Research Natural Area

Name: Turkey Creek

Location:

State: NM County: Grant Forest: Gila District: Wilderness
T. 14S R. 16W S. 3,4,9,10,11,15,16

Geology:

Description:

Area underlain by a complex series of volcanics: flow-banded rhyolite, andesitic flows and breccias, non-welded to welded ash-flow tuff; landslide deposits

Reference:

Ratté, James C., and Gaskill, David L., 1975, Reconnaissance geologic map of the Gila Wilderness study area, southwestern New Mexico: U.S. Geol. Survey Misc. Inv. Series. Map I-886

Climate:

TES Gradient: HSM 5/0

Precipitation: ___ Annual: 23 in. Warm season (May - Oct.)= 67 % 5000 ft±
Cool Season (Nov. - Apr.)= 33 %

Mean Annual Snow: 20 in.

Mean Temperature: Annual 50 °F Jul. 70 °F Jan. 32 °F
Freeze Free Period: 140 days

Mean Temperature: Annual ___ °F Jul. ___ °F Jan. ___ °F
Freeze Free Period: ___ days

Trewartha Climate type: Dcbf = temporate continental with cool summer and no dry season

Reference: Forest Service, 1986, Terrestrial Ecosystem Handbook
Appendix B: USDA FS R3

Soils:

TURKEY CREEK R.N.A.

BOUNDARY DESCRIPTION

Starting at the intersection of the Turkey Creek trail and the section line between sections 15 & 22 T14S.,R16W., thence Northerly along the trail approximately 3450 ft, thence Easterly climbing a ridge to the 6000 ft contour line, thence following the 6000 ft contour elevation Northerly approximately 2.35 miles to a draw running Northwesterly, thence descending along this draw to the intersection with the major drainage and descending along this to the intersection with Turkey Creek and the trail, thence Westerly up the slope to the 5800 ft contour line, thence westerly descending across the drainage and up the other side to the 5800 ft contour line, thence Southernly ascending at 33% to the 6200 ft contour, thence following Southernly along the 6200 ft contour, thence Northwesterly descending at 20% to the bottom of a small drainage, thence ascend Southerly at 30% to the 6400 ft contour line, thence following the 6400 ft contour line approximately 3900 ft to a point, thence descend into drainage and follow it descending to the Turkey Creek trail, thence Northerly along the trail to point of beginning.

The boundary description of the Turkey Creek RNA is as follows:

