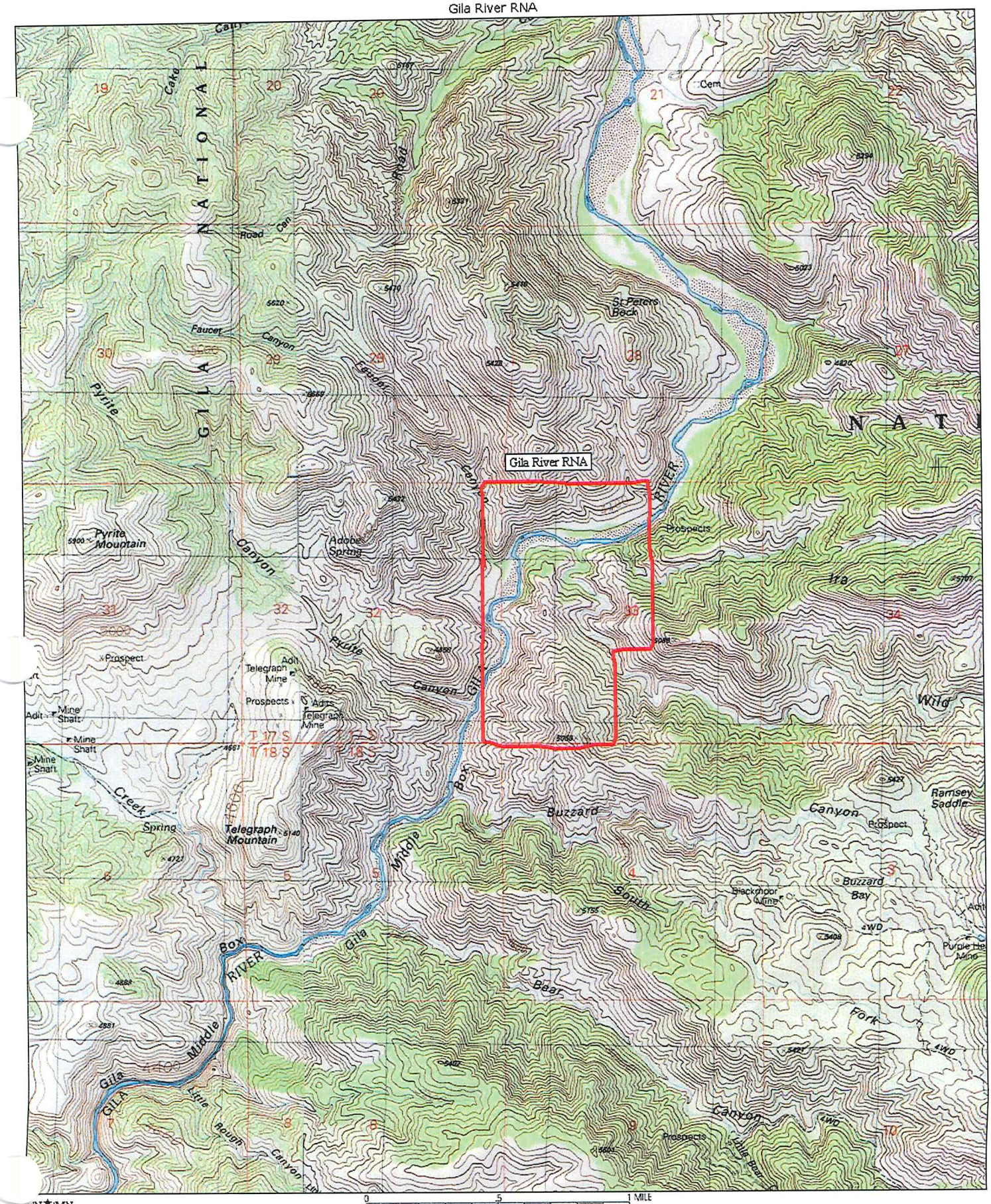
10½°

0 5 10 15 20 25 miles
0 5 10 15 20 25 30 35 40 km

Gila River RNA



Gila River RNA



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THE GILA RIVER VALLEY IN SOUTHWESTERN NEW MEXICO AS AN IMPORTANT WILDLIFE RESERVOIR

Dale A. Zimmerman

In recent months the Gila River and its valley have attracted much attention owing to interest in the proposed Hooker Dam. Several studies and surveys have been made by various agencies in the areas which might be affected by dam construction and associated activities. However, none of the agency reports, including that by the Bureau of Sport Fisheries and Wildlife, deals adequately with the effects on (a) scenic river values and (b) wildlife habitats. So grossly neglected have been these aspects of the overall problem that I would strongly suggest to all bureaus and agencies concerned that a complete re-evaluation be made of the various river "reclamation" and dam-construction schemes proposed for Arizona and New Mexico.

An earlier report on Biological Resources of the Gila River in New Mexico dwells little upon the bird life--which, from the recreational viewpoint, is perhaps the most important element of the fauna, attracting as it does scores of bird-students, amateur and professional ornithologists, and others to the Gila River Valley for the primary or sole purpose of bird-watching.

As an ornithologist I can express the concern of both professional zoologists and many bird students and other wildlife enthusiasts who annually visit the Gila over the almost certain effects of dam construction and consequent "development" of the Gila River Valley. Development *per se* is not the problem, for it *can* be done with minimal effect upon wildlife. But development schemes--regardless of kind--in our river valleys seem always to involve removal of tress and consequent severe damage (or outright destruction) of natural biotic communities. The Fremont Cottonwood-Arizona Sycamore association along the Gila River downstream from the Hooker dam site is unique in New Mexico and is representative of a subtropical Sonoran biotope quite rare north of the Mexican border. Other examples of it in Arizona are themselves threatened by various development schemes. The best and most accessible examples of this habitat anwhere are the strip in question from the Hooker dam site downstream to Cliff and Gila, and in the vicinity of Redrock. It would be tragic to permit ruination of the already limited stands of riparian woody vegetation along the river in these areas. Once the native plant associations are destroyed the bird populations they support are similarly destroyed. These populations, in the case of several species, are already of low density. If they are extirpated from the Gila they have nowhere to go, they will not breed, and will not survive. The strip of suitable habitat for the riparian forms is very restricted. Birds that would be especially adversely affected in this area include:

Abert's Towhee	Mexican Black Hawk	Gray Hawk
Elf Owl	White-winged Dove	Mourning Dove
Wied's Crested Flycatcher	Yellow-billed Cuckoo	Gila Woodpecker
	Lucy's Warbler	

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*Professor and Chairman, Department of Biological Sciences, Western New Mexico University, Silver City, New Mexico

Many other species, including most of those on the accompanying list (Appendix I) would have their numbers considerably reduced by any massive disturbance or tree-removal in the Valley. Of the birds listed above, all but the Mourning Dove and Yellow-billed Cuckoo are more or less restricted to the southwestern corner of the State and a major portion of the population of each is in the Gila River Valley. The Abert's Towhee is, in New Mexico, apparently confined to the Valley.

The bird life of the area in question is well known qualitatively but little is yet known about actual densities of the various species. Certainly many of the birds are either restricted to riparian habitats or require tall trees (or both). Thus there is a heavy concentration of birds in the river valley itself--far greater than elsewhere in the region--at all times of year. The reasons are, directly or indirectly, the presence of the woody vegetation in proximity to the water. Many animals (including birds) that occur there are, in other words, definitely dependent upon these plant associations for their existence. Destroying or severely modifying this habitat will eliminate these birds as surely as would systematic poisoning or other direct attack.

The biotic community with which we are concerned is readily recognized by the occurrence of either of two tree species: the sycamore, Platanus wrightii, and especially Fremont's cottonwood, Populus fremontii. The latter might be termed an indicator species of this environment, and it should be confused with neither Populus wislizenii (of the Rio Grande Valley) nor P. angustifolia (the common narrow-leafed cottonwood which replaces P. fremontii along the upper reaches of the Gila and at higher elevations throughout the southwestern mountains). In New Mexico, Populus fremontii is restricted to the lower portions of the Gila and San Francisco rivers, and to a few canyons in the southwestern corner of the State (where, however, there is so little permanent water as to prevent development of the particular riparian community that exists along the Gila).

Other woody plants important to this community are certain willows, especially Salix nigra var. vallicola. The latter sometimes forms an intermediate vegetation stratum between the cottonwood or sycamore canopy and the low dense growths of Baccharis glutinosa, an abundant shrub along the river. On higher, drier ground, this cottonwood-willow-baccharis association includes hackberry (Celtis reticulata), Arizona walnut (Juglans major), a desert olive (Forestieria neomexicana), wild grape (Vitis arizonica), waxberry (Sapindus drummondii), and numerous other woody and herbaceous plants. Still farther away from the edge of the water itself this riparian association grades into a more xerophilous one with junipers (Juniperus spp.), occasional pines (Pinus edulis, P. ponderosa, and the rare P. leiophilla), and numerous leguminous shrubs. These plants in places form dense belts of brush that separate the riparian association from the desert (or other) communities away from the river. These brushlands are important to the riparian animals and they support considerable wildlife populations.