Starting at the intersection of the Turkey Creek Trail and the section line between sections 15 & 22 T14S., R16W., NMPM, as designated on the Canyon Hill, N. Mex. 7.5 minute USGS quadrangle;
THENCE, N 20 E, more or less following said trail a distance of 2,625 ft to point at lat. 33 deg. 05 min. 06 sec., long. 108 deg. 29 min. 12 sec., the point of beginning of this tract;
THENCE, N 13 E, following Turkey Creek a distance more or less of 950 ft to point at lat. 33 deg. 05 min. 15 sec., long. 108 deg. 29 min. 11 sec.;
THENCE, S 67 E, ascending a ridge a distance more or less of 570 ft to point at lat. 33 deg. 05 min. 08 sec., long. 108 deg. 28 min. 50 sec.;
THENCE, N 54 E, across slope a distance more or less of 425 ft to point at lat. 33 deg. 05 min. 12 sec., long. 108 deg. 28 min. 46 sec.;
THENCE, North, across slope to wilderness boundary as designated on Canyon Hill, N. Mex. 7.5 minute USGS quadrangle a distance more or less of 950 ft to point at lat. 33 deg. 05 min. 22 sec., long. 108 deg. 28 min. 46 sec.;
THENCE, N 22 E, across slope a distance more or less of 490 ft to point at lat. 33 deg. 05 min. 25 sec., long. 108 deg. 28 min. 44 sec.;
THENCE, N 64 E, across slope a distance more or less of 850 ft to point at lat. 33 deg. 05 min. 28 sec., long. 108 deg. 28 min. 34 sec.;
THENCE, N 15 W, across slope a distance more or less of 1,010 ft to point at lat. 33 deg. 05 min. 38 sec., long. 108 deg. 28 min. 37 sec.;
THENCE, N 43 E, across slope a distance more or less of 360 ft to point at lat. 33 deg. 05 min. 42 sec., long. 108 deg. 28 min. 34 sec.;
THENCE, S 61 E, across slope a distance more or less of 820 ft to point at lat. 33 deg. 05 min. 38 sec., long. 108 deg. 28 min. 26 sec.;
THENCE, N 67 E, across slope a distance more or less of 330 ft to point at lat. 33 deg. 05 min. 40 sec., long. 108 deg. 28 min. 22 sec.;
THENCE, North, across slope a distance more or less of 360 ft to point at lat. 33 deg. 05 min. 43 sec., long. 108 deg. 28 min. 22 sec.;
THENCE, N 34 E, across slope a distance more or less of 2,490 ft to point at lat. 33 deg. 06 min. 05 sec., long. 108 deg. 28 min. 07 sec.;
THENCE, N 30 W, descending slope to drainage bottom and across and then ascending slope a distance more or less of 625 ft to point at lat. 33 deg. 06 min. 10 sec., long. 108 deg. 28 min. 10 sec.;
THENCE, S 74 W, across slope a distance more or less of 625 ft to point at lat. 33 deg. 06 min. 08 sec., long. 108 deg. 28 min. 17 sec.;
THENCE, N 87 W, across slope a distance more or less of 625 ft to point at lat. 33 deg. 06 min. 08 sec., long. 108 deg. 28 min. 24 sec.;
THENCE, N 69 W, across slope to ridge a distance more or less of 490 ft to point at lat. 33 deg. 06 min. 08 sec., long. 108 deg. 28 min. 24 sec.;
THENCE, N 9 W, across slope a distance more or less of 525 ft to point at lat. 33 deg. 06 min. 14 sec., long. 108 deg. 28 min. 31 sec.;
THENCE, N 57 W, across slope a distance more or less of 460 ft to point at lat. 33 deg. 06 min. 18 sec., long. 108 deg. 28 min. 35 sec.;

THENCE, N 25 E, across slope a distance more or less of 755 ft to point at lat. 33 deg. 06 min. 25 sec., long. 108 deg. 28 min. 32 sec.;
THENCE, N 15 W, across slope to a ridge a distance more or less of 490 ft to point at lat. 33 deg. 06 min. 29 sec., long. 108 deg. 28 min. 34 sec.;
THENCE, N 30 E, across slope a distance more or less of 425 ft to point at lat. 33 deg. 06 min. 33 sec., long. 108 deg. 28 min. 33 sec.;
THENCE, N 47 W, descending slope a distance more or less of 655 ft to point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 28 min. 38 sec.;
THENCE, N 71 W, descending to drainage bottom a distance more or less of 690 ft to point at lat. 33 deg. 06 min. 38 sec., long. 108 deg. 28 min. 45 sec.;
THENCE, S 68 W, following drainage a distance more or less of 920 ft to point at lat. 33 deg. 06 min. 36 sec., long. 108 deg. 28 min. 55 sec.;
THENCE, N 78 W, following drainage to confluence with Turkey Creek a distance more or less of 690 ft to point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 29 min. 03 sec.;
THENCE, N 78 W, ascending slope to ridge and pack trail a distance more or less of 490 ft and a point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 29 min. 09 sec.;
THENCE, N 78 W, descending to bottom of Skeleton Canyon drainage a distance more or less of 425 ft and a point at lat. 33 deg. 06 min. 38 sec., long. 108 deg. 29 min. 14 sec.;
THENCE, N 78 W, ascending slope to ridge a distance more or less of 425 ft and a point at lat. 33 deg. 06 min. 38 sec., long. 108 deg. 29 min. 23 sec.;
THENCE, S 84 W, descending to drainage bottom a distance more or less of 625 ft and a point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 29 min. 31 sec.;
THENCE, S 84 W, ascending slope a distance more or less of 950 ft to a point at lat. 33 deg. 06 min. 36 sec., long. 108 deg. 29 min. 42 sec.;
THENCE, S 25 E, across slope a distance more or less of 390 ft to a point at lat. 33 deg. 06 min. 33 sec., long. 108 deg. 29 min. 39 sec.;
THENCE, S 10 W, across slope a distance more or less of 525 ft to a point at lat. 33 deg. 06 min. 27 sec., long. 108 deg. 29 min. 40 sec.;
THENCE, S 52 E, across slope a distance more or less of 590 ft to a point at lat. 33 deg. 06 min. 23 sec., long. 108 deg. 29 min. 34 sec.;
THENCE, S 25 E, across slope a distance more or less of 590 ft to a point at lat. 33 deg. 06 min. 18 sec., long. 108 deg. 29 min. 30 sec.;
THENCE, S 85 W, across slope a distance more or less of 200 ft to a point at lat. 33 deg. 06 min. 18 sec., long. 108 deg. 29 min. 33 sec.;
THENCE, S 16 E, across slope a distance more or less of 1,640 ft to a point at lat. 33 deg. 06 min. 03 sec., long. 108 deg. 29 min. 26 sec.;
THENCE, S 76 W, across slope a distance more or less of 690 ft to a point at lat. 33 deg. 06 min. 01 sec., long. 108 deg. 29 min. 34 sec.;
THENCE, N 65 W, across slope a distance more or less of 985 ft to a point at lat. 33 deg. 06 min. 03 sec., long. 108 deg. 29 min. 45 sec.
THENCE, S 20 E, across slope a distance more or less of 1,180 ft to a point at lat. 33 deg. 05 min. 53 sec., long. 108 deg. 29 min. 40 sec.;
THENCE, S 29 W, across slope a distance more or less of 490 ft to a point at lat. 33 deg. 05 min. 48 sec., long. 108 deg. 29 min. 42 sec.;
THENCE, West, across slope a distance more or less of 460 ft to a point at lat. 33 deg. 05 min. 48 sec., long. 108 deg. 29 min. 47 sec.;