Referring again to the bird populations, certain species require special mention: First, two rare raptors, the Gray Hawk (Buteo nitidus) and Mexican Black Hawk (Buteogallus anthrancinus) nest along the river. These are entirely harmless species of great ornithological interest. Their rarity results in part from irresponsible shooting and habitat destruction. As both of these birds are termed "hawks" they tend to be shot on sight by many gunners. Their future in the United States is bleak if we cannot provide them with refuges that ensure genuine protection. They cannot long withstand the double-barreled onslaught of shooting and elimination of their breeding areas. These species are classed as "peripheral" birds as they occur in Mexico and Central America. However, their populations north of Mexico are very small and probably everywhere diminishing. They are among the more prominent members of the unique "Mexican element" characterizing the avifauna of the Gila River Valley.

At present we know of no pairs of Buteo nitidus remaining in New Mexico, although they probably occur at rare intervals and doubtless would re-establish a breeding nucleus if afforded protection. The last known nesting site in the State was in a "dense (cottonwood) bosque along the Gila east and. . .north of Cliff." (Ligon, 1961: 170). By the early 1950's this handsome species had become a "decidely rare bird" in southern Arizona (Brandt, 1961: 646).

I have elsewhere (Zimmerman, 1965: 475-477) discussed the plight of this bird in New Mexico. Along the Gila, from approximately Turkey Creek to Redrock there are now, in a typical year, four or perhaps five pairs of Buteogallus. They occur only where suitable places exist along the waterways for their feeding, where sufficient tall cottonwoods provide nest sites and shelter, and where human disturbance is minimal. This may well be the entire breeding population of this bird in the State, and there are only a few additional pairs in Arizona. This species is a major attraction to visiting field ornithologists, amateur and professional. A number of people visit the region each year for the sole purpose of seeing this bird, adding it to their lists, or photographing it. In some years I have had as many as twenty requests from various parts of the country from people asking precise directions to where they can see this bird. There is no better spot in the United States, or northern Mexico for finding it in the wild than along the Gila River near Cliff, Gila, Redrock, and north of Gila near the Hooker dam site. Most unfortunately, this bird is rather conspicuous and fearless; hence it is easily shot. With dwindling habitat and constant reduction in numbers from shooting we will probably lose the species from New Mexico within a decade--unless measures are taken.

Although the Black Hawk has been known to nest once northeast of the Hooker dam site, most reports of "Black Hawks" on the Upper Gila are of Zone-tailed Hawks (Buteo albonotatus). This includes some of the erroneous records in Ligon (op. cit.), including the individual pictures on page 91. This volume cites the species from the Mimbres and even the Rio Grande, but there are no recent records, at least away from the Gila. If there was a population along the Mimbres it seems already to have been exterminated.

J. P. Hubbard, of the Smithsonian Institution, wrote (1965: 474) "At the present rate it is only a matter of time until the Black Hawk is extirpated from the United States. Not only will this mean the loss of a fine species of bird from our avifauna, but it will mean that the great river bottom forests of the southwest with their rich birdlife have become an irredeemable memory." That author pleads for a "Save the Cottonwoods" movement and writes further that "Preservation of some of these stands must be accomplished within the next few years or never. Even now an especially fine remnant along the Gila River in Grant County, New Mexico is threatened by a proposed dam and pleasure lake." The reference is to the proposed Hooker dam.

Myiarchus tyrannulus, the Mexican (or Wied's) Crested Flycatcher is another species characteristic of southern Arizona and Mexico that enjoys a limited range in New Mexico. In the latter state it is found in a few canyons where sycamore trees grow, and along the Gila River. The tree Platanus wrightii appears to be almost essential to this bird's existence in an area. Wherever sycamores remain in numbers along the Gila this flycatcher occurs, but such places are now scarce. It is another bird that must be considered rare to very rare in New Mexico. Probably 15 pairs exist in the Gila Valley between Redrock and Turkey Creek.

The Gila Woodpecker, Centurus uropygialis, also nests in dead trees and holes excavated in large dead branches. It seems to prefer cottonwoods, and as it occurs only in those parts of southwestern New Mexico where Populus fremontii grows, it is not surprising that the main part of this bird's range here is in the Gila River Valley.

The tiny Elf Owl, Micrathene whitneyi, is another cavity nesting species largely restricted to cottonwoods; in New Mexico it is confined almost entirely to the southwest corner of the state, with the major population along the Gila River. This species is another major attraction for wildlife-conscious visitors.

Parts of the Gila Valley are important breeding areas for White-winged and Mourning doves, which require the trees for breeding. The White-wings nest largely in the big sycamore trees; Mourning Doves prefer the willows for nesting. Owing to drainage of small ponds, removal of trees near remaining waters, and the omnipresent shooting problem, the various herons have become rare in southwestern New Mexico. The Great Blue, Green, and Black-crowned Night herons all would return as breeding species in the vicinity of Cliff, Gila, and Redrock if suitable areas were placed under protection.

The Mexican Duck, Anas diazi, known to breed in our country only in New Mexico, is now gone from much of its range. Habitat for nesting ducks has been largely destroyed along our river systems--including the Gila. As recently as ten years ago this species summered and probably bred in small marshy ponds adjacent to the river near Gila and Cliff, but these

sites have been destroyed. The bird doubtless could stage a comeback to the region (and thus increase its dangerously low numbers) with proper management and protection. The few areas in New Mexico where it currently is breeding are too few, and the numbers too small, to ensure a safe future for the species. The bird also occurs in Mexico, but we have no reliable information on its status there. Personal observation in much of Mexico indicates that the bird is probably declining there as well as north of the border.

Many other bird species occur along the parts of the Gila River with which we are concerned here. Space prohibits discussion of these but the attached lists of the Gila River bird species (see Appendix I and II) disclose the Valley's diversity as an avian habitat. What it does not show is the abundance of individual birds. As yet we have no actual censuses to cite*, but that the Valley is endowed with a very rich avifauna is unquestionable. This is reflected by the number of bird-students, amateur ornithologists, and other naturalists who visit the area each spring and summer. During an average year, over the past five or six years, I have personally received scores of requests for specific places where visitors might hopefully see the above-mentioned birds (particularly the two hawks) and/or requests for my printed check-lists of birds of this region. Until the latter check-list was made known to the public in Audubon Magazine I would not have guessed that so many individuals from all parts of the country were interested in the Gila Valley's birds to the extent of making special trips there. During some seasons I have received such a volume of correspondence from prospective bird-conscious visitors as to make replies difficult or impossible. I finally duplicated bird-finding directions to special places along the Gila to which I could refer such people. It is impossible at this writing to say how many requests I have had for information of this sort, but the number since 1964 has been at least 200--and during three of these summers I have been absent from New Mexico with no way of knowing how many visitors came then to see birds. In addition to persons writing in advance, many others visit me in person, or telephone, for information on where they can see birds in the Gila Valley. There also have been several groups from various colleges and universities over the years. While writing this report a couple from southeast Texas solicited bird-finding information from me. They stated, prior to their return home, that they felt a section of the Gila Valley should be established as a National Wildlife Refuge similar to the Santa Ana Refuge near their home.

Ligon (1961: 310), in referring to the Bosque del Apache National Wildlife Refuge on the Rio Grande, mentions that the 264 species of birds known from there is "the greatest number yet recorded at a single station in the state." It is interesting to note that the Gila, from Redrock to Turkey Creek, boasts a list of over 250 species without the benefit of permanently resident naturalists as in the case of the Bosque Refuge.

The portions of the Gila in question have several times been the choice of the New Mexico Ornithological Society for their annual spring field sessions; the group is meeting here again this spring. Some of

*On May 4, 1968, a crude census of birds at five sites along the Gila in southwestern New Mexico revealed 139 species and 4,122 individual birds. Other censuses are in progress.

its officers have expressed the opinion that the region cannot be surpassed in New Mexico for bird-viewing possibilities; I absolutely concur. In a lifetime of experience in many parts of North America, and all of Mexico, I know of few better places in which one can see a variety of unusual birds. The Gila is without doubt the very best place for this in the entire state of New Mexico, and one of the best in the entire Southwest. This fact results from not only the rare species of Mexican affinities, but the presence in the Valley of several different plant associations in close proximity; xeric scrub, marshes (now almost gone), farmlands, irrigated fields, brush-lined secondary roads, rocky side canyons, et cetera all contribute to the variety, with the river itself being the main "core" of the system of course. The Gila here is still a living river. Despite gross misuse by some landowners, the river is not destroyed. But its unique web of wild-life--not only the birds but the fascinating mammals such as beavers and otters which still occur along its banks--is now hanging by a very tenuous thread. Overdevelopment (which means any significant increase in reduction of the wild areas and forested river bed still remaining) will either drastically alter or entirely destroy the Gila Valley as a natural ecosystem.

In summary, the concern of ornithologists and other zoologists and conservationists over protection of the riparian biota along the Gila River in New Mexico stems from the fact that this is the only well-developed example of this ecosystem in the State. It is unique in New Mexico, and one of the few such rivers in the entire country. Furthermore, it is readily accessible to visitors from near and far who may have but a few hours or days to spend in the exotic environment provided by the secluded reaches of the Valley. Almost nowhere else in the United States can one see the particular combination of birds found along the Gila--or see them with so little effort.

It is clear, however, that with continued misuse the unique qualities which render the Gila attractive to scientists, students and wildlife-conscious tourists will not remain much longer. The Valley already has lost a good share of its attractiveness during the past decade; the next five or ten years can ruin it if constructive action is not taken. The major disturbance and destructive factors are (1) outright destruction of the big trees, (2) unrestricted and concentrated grazing of domestic stock which prevents regeneration of the flood-plain forest, (3) irresponsible year-round shooting, (4) potential damage to both the aquatic and terrestrial environment through dam construction and associated construction and exploitation activities.

It should be stressed that the habitat with which we are concerned is confined to an exceedingly narrow river bed in an arid to semi-arid region. The amount of acreage it covers is very small, and thus its carrying capacity for wildlife is limited. Animals concentrate there--for watering, feeding, breeding, roosting, etc.--and are therefore not only largely or wholly restricted to that small area but in many cases absolutely dependent upon it. Under genuine protection wildlife can in most cases adjust to changes imposed upon the environment by man if these changes are moderate and if they do not come about too rapidly. The wildlife in our national parks and refuges offers

abundant evidence of this. But if the changes involve wholesale clearing of breeding and/or feeding areas, if they so disturb the river as to affect its biota and/or water quality, and if overt destructive or frightening practices such as gunning, motorboating, or vandalism are introduced (which too often occur as by-products to developmental schemes), then the wildlife values of the Gila River as we know it today will be lost for us and for future generations.

Many of us feel that the Gila River is destined to be converted to little better than ditch or canal status, largely treeless (and shadeless) and essentially birdless, the monotony broken perhaps by a biotically inert recreational reservoir or two, regularly stocked with introduced fishes so that fishermen can pursue their sport in crowded company with one another instead of the streamside solitude in wild but not unfriendly country where fishing takes on another dimension entirely.

If this occurs, there will be no reason for the scores of binocular-toting naturalists, or university ecology or zoology classes to visit this area. Their generally unassuming visits, being of necessity not loud or boistrous, unaccompanied by shooting, or by dogs, tend to go unnoticed. The bird-watching and naturalist fraternity is by and large a well-behaved, non-littering, non-polluting lot as compared with the general picknicking throngs which each holiday and weekend leave our roadsides and once-pleasant wooded glens studded with cans, broken bottles, damaged signs and fences, empty .22 cases and assorted illegally killed non-game birds. These and kindred doings are sufficiently offensive, as anyone who visits our national forests knows. But at least in our mountain forests they tend to be more spread out and not concentrated in a narrow belt where all damage is conspicuous and where indigenous wildlife has little chance to avoid it. Near established towns the Gila Valley already is suffering. Wanton shooting has made serious inroads into some bird species. The biotic resources cannot tolerate an expansion of such activity, and whatever developmental schemes are introduced must take into account wildlife values and requirements if we hope to preserve a vestige of a unique heritage which the next generation has a right to enjoy as have we.

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APPENDIX I: SUMMER AND PROBABLE BREEDING BIRDS OF THE GILA VALLEY FROM REDROCK NORTH TO TURKEY CREEK

All species positively known to breed in the valley are marked with an asterisk. Those with 2 such marks are either largely restricted to this area (in our state) or have their center of abundance there, being scarce to very rare in most other parts of New Mexico.

**Ardea herodias. Great Blue Heron
**Butorides virescens. Green Heron
*Anas platyrhynchos. Mallard
Anas diazi. Mexican Duck
Carthartes aura. Turkey Vulture
*Accipiter cooperi. Cooper's Hawk
**Buteo nitidus. Gray Hawk
*Buteo jamaicensis. Red-tailed Hawk
Buteo albonotatus. Zone-tailed Hawk
*Buteo swainsoni. Swainson's Hawk
**Buteogallus anthracinus. Mexican Black Hawk
Aquila chrysaetos. Golden Eagle
*Falco sparverius. Sparrow Hawk
Crytonyx montezumae. Harlequin Quail
Callipepla squamata. Scaled Quail
*Lophortyx gambelii. Gambel's Quail
*Phasianus colchicus. Ring-necked Pheasant
Alectoris graeca. Chukar
Meleagris gallopavo. Turkey
Fulica americana. American Coot
*Charadrius vociferus. Killdeer
*Actitus macularia. Spotted Sandpiper
*Zanaidura macroura. Mourning Dove
**Zenaida asiatica. White-winged Dove
Scardafella inca. Inca Dove
Columbiagellina passerina. Ground Dove
Columba fasciata. Band-tailed Pigeon
*Coccyzus americanus. Yellow-billed Cuckoo
*Geococcyx californianus. Roadrunner
Tyto alba. Barn Owl
*Bubo virginianus. Great Horned Owl
**Micrathene whitneyi. Elf Owl
Phalaenoptilus nuttallii. Poor-will
Chordeiles acutipennis. Lesser Nighthawk
*Archilochus alexandri. Black-chinned Hummingbird
*Colaptes cafer. Red-shafted Flicker
**Centurus uorpygialis. Gila Woodpecker
*Melanerpes formicivorus. Acorn Woodpecker
*Dendrocopos villosus. Hairy Woodpecker
*Dendrocopos scalaris. Ladder-backed Woodpecker
*Tyrannus vociferans. Cassin's Kingbird
*Tyrannus verticalis. Western Kingbird
**Myiarchus tyrannulus. Wied's Crested Flycatcher
*Myiarchus cinerascens. Ash-throated Flycatcher
*Sayornis saya. Say's Phoebe
*Sayronis nigricans. Black Phoebe
*Empidonax traillii. Traill's Flycatcher
*Contopus sordidulus. Western Wood Pewee

*Pyrocephalus rubinus. Vermilion Flycatcher
Eremophila alpestris. Horned Lark
*Stelgidopteryx ruficollis. Rough-winged Swallow
*Petrochelidon pyrrhonota. Cliff Swallow
*Tachycineta thalassina. Violet-green Swallow
*Aphelocoma caerulescens. Scrub Jay
Aphelocoma ultramarina. Mexican Jay
Corvus corax. Common Raven
Corvus cryptoleucus. White-necked Raven
*Parus wollweberi. Bridled Titmouse
*Auriparus flaviceps. Verdin
*Sitta carolinensis. White-breasted Nuthatch
*Thryomanes bewickii. Beweck's Wren
*Campylorhynchus brunneicapillum. Cactus Wren
Catherpes mexicanus. Canyon Wren
Salpinctes obsoletus. Rock Wren
*Mimus polyglottos. Mockingbird
Toxostoma bendirei. Bendire's Thrasher
*Toxostoma dorsale. Crissal Thrasher
*Toxostoma curvirostre. Curve-billed Thrasher
*Turdus migratorius. Robin
Polioptilla caerulea. Blue-gray Gnatcatcher
Plioptila melanura. Black-tailed Gnatcatcher
Phailopepla nitens. Phainopepla
Lanius ludovicianus. Loggerhead Shrike
*Sturnus vulrgaris. Starling
Vireo bellii. Bell's Vireo
Vireo vicinior. Gray Vireo
*Vireo solitarius. Solitary Vireo
*Vermivora luciae. Lucy's Warbler
*Dendroica petechia. Yellow Warbler
*Geothylypis trichas. Yellowthroat
*Icteria virens. Yellow-breasted Chat
Passer domesticus. House Sparrow
*Sturnella magna. Eastern Meadowlark
*Agelaius phoeniceus. Red-winged Blackbird
*Icterus cucullatus. Hooded Oriole
*Icterus parisorum. Scott's Oriole
*Icterus bullockii. Bullock's Oriole
*Molothrus ater. Brown-headed Cowbird
*Tangavius aeneus. Bronzed Cowbird
*Pirange rubra. Summer Tanager
*Richmondena cardinalis. Cardinal
Pyrrhuloxia sinuata. Pyrrhuloxia
*Pheucticus melanocephalus. Black-headed Grosbeak
*Guiraca caerulea. Blue Grosbeak
Passerina cyanea. Indigo Bunting
*Carpodacus mexicanus. House Finch
*Spinus psaltria. Lesser Goldfinch
*Pipilo fuscus. Brown Towhee
**Pipilo aberti. Abert's Towhee
*Chondestes grammacus. Lark Sparrow
*Aimophila ruficeps. Rufous-crowned Sparrow
*Amphispiza bilineata. Black-throated Sparrow
Spizella passerina. Chipping Sparrow
Spizella atrogularis. Black-chinned Sparrow

APPENDIX II

TOTAL BIRD SPECIES RECORDED IN THE GILA RIVER VALLEY FROM REDROCK TO TURKEY CREEK

This list, of common names only, incorporates recent records and those gleaned from the ornithological literature. It does not include a few species of doubtful occurrence (such as Costa's Hummingbird) despite mention of these in the literature. Another 12 to 15 species, not yet known from that part of the Gila under consideration, may be expected to occur. Most of the "accidental" or other highly unusual species here listed are supported by specimen evidence some of which is as yet unreported in the scientific journals.