THENCE, S 55 W, across slope a distance more or less of 690 ft to a point at lat. 33 deg. 05 min. 45 sec., long. 108 deg. 29 min. 54 sec.;
THENCE, S 22 E, across slope a distance more or less of 525 ft to a point at lat. 33 deg. 05 min. 40 sec., long. 108 deg. 29 min. 50 sec.;
THENCE, N 78 E, across slope a distance more or less of 360 ft to a point at lat. 33 deg. 05 min. 41 sec., long. 108 deg. 29 min. 46 sec.;
THENCE, S 34 E, across slope a distance more or less of 790 ft to a point at lat. 33 deg. 05 min. 39 sec., long. 108 deg. 29 min. 40 sec.;
THENCE, S 7 W, across slope a distance more or less of 1,771 ft to a point at lat. 33 deg. 05 min. 16 sec., long. 108 deg. 29 min. 41 sec.;
THENCE, S 29 W, across slope a distance more or less of 330 ft to a point at lat. 33 deg. 05 min. 13 sec., long. 108 deg. 29 min. 43 sec.;
THENCE, S 51 E, descending along drainage a distance more or less of 1,510 ft to a point at lat. 33 deg. 05 min. 03 sec., long. 108 deg. 29 min. 29 sec.;
THENCE, S 84 E, descending along drainage a distance more or less of 1,410 ft to a point at lat. 33 deg. 05 min. 06 sec., long. 108 deg. 29 min. 12 sec., the point of beginning of said tract.

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ESTABLISHMENT RECORD

for

TURKEY CREEK RESEARCH NATURAL AREA

within

Gila National Forest

Grant County, New Mexico

☆ U.S. GOVERNMENT PRINTING OFFICE: 1983 - 425-976 - 415/6115

FS-6200-7 (10/73)

DESIGNATION ORDER

By virtue of the authority vested in me by the Secretary of Agriculture under regulations at 7 CFR 2.42, 36 CFR 251.23, and 36 CFR Part 219, I hereby establish the Turkey Creek Research Natural Area (RNA). It shall be comprised of 1,335 acres of land in Grant County, New Mexico, on the Wilderness Ranger District of the Gila National Forest, as described in the section of the Establishment Record entitled "Location."