Eared Grebe
Western Grebe
Pied-billed Grebe
Double-crested Cormorant
Olivaceous (Mexican) Cormorant
Great Blue Heron
Green Heron
Snowy Egret
Black-crowned Night Heron
Yellow-crowned Night Heron
White-faced Ibis
Canada Goose
Snow Goose
Mallard
Mexican (New Mexican) Duck
Gadwall
Pintail
Green-winged Teal
Blue-winged Teal
Cinnamon Teal
American Widgeon
Shoveler
Wood Duck
Redhead
Ring-necked Duck
Canvasback
Lesser Scaup
Bufflehead
Ruddy Duck
Common (American) Merganser
Turkey Vulture
Goshawk
Sharp-shinned Hawk
Cooper's Hawk
Red-tailed Hawk
Swainson's Hawk
Zone-tailed Hawk
Ferruginous Hawk
Gray Hawk (Mexican Goshawk)
Harris' Hawk
Black (Mexican) Hawk
Golden Eagle
Bald Eagle
Marsh Hawk
Osprey (Fish Hawk)
Prairie Falcon
Peregrine Falcon
Pigeon Hawk
Sparrow Hawk
Scaled Quail
Gambel's Quail
Harlequin (Mearns') Quail
Ring-necked Pheasant
Chukar
Turkey
Sandhill Crane
Sora (Carolina Rail)
Gallinule Common (Florida)
American Coot
Killdeer
Common (Wilson's) Snipe
Spotted Sandpiper
Solitary Sandpiper
Willet
Greater Yellowlegs
Lesser Yellowlegs
Pectoral Sandpiper
Least Sandpiper
Long-billed Dowitcher
Wilson's Phalarope
Northern Phalarope
Ring-billed Gull
Franklin's Gull
Band-tailed Pigeon
Rock Dove
White-winged Dove
Mourning Dove
Ground Dove
Inca Dove
Yellow-billed Cuckoo
Roadrunner
Barn Owl

Screech Owl
Great Horned Owl
Elf Owl
Spotted Owl
Poor-will
Common Nighthawk
Lesser (Texas) Nighthawk
Black Swift
White-throated Swift
Black-chinned Hummingbird
Broad-tailed Hummingbird
Rufous Hummingbird
Calliope Hummingbird
Belted Kingfisher
Red-shafted Flicker
Gila Woodpecker
Acorn Woodpecker
Lewis' Woodpecker
Yellow-bellied Sapsucker
Williamson's Sapsucker
Hairy Woodpecker
Downy Woodpecker
Ladder-backed Woodpecker
Western Kingbird
Cassin's Kingbird
Scissor-tailed Flycatcher
Wied's Crested Flycatcher
Ash-throated Flycatcher
Eastern Phoebe
Black Phoebe
Say's Phoebe
Traill's Flycatcher
Hammond's Flycatcher
Dusky (Wright's) Flycatcher
Gray Flycatcher
Western Flycatcher
Western Wood Pewee
Olive-sided Flycatcher
Vermilion Flycatcher
Horned Lark
Violet-green Swallow
Tree Swallow
Bank Swallow
Rough-winged Swallow
Barn Swallow
Cliff Swallow
Purple Martin
Stellen's Jay
Scrub (Woodhouse) Jay
Mexican (Arizona) Jay
Common (American) Raven
White-necked Raven
Common Crow
Pinyon Jay
Clark's Nutcracker
Mountain Chickadee
Plain Titmouse
Bridled Titmouse
Verdin
Common Bushtit
White-breasted Nuthatch
Red-breasted Nuthatch
Pygmy Nuthatch
Brown Creeper
Dipper
House Wren
Bewick's Wren
Cactus Wren
Long-billed Marsh Wren
Canyon Wren
Rock Wren
Mockingbird
Bendire's Thrasher
Curve-billed Thrasher
Crissal Thrasher
Sage Thrasher
Robin
Hermit
Swainson's Thrush
Western Bluebird
Mountain Bluebird
Townsend's Solitaire
Blue-gray (Western) Gnatcatcher
Black-tailed Gnatcatcher
Ruby-crowned Kinglet
Water (American) Pipit
Cedar Waxwing
Phainopepla
Loggerhead Shrike
Starling
Hutton's Vireo
Bell's (Least) Vireo
Gray Vireo
Solitary (Plumbeous) Vireo
Warbling Vireo
Orange-crowned Warbler
Nashville Warbler
Tennessee Warbler
Virginia's Warbler
Lucy's Warbler
Yellow Warbler
Myrtle Warbler
Audubon's Warbler
Black-throated Gray Warbler

Townsend's Warbler
Blackpoll Warbler
Grace's Warbler
Palm Warbler
Northern (Grinnell's) Waterthrush
MacGillivray's Warbler
Yellowthroat
Yellow-breasted
Red-faced Warbler
Wilson's (Pileolated) Warbler
American Redstart
Painted Redstart
House Sparrow
Western Meadowlark
Yellow-headed Blackbird
Redwinged Blackbird
Hooded Oriole
Scott's Oriole
Bullock's Oriole
Brewer's Blackbird
Boat-tailed (Great-tailed) Grackle
Common (Bronzed) Grackle
Brown-headed Cowbird
Bronzed Cowbird
Western Tanager
Hepatic Tanager
Summer (Cooper's) Tanager
Cardinal
Pyrrhuloxia
Black-headed Grosbeak
Blue Grosbeak
Lazuli Bunting
Indigo Bunting
Evening Grosbeak
Cassin's Finch
House Finch
Pine Siskin
American (Common) Goldfinch
Lawrence's Goldfinch
Red Crossbill
Green-tailed Towhee
Rufous-sided (Spotted) Towhee
Brown (Canyon) Towhee
Abert's Towhee
Lark Bunting
Savannah Sparrow
Baird's Sparrow
Vesper Sparrow
Lark Sparrow
Rufous-crowned Sparrow
Black-throated (Desert) Sparrow
Sage Sparrow
Slate-colored Junco
Oregon (Shufeldt's) Junco
Gray-headed Junco
Chipping Sparrow
Brewer's Sparrow
Black-chinned Sparrow
White-crowned Sparrow
Golden-crowned Sparrow
White-throated Sparrow
Fox Sparrow
Lincoln's Sparrow
Swamp Sparrow
Song Sparrow

11-4-93

Este-

This copy of Gila NF map shows Cooney Prairie & environs in blue, landmarks in yellow.

See these 7.5' topos:
Canyon Creek
Black Mountain
others to no., nw., ne.

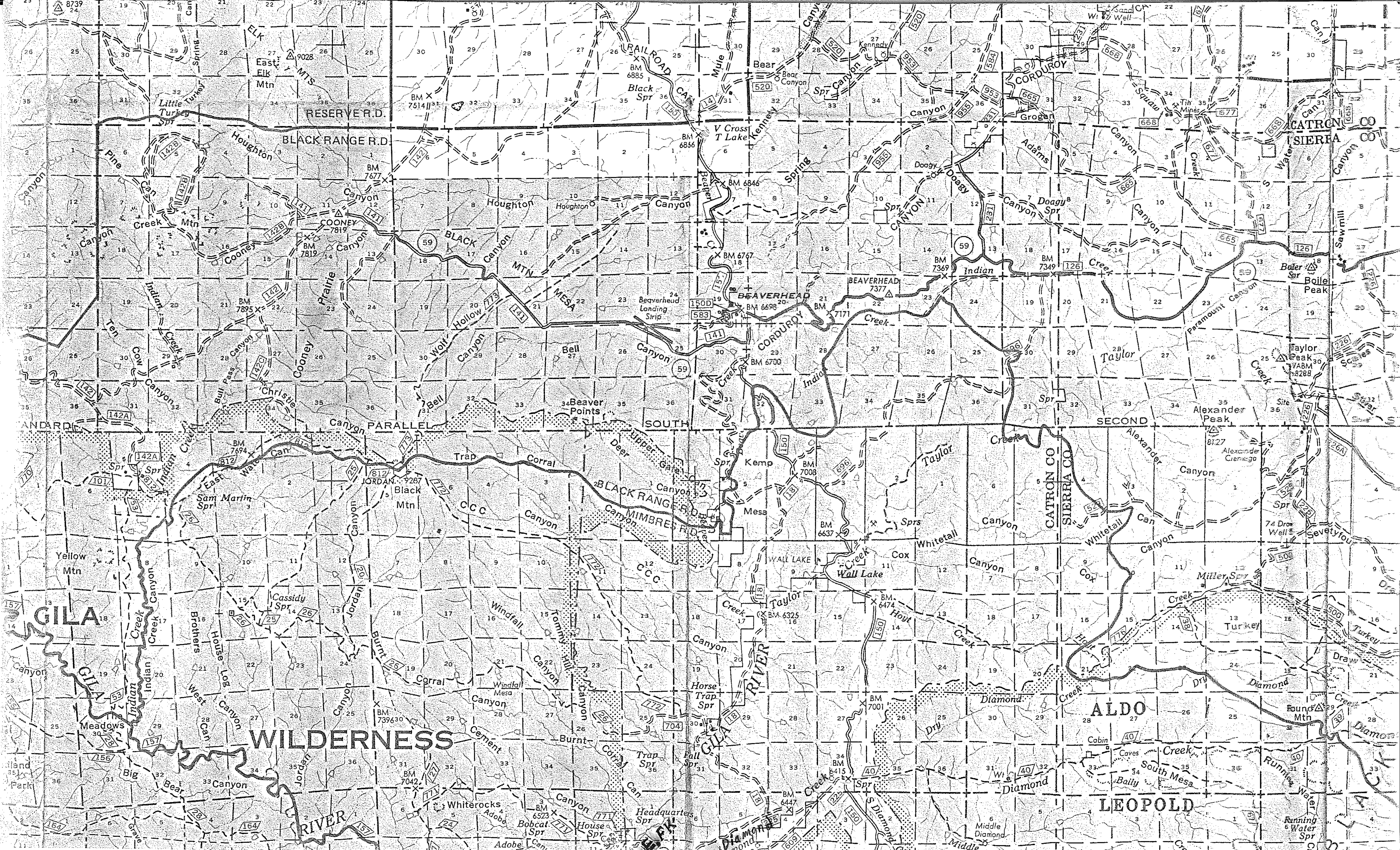
Also, if you look at the Gila NF map you'll see how close San Augustin Plains are.

On 10-30-93, Yvonne & I saw a large area of the southwest portion of Cooney (at least)

Prairie that appeared dominated by Blepharoneuron tricholepis. It was headed out.

Private & state land to no. & ne. appeared to have much less headed out and/or much less B/tr period.

Roby



RESERVE R.D.
BLACK RANGE R.D.
BLACK RANGE R.D.
MIMBRES R.D.
CATRON CO
SIERRA CO
SOUTH
SECOND
PARALLEL
GILA
WILDERNESS
ALDO
LEOPOLD
GILA
RIVER
BEAVERHEAD
CORDUROY
East Elk Mtn
ELK MTS
Houghton
Cooney
COONEY 7819
Black Mtn
JORDAN 9287
BLACK MTN MESA
Beaverhead Landing Strip
Beaver Points
Wall Lake
WALL LAKE
Taylor Peak
Alexander Peak
Alexander Cienega
Yellow Mtn
The Meadows
Horse Trap Spr
Whiterocks
Bobcat Spr
Headquarters Spr
Round Mtn
Sawmill Canyon
Railroad Can
Mule
Kennedy
Grogan
Tin Mines
Sam Martin Spr
Cassidy Spr
Miller Spr
Brothers
House Log Canyon
West Can
Big Bear Canyon
Windfall
Tommy Hill Canyon
Burnt Corral Canyon
Cement
Trap Corral
Upper Gate Can
Deer
Kemp Mesa
Whitetail Canyon
Cox Canyon
Hoyt Creek
Turkey Draw
Diamond Creek
South Mesa
Running Water
Bull Pass Canyon
Christie Canyon
Ten Cow Canyon
Indian Creek
Pine Can Creek
Little Turkey Spr
Prairie
Wolf Hollow Canyon
Bell Canyon
Doagy Canyon
Doagy Spr
Adams
Spring Canyon
Squaw Creek
Paramount Canyon
Boiler Peak
Seventyfour Draw
Beaver
V Cross T Lake

The Nature Conservancy

New Mexico Field Office
Post Office Box 1846 / Albuquerque New Mexico 87103
610 Gold S.W., Suite 202
(505) 242-2015

October 3, 1985

Mr. Kenneth C. Scoggin
Forest Supervisor
Gila National Forest
2610 No. Silver Street
Silver City, New Mexico 88061

Dear Mr. Scoggin:

Thank you for providing us with a copy of the Proposed Forest Plan and DEIS for the Gila National Forest. We are pleased to have the opportunity to comment.

The Nature Conservancy is a non-profit conservation organization with over 200,000 members, of which 2500 reside in New Mexico. Our resources primarily are devoted to the protection of exemplary natural communities and habitats containing rare or sensitive plant and animal species. To identify these critical habitats we use data from many sources, particularly that compiled by the New Mexico Natural Heritage Inventory. This is a state program that employs standardized methods to generate information about New Mexico's natural elements. The Heritage Program was developed in 1976 through the combined efforts of The Nature Conservancy and the New Mexico state government.

The Gila National Forest contains a high degree of natural diversity and has one of the highest levels of endemic plant species in the State, including several recently discovered species. Likewise there are a number of important sensitive animal populations on the forest. We believe that scientific and educational uses should have management priority for certain lands on the Gila, and the following comments on the Plan are directed toward ensuring that such lands receive appropriate protection.

We do have a concern that the preferred alternative emphasizes logging of steep-slopes that have never been cut before, with 24% of the first decade timber volume coming from steep slope areas (page 5 of the Plan). This focus appears to be in direct conflict with the Plan's management direction to "improve all riparian areas to a natural condition". We believe that riparian areas are the most threatened habitats on the forest from the standpoint of sensitive and endangered species. Four Federally listed or candidate fish species occur on waters in or adjacent to the Gila National Forest. The catastrophic flood damage experienced on virtually every stream in the lower forest during the past three years should be a persuasive argument against steep slope logging. The Plan does not provide assurance that technology is available to insure that irreversible resource damage will not occur as a result of the cable logging proposed for all steep (over 40%) slopes that are scheduled to be cut. Therefore, we must recommend that the Plan be revised to significantly reduce timber harvesting projected for steep slope areas.

Office
rth Kent Street
n Virginia 22209

Western Regional Office
785 Market Street
San Francisco, California 94103

AND SENSITIVE SPECIES

We appreciate that each management area description in the Plan includes a t of known threatened, endangered and sensitive species with either Federal State status. It should be noted that the State has recently updated its ts for plants and animals with both additions and deletions to the lists t were used in preparing the draft Forest Plan. The final Plan should lect these changes.

The management direction in the Plan for these species (p. 33 and 34) is mendable. We have one suggested addition to the first sentence, p. 34: en management practices are proposed in or is likely to affect listed cies habitat, a biological evaluation will be conducted..."

In this section we also would like to see a commitment by the Forest vice to inventory all candidate species of plants on the New Mexico angered Plant Species list known to occur on the forest. The results of se inventories may well show that some of these species are not as rare as rently believed and therefore can be delisted. Somewhere in the Plan there uld be a proposed schedule of priorities for developing recovery plans for species.

NT AND ANIMAL DIVERSITY

The Nature Conservancy believes this to be a most critical issue for the a. Although the DEIS states that the PA would result in a moderate rovement in diversity, occurring principally in wilderness zones, ernative F would result in the greatest improvement in natural plant ersity and the most stable levels of native animal diversity (DEIS p. 109). recommendation will be to select Alternative F for those management units t contain the most fragile habitats or sensitive species (see Management a Recommendations).

Page 19 of the proposed Plan includes the statement "The demand for ersity in native plants and animals is associated with wildlife and reational activities.....Demand is expected to increase proportionately to two percent annual population growth..." We suggest that the statement is ound and that this paragraph be deleted.

ARIAN HABITATS

The Nature Conservancy recently undertook a survey of critical habitats oughout the United States and determined that riparian areas in the thwest are among the most threatened and in need of urgent protection of any itat type in the country today.

Accordingly, our uppermost priority throughout the southwest is the tection of fragile riparian habitats and associated rare or threatened tic species. Riparian areas are particularly important on the Gila, and we e that the final Plan recognize this and provide for much greater protection l restoration than the "slight improvement" that would result from actions in draft PA.

The Plan calls for a 10% increase in livestock concentration in riparian es and upper watersheds by the end of the fifth decade. That is likely sult in further degradation to riparian habitats and we recommend that the izing prescriptions in the Plan be revised to effect an early and increasing

decrease in livestock concentration in riparian zones.

Of even greater concern is the ORV policy enunciated in the Plan whereby only four fairly small non-wilderness areas containing riparian values are designated for closure to ORV's. We urgently recommend that at a minimum all riparian areas be closed to ORV use. The Lincoln National Forest, New Mexico, has gone a step further with their plan, wherein the PA and all other alternatives except the no action alternative would close the entire forest to vehicle use except on system roads and trails designated as open or where authorized by permit or contract. We believe that policy would be appropriate for the Gila as well.

Several riparian areas have important sensitive or threatened species resources and will be addressed in our recommendations for RNA's or SIA's. These include the Tularosa Wetlands, the Gila River outside the Gila Wilderness, upper Mineral Creek, Willow Creek and the San Francisco Box. Additionally, habitat adjacent to waters containing the Gila trout, the Spikedace and the Loach minnow (the latter two fish recently have been proposed for Federal listing as threatened species) should have special protective measures spelled out in the Plan.

Finally, we recommend that the Plan address the 11 goals for riparian-dependent resources expressed in Chapter 5 of the Region 3 Riparian Area Handbook and that standards be included in the Plan for each significant riparian unit in the forest as called for by this handbook.

MANAGEMENT INDICATOR SPECIES

The list of 25 vertebrates selected for forest management indicator species appears to be sound, however, we ask that the reasons for each species' selection and a monitoring plan be identified per 36 CFR 219.19.

The list cites the Sonoran Desert Sucker as an MIS. Actually, there are two separate species, the Sonoran Sucker (Catastomus insignis) and the Desert Sucker (C. clarki). We recommend that both be included in your list since they are representative of different riparian habitats.

No plants are on the list, although 36 CFR 219.19 indicates that T&E plant species are appropriately included. We recommend that Goodding's onion (Alluim gooddingii) and Gila groundsel (Senecio quaerens) be added. Both are state listed species and are indicative of the health of riparian areas and canyon bottoms in some critical upper zones of the forest. Another State endangered species to consider for the MIS list is the Mimbres figwort (Scrophularia macrantha) known from several canyon and steep slope areas on the forest.

RESEARCH NATURAL AREAS (RNA)

We commend you for proposing that four new RNA's be established under all planning alternatives. The Agua Fria Mesa RNA, representative of montane grassland, was a fine addition to the list earlier recommended by the Region 3 RNA Committee. This area has good species diversity and includes a mosaic of old growth communities. We suggest that the final Plan include a set of standards and guidelines that would apply to the management of established RNA's. (The proposed Lincoln National Forest Plan may serve as a good model for RNA standards and guidelines).

The proposed Turkey Creek RNA constitutes an excellent design for
resentation of a mixed broadleaf forest type in a riparian habitat, as noted
the proposal report. In addition, you should be aware that just above the
above a natural barrier on Turkey Creek is one of the major populations in
Mexico of Roundtail chub (Gila robusta), a State endangered fish species.
smaller numbers, the chub also occurs in the RNA, but the exotic small-mouth
s, which preys on the chub, coexists here. To further protect the chub, we
gest that a fish barrier be constructed on Turkey Creek at the lower end of
RNA, and that the bass be removed between the two barriers. It should be
ed in the Plan that this RNA extends into management unit 7F as well as 8A.

We encourage you to include a statement in the final Plan that the Forest
vice will continue to search for additional candidates for RNA status as
led for in the Region 3 Research Natural Areas Progress Report. The Nature
servancy believes that USFS legal mandates and regulations suggest a broader
inition of areas suitable for RNA designation to include areas representing
que or special habitat that may be sensitive to threats from human
ivity. To this end we propose that consideration be given for establishing
itional RNA's in the following areas.

Upper Mineral Creek. This area features a high level of plant diversity,
ich mosaic of communities and important riparian values. Of special concern
The Nature Conservancy are the two most threatened plants on the forest
ch are to be found here, Alluim gooddingii and Senecio quaerens. In
lition, two other plants on the New Mexico Sensitive Plant List, Erigeron
pulinus and Silene wrightii are known to occur in the upper drainage of
ieral Creek.

Willow Creek Tributary. This area, not far from the existing campground,
s many of the characteristics cited above for Mineral Creek. Both areas
ntained outstanding terrace or intermittent riparian stands of blue spruce
erosion from the floods over the past three years has impacted this
source. It is likely that Upper Mineral Creek will prove to be the more
propriate place for a blue spruce/riparian RNA. In that case, we would
commend Botanical Area designation for some portion of the Willow Creek
ainage system.

Lower San Francisco Canyon. This probably is the most extensive
asonably unaltered tract of lowland riparian habitat remaining on Forest
rvice lands in New Mexico and Arizona. It features a rich flora of riparian
rub and woodland biotic communities and a corridor where several southern
rtebrate species reach their northern limits and others are in the southern
mits of their ranges within a transition between Sonoran and Madrean
mmunities. For scientific and educational purposes, it deserves special
otection status despite it not having the pristine qualities normally
sociated with RNA's, due to the effects of grazing and ORV use. The
dangered black hawk and Bell's vireo both nest in the San Francisco Box. The
dangered narrowhead garter snake (Thamnophis rufipunctatus) is found here as
the loach minnow (Tiaroga cobitis), a fish candidate for Federal T&E
sting. But the real value is a combination of plant and animal diversity that
unique in this State.

The Nature Conservancy would be glad to discuss with you ways in which we
ght assist the Forest Service implementing inventory, preserve design and
signation for these or other sites that may be considered for RNA status.

SPECIAL INTEREST AREAS (SIA)

Although the draft Plan lacks this important category, we hope that zoological or botanical Special Interest Areas can be added to the Plan to accommodate areas that possess unusual scientific values but do not represent the pristine conditions or other qualifications appropriate for RNA status. We request that the following areas be considered for stronger protection than presently afforded in the Plan through SIA designation.

Tularosa Wetlands. (Management Area 6A). This 200 acre area is proposed for ORV closure in the Plan, but heavy grazing continues to degrade this magnificent example of a wetland in public ownership, a relatively rare phenomenon in New Mexico. In the past, the wetland has been a breeding ground for the Mexican duck (previously Federally listed) as well as ruddy duck, cinnamon teal, Virginia and sora rails, among others. The New Mexico endangered montane vole (Microtus montanus) has been recorded in the recent past. Bald eagles now winter in the immediate area which also harbors perhaps the most vigorous population of nesting Lewis woodpeckers in southwestern New Mexico. Four native fish species remain in the creek here. We can predict that rehabilitation of the wetland would result in a significant increase in plant diversity, which already is substantial. This area has great appeal as a dramatic riparian recovery preserve, with high public visibility from the nearby highway and campground. A simple fencing plan may be the key. A zoological SIA is recommended.

Gila River Riparian Preserve. (Management Area 7F). The importance of affording protection to the Lower Gila River within New Mexico already has been recognized through the Memorandum of Understanding for Interagency Cooperation in 1973 and the subsequent designation by the Forest Service of the Gila River Bird Area and Gila River RNA. With this Plan, another opportunity exists to designate protection status to the lower Gila in the vicinity of the mouth of Mogollon Creek. This site contains what may prove to be the best Arizona sycamore stands in New Mexico along with one of the richest avifauna in the state.

In recent years, The Nature Conservancy has purchased 196 acres of private land on Mogollon Creek and the main stem of the Gila River for scientific and educational purposes. These lands neighbor the Gila National Forest. As the nearby communities expand with new summer homes and residences along the floodplain, additional public land protection is essential. We would like to consult with you as to how this might be achieved.

The Nature Conservancy supports the ultimate protection of the Gila River Bird Area and associated RNA by the U.S.F.S. The Forest Plan should address potential threats to these areas and other Lower Gila River resources from the several alternatives for water projects that would impact forest management on these critical riparian zones. Both Spikedace and Loach minnow, candidates for Federal T&E listing, are in these waters.

Gila Spring and New Mexico Hot Springs Snail Habitat. (Management Area 8A). These two State endangered species (Fontelicella, species undescribed) occur only in two unnamed springs near the junction of the Gila River and its east fork. Although both springs are within the Gila Wilderness, greater protection measures are needed, particularly for the warmer of the two springs which is known to be used by bathers. Zoological designation is recommended.

Hess's Fleabane Type Locality. (Management Area 4D). This Federal ıdidate and State endangered plant, Erigeron hessi, is known only from a ıgle location between Center Baldy and Whitewater Baldy, about 1 mile south Whitewater Baldy. Although there are no known current threats to this ecies which grows in crevices on rock outcrops in the spruce-fir forest ɔund 10,000 feet elevation, it is so rare as to merit Botanical Area signation for its habitat. A probable new species of death camus (Zygadenus .) is found in the same general vicinity. A species management plan for igeron hessi needs to be developed.

Main Diamond Creek. (Management Area 2E). Zoological Area designation is commended for these waters containing probably the most important remaining pulation of the Federally Endangered Gila trout (Salmo gilae). Main Diamond eek also exhibits important riparian values.

NAGEMENT AREA RECOMMENDATIONS

On some management areas containing a number of sensitive or T&E species, e proposed Plan places appropriately high emphasis on managing the unit for ese values. On some others, we believe the management prescriptions should shifted toward a greater emphasis on maintaining or improving plant and imal diversity, and improving riparian conditions as stated in the DEIS mmary.

Alternate F results in the greatest improvement in plant diversity, ovides the most stable levels of native animal diversity and results in the eatest improvement to riparian resources according to the DEIS. Therefore, recommend that the Alternative F approach be taken for Management Areas 4A, , 4C, 5C, 5D, 6B (west and south of the Continental Divide), 6C and 7F. In ıe PA, all these units appear to lack sufficient protection emphasis or appear) be out of balance in the direction of high commodity output production that ıreatens negative impacts on fragile biological resources.

It should be noted that our recommendations for RNA's, SIA's or other otection measures throughout this plan are not intended to "lock out" the ıblic. Indeed, we believe that protected areas have high educational value ıd that public use and enjoyment of these lands should be encouraged so long s the natural resources therein are not degraded.

ONITORING

U. S. Forest Service mandates place great importance on establishing aseline data followed by monitoring and evaluation of the various rescriptions called for in each forest Plan. Our concerns here include the reparation of inventories for sensitive and T&E plants, monitoring of anagement Indicator Species, monitoring of all plant and animal sensitive and &E species, and the development of recovery plans. The PA properly identifies ll of these objectives.

The Plan calls for five years of baseline data of inventories prior to ommencement of monitoring MIS, T&E and sensitive species. We recommend that he final plan designate priorities for this task concentrating on areas that ill be impacted by logging activities, and that target years for accomplishing he inventories be identified.

Likewise, we recommend that priorities and a timetable be added to the Plan for the numerous recovery plans that will be required.

The budget for all of the above is estimated in the PA at $10,000 per year. We suggest that this is grossly inadequate and recommend that the Plan identify a $50,000 per year budget item that would permit hiring a full time ecologist for the forest or contracting out the studies needed to accomplish the task.

The Nature Conservancy is convinced that it is the interest of the Forest Service and the public to provide the protection measures we have suggested above, and we look forward to working in cooperation with the Gila National Forest to achieve the various strategies for public land protection.

Again, thank you for the opportunity to comment. Please retain us on your mailing list.

Sincerely,

William W. Dunmire
NM Public Lands Coordinator

WWD/mh

cc: Regional Forester
USFS, Region 3
Attn: RNA Committee

— published any good RNA books lately?
Got any jobs for an all-but-dissertation, experienced water-quality ecologist (John Schmitt)?

NEW MEXICO NATURAL HISTORY INSTITUTE
A Nonprofit Corporation
St. John's College Campus
Santa Fe, New Mexico 87501

Roger

14 November 1986

Wayne Buckner, District Ranger
Silver City District
Forest Service
2610 N. Silver Street
Silver City, New Mexico 88061

Dear Mr. Buckner:

The eve of designation of 28 new research natural areas in R-3 is a good time to look at the condition of New Mexico's present two Forest Service RNAs. Both are in trouble, even though your Gila River RNA has escaped drowning.

Gila River RNA has never provided especially good bird habitat--its original intent--and the many local bird studies have ignored it. Perhaps it is now more important for fish studies; icthyologists, unlike ornithologists, use canoes and can get there. Its amphibians, garter snakes, Gila monsters, and other creepers are also probably more important than the birds. The many mammals include a bear with over 5"-wide forepaws and the only cougar I've seen in New Mexico. Javelina downstream from the RNA would probably move on up if they could find something to eat.

But they can't. Livestock grazing in the RNA, especially in its west center, is far beyond capacity, and the base of the RNA's terrestrial communities is being destroyed. In the worst-hit valley, plants that escape being eaten die under mounds of cow chips.

That vegetation is not only important to support a rich fauna, but is important in itself. Side canyons have supported an especially diverse mix of shrubs and herbs such as Centaurium, Lobelia, Trixis, Cyperus aristatus, Dalea ordiae, and Phaseolus angustissimus in addition to more common species. Uplands still provide a good diversity of desert scrub, with rare-in-New Mexico species such as Salvia columbariae, and there's a good hybrid population of pinyon (P. monophylla-P. edulis).

The cattle mostly come in along the long-abandoned mining road at the middle of the RNA's west boundary (middle of S½ of NW¼ Sec. 32 T17S R17W). The opening there between rock barriers is maybe 80 yards wide (but I didn't measure). Cattle can get into the RNA by other routes, for instance Foxtail Creek and then upstream, but they pretty much don't. Going over Telegraph Mountain is too dry, and down other canyons (such as Pyrite and White Horse) too precipitous.

It is our understanding that guidelines call for no domestic grazing in RNAs. We strongly recommend that you fence cattle out of Gila River RNA, beginning with the narrow opening mentioned, to see whether that does the job.

Sincerely,

Roger S. Peterson
Secretary

cc:
D. Dahl, Gila NF
W. Moir, R-3
E. Aldon, RMFRES
W. Dunmire, Nature Conservancy

Society of American Foresters
Committee on Natural Areas

Proposed Natural Area

Name of Proposed Natural Area: Gila River

Location: State: New Mexico County: Grant

Nearest Town: Cliff

Nearest Federal, State or county highway: US 180

Permanence Afforded Through What Means: Regulation
(law, regulation, will, endowment, Board of Directors, etc.)

Name of Administration Unit: Gila Nat'l. Forest, Silver City, New Mexico
(National Forest, national park, national wildlife refuge, State, university, etc.)

Listing of Timber Types on Area:

S.A.F. Type No.	Acres	Average Age
239	125	150
235	52	70
K-58	225	
Barren, water, buffer zone, etc.		
Total:	402	

Range in Elevation: Low 4250 Feet High 4600 Feet

Topography: Steep slopes up from river bottom
(Level, rolling steep, broken, etc.)

Geology: Volcanic, alluvial in river bottom
(Volcanic, alluvial, moraine, etc.)

Average Height and Diameter of each major species:

Species	Average Height	Average Diameter
Pinyon pine	20'	8"
Fremont cottonwood	75'	20"

Submitted by: Earl F. Aldon Title: Project Leader
Rocky Mtn. Forest & Range Exp. Sta.
Mailing Address: 5423 Federal Bldg., 517 Gold Ave., SW Date: July 1, 1969
Albuquerque, New Mexico 87101

INTERNATIONAL BIOLOGICAL PROGRAMME

SECTION CT: CONSERVATION OF TERRESTRIAL BIOLOGICAL COMMUNITIES

CHECK SHEET (Mark VII) FOR SURVEY OF IBP AREAS*

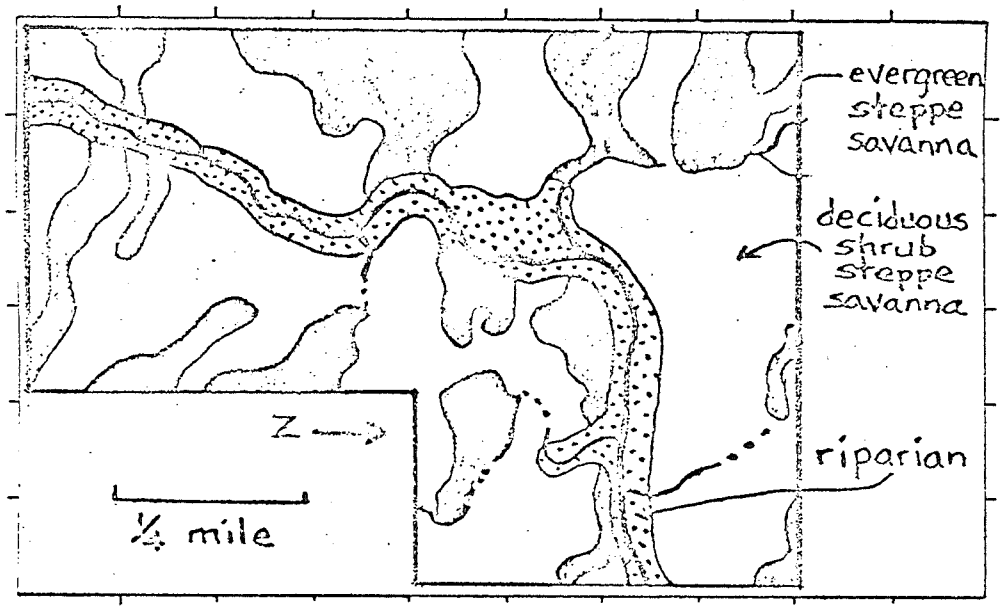
To be completed with reference to the GUIDE TO THE CHECK SHEET

Serial Number | | | | | | |

For Data Centre Use only

1. 1. Name of surveyor ..... H. W. Springfield .....
   2. Address of surveyor ..... Rocky Mountain Forest and Range Experiment Station, Federal Building, Albuquerque, New Mexico, USA .....
   3. Check Sheet completed (a) on site ..... ✓ ..... (b) from records ..... ✓ .....
   4. Date Check Sheet completed ..... 17 November 1972 .....

2. 1. Name of IBP Area ..... Gila River Research Natural Area .....
   2. Name of IBP Subdivision (or serial letter) ..... — .....
   3. Map of IBP Area* showing boundaries attached? Yes ..... No ..... ✓ .....
   4. Sketch map of IBP Area*. Please mark direction of north, the scale and grid numbers where applicable.



* For " IBP Area ", read IBP Area and/or IBP Subdivision.

To be completed with reference to the GUIDE TO THE CHECK SHEET

Serial Number

For Data Centre Use only

1. 1. Name of surveyor ..... H. W. Springfield .....
   2. Address of surveyor Rocky Mountain Forest and Range Experiment Station, Federal Building, Albuquerque, New Mexico, USA
   3. Check Sheet completed (a) on site ..... ✓ ..... (b) from records ..... ✓ .....
   4. Date Check Sheet completed ..... 17 November 1972 .....

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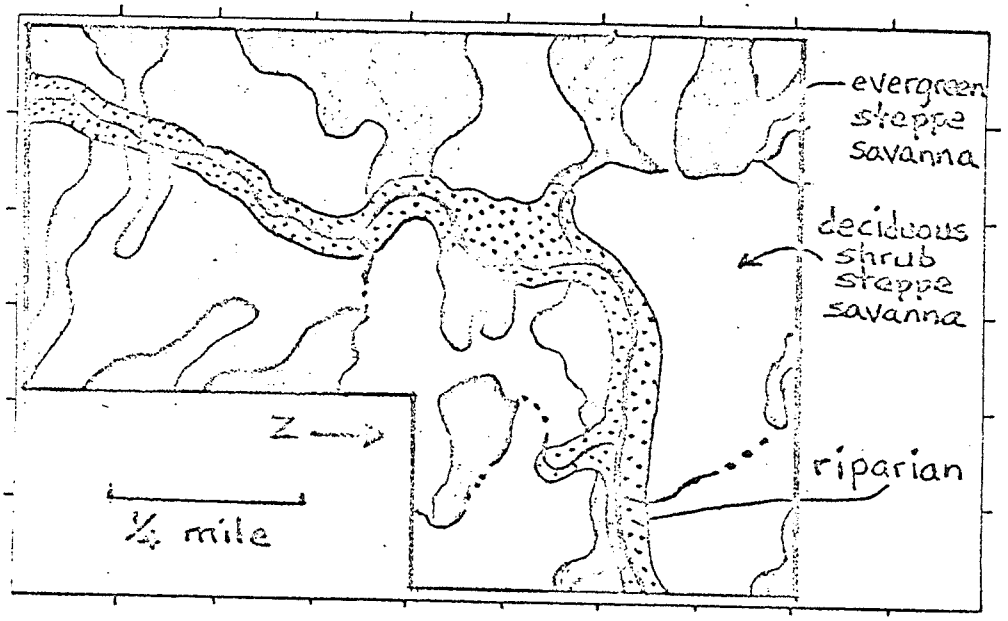
   2. Name of IBP Subdivision (or serial letter) ..... — .....
   3. Map of IBP Area* showing boundaries attached? Yes ..... No ..... ✓ .....
   4. Sketch map of IBP Area*. Please mark direction of north, the scale and grid numbers where applicable.



* For " IBP Area ", read IBP Area and/or IBP Subdivision.

3. Location of IBP Area*

1. Latitude 32 ° 45' N/S Longitude 108 ° 30' E/W
2. Country United States
   State or Province New Mexico County Grant
   (State or Province ..... County .....)

4. Administration

National 1. Official category Research Natural Area

2. Address of administration Supervisor
Gila National Forest
301 W. College Ave.
Silver City, New Mexico
88061

International Class

3.

Included in U.N. List	Rejected from U.N. List	Area with formal conservation status	No formal cons. status
(A)	(B)	(C)	(D) ✓

5. Characteristics of IBP Area*

1. Surface area (state units of measurement) 400 acres
2. Altitude (state units of measurement) Maximum 5000 feet
   Minimum 4200 feet

6. Climate

Nearest climatological station :

1. Name Silver City
2. Climatological station on IBP Area*? Yes ..... No ✓
3. If (2) not, distance from edge of IBP Area* (state units) 22 miles
4. Direction from IBP Area* East
5. Additional data sheet attached? Yes ..... No ✓

7. Vegetation and Soil

1 **Vegetation**

Community Reference Number	Vegetation Code					Plant communities (give usual name using full Latin names of a species where applicable)	Area (state units)
	Primary Structural Group	Class	Group	Formation	Sub-Formation		
1	2	A	2	1		Platanus - Populus - Celtis	50 acres
2	2	D	1	2		Pinus - Juniperus - Quercus	110 acres
3	2	E	2	1		Acacia - Yucca - Bouteloua	2-10 acres
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

7. (cont.) 2

Soil

Community Reference Number	Soil type	Other notes
1	I_2	Recent alluvium, sandy, gravelly
2	I_1	Shallow, stony, weak profile
3	I_1	Shallow, stony, calcareous, desert soils
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

8. Similar Communities in Country (or State)

Community Reference Number	Protected					Protected and Unprotected				
	Abundant	Infrequent	None known	Decreasing	Increasing	Abundant	Infrequent	None known	Decreasing	Increasing
1		✓					✓		✓	
2		✓				✓				
3		✓				✓				
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

9. Landscape

1. General Landscape (give brief description) Rocky hills dissected by many small drainages and bisected by a relatively narrow, flat river valley which is bordered on both sides by steep, rocky slopes.

2. Relief Type

	Flat	Undulating (0)-200 m.	Hilly 200-1000 m.	Mountainous > 1000 m.	%
Sharply dissected			✓		60
Gently dissected		✓			5
Incised		✓	✓		30
Skeletonised			✓		5
%		10	90		100%

3. Special landscape features (list) The relatively narrow river valley.

10. Coastline of IBP Area* None

1. Protected bays and/or inlets — Many ☐ Few ☐ None ☐

2. Substratum. % of coast

Rock	Boulder Beach	Shingle Beach	Sand Beach	Shell Beach	Mud	Coral	Ice

3. Physiography. % of coast

Cliffed	Sloping	Flat

4. Special Coastal Features (list) .....

5. Tide. Maximum range (state units of measurement) .....

6. Total length of coastline :

Less than 1 km. ☐ 1-10 km. ☐ Above 10 km. ☐

11. Freshwater within IBP Area*

1.

	Permanent	Intermittent
General		
Standing		
Running	✓	✓

2. Standing Water

	Permanent	Intermittent	Unproductive	Productive
Swamps				
Ponds				
Lakes				

3. Running Water

	Permanent	Intermittent
Springs, cold		
Springs, hot		
Streams		✓
Rivers	✓	

4. Special freshwater features .....

.....

12. Salt and Brackish Water within IBP Area* None

Salt Lakes		Lagoon		.....	
Estuaries		Salt pools		.....	

13. Adjacent Water Bodies (not within IBP Area*)

1. Fresh [ ] Lake [ ] River [✓] Stream [ ]

2. Salt and Brackish

Estuary	Salt lake	Salt pool	Lagoon	Ocean		

14. Outstanding Floral and Faunal Features

1. None .....

2. Fauna

	Species diversity	Abundance of individuals	Superabundance of individuals	Rare species	Threatened/Relict species	Spp. of biogeographical interest	Exceptional Associations	Breeding or Nesting Populations	Migrating Populations	Wintering Populations		
Mammalia												
Aves	✓			✓	✓	✓		✓	✓			
Reptilia												
Amphibia												
Pisces												
Insecta												

3. Names of main threatened, endemic, relict and rare species

Aves: (American) Peregrine falcon (Falco peregrinus)

Gray hawk (Buteo nitidus)

Mexican black hawk (Buteogallus anthracinus)

4. Flora

	Species diversity	Abundance of particular species	Rare species	Threatened/relict species	Spp. of biogeographical interest	Exceptional associations	Outstanding specimens				
Angiospermae :											
trees					✓						
shrubs	✓										
herbs											
grass	✓										
Gymnospermae											
Pteridophyta											
Bryophyta											
Lichens and Algae											

5. Names of main threatened, endemic, relict and rare species

None

15. Exceptional Interest of IBP Area*

Provides a special recreational opportunity for persons interested in nature studies, especially bird watching, because the the birdlife is particularly rich due to the unique habitat conditions.

16. Significant Human Impact

1. General : None in entire IBP Area* .....

   None in part of IBP Area* .....

   Impact on entire IBP Area* ..... ✓ .....

2. Particular

	Past impact	Present impact	Trend			
			Increasing	Decreasing	No change	No information
Cultivation						
Drainage						
Other soil disturbance						
Grazing	✓	✓		✓		
Selective flora disturbance						
Logging						
Plantation						
Hunting						
Removal of predators						
Pesticides						
Introductions — plants						
Introductions — animals						
Fire						
Permanent habitation						
Recreation and tourism		✓	✓			
Research		✓	✓			

3. Additional details on each type of impact attached?

   Yes ..... No ..✓.....

17. Conservation Status

	Protection			Utilisation			Conservation Management			Permitted Research		
	none	partial	total	none	controlled	uncontrolled	none	to alter status	to maintain status	experimental	observational	prohibited
Flora					✓				✓		✓	
Fauna					✓				✓		✓	
Non-living				✓					✓		✓	
deer					✓							

18. References

1. List major biological/geographical references for the IBP Area.

   Sheet attached? Yes ..... No ...✓.....

2. List main maps available for the IBP Area.

   List attached? Yes ..... No ...✓.....

3. Aerial photographs for the IBP Area available?

   For whole area .....✓..... For part of area ..... None .....

19. Other Relevant Information

Signed ....H.W.Springfield.....
(Surveyor)