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

The Regional Forester has reexamined the "Turkey Creek" area to examine whether the environmental effects of establishing the area as an RNA have not changed since 1986. This analysis is documented in the attached environmental assessment. Based on the analysis in the environmental assessment, it is my decision to adopt Alternative A, to establish Turkey Creek as an RNA. Alternative A is selected because it provides long-term protection and recognition of a mixed, broadleaf riparian forest type. The Turkey Creek RNA will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding RNA's, and in accordance with the management direction identified in the Forest Plan.

The alternative considered was Alternative B, the "No Action" alternative which would continue management of Turkey Creek as a "proposed" RNA. Alternative B was not selected because it would only provide short-term protection of the Turkey Creek area.

Alternative B is consistent with the Forest Plan. Although the proposed action (Alternative A) is consistent with the management direction, it is not consistent with the land allocation for the Turkey Creek Area in the Forest Plan. The Gila Forest Plan is hereby amended to change the allocation of the Turkey Creek area from "Proposed" to Established RNA. This is a nonsignificant amendment of the Forest Plan (36 CFR 219.10(f)).

Legal notice of this decision will appear in the Federal Register. The Forest Supervisor of the Gila National Forest shall notify the public of this decision and mail a copy of the Decision Notice and Designation Order to all persons on the Gila Forest Plan mailing list.

Finding of No Significant Impact

It has been determined through the environmental assessment that the proposed action is not a major Federal action that would significantly affect the quality of the human environment; therefore, an environmental impact statement is not needed. This determination is based on the following factors (40 CFR 1508.27):

A. Context.

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

B. Intensity

1. There are no known effects on public health and safety.

2. There are no known effects on historic or cultural resources, actual or eligible National Register of Historic Places sites, park lands, prime farmlands, wetlands, or wild and scenic rivers. Effects on ecologically critical areas are minimal.

3. Effects on the human environment are not uncertain, do not involve unique or unknown risks, and are not likely to be highly controversial.

4. The action is not likely to establish a precedent for future actions with significant effects.

5. There are no known cumulative effects.

6. The proposed action would not adversely affect an endangered or threatened species or its critical habitat.

7. The proposed action is consistent with Federal, State, and local laws and requirements for the protection of the environment.

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

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

The Notice of Appeal prepared pursuant to 36 CFR 217.9(b) must be submitted within 45 days from the date of legal notice of this decision. Review by the Secretary is wholly discretionary. If the Secretary has not decided within 15 days of receiving the Notice of Appeal to review the Chief's decision, appellants will be notified that the Chief's decision is the final administrative decision of the U.S. Department of Agriculture (36 CFR 217.17(d)).

_____ _____

Chief Date

ESTABLISHMENT RECORD

TURKEY CREEK RESEARCH NATURAL AREA

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

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

Recommended by: _____Date_____
Janet Hurley, District Ranger
Wilderness Ranger District

Recommended by: _____Date_____
David W. Dahl, Forest Supervisor
Gila National Forest

Recommended by: _____Date_____
John W. Russell, Chairman
Southwestern Research Natural Area Committee

Recommended by: _____Date_____
Sotero Muniz, Regional Forester
Southwestern Region

Recommended by: _____Date_____
Charles M. Loveless, Station Director
Rocky Mountain Forest and Range Experiment
Station

ESTABLISHMENT RECORD

for

TURKEY CREEK RESEARCH NATURAL AREA

within

Gila National Forest

Grant County, New Mexico

INTRODUCTION

The Turkey Creek Research Natural Area (RNA) comprises approximately 1,335 acres (540 hectares) just within the southern border of the Gila Wilderness, in southwestern New Mexico. The proposed RNA is located in the Gila National Forest, in Grant County, and is all acquired National Forest land.

Mixed broadleaf riparian forest has been noted as an important ecosystem for protection within the RNA program (USFS Regional Guide, 1983: Table 3-1). Turkey Creek was originally selected as an ideal solution to the search for representation of this forest type in 1969, and an establishment report was produced, dated July 15 of that year. It is now being resubmitted.

LAND MANAGEMENT PLANNING

The need for representation of this biotic community was identified in the Southwestern Regional Guide (August 1983). The Gila National Forest Plan (USFS 1986: 5-6,49) prescribes that approximately 1,335 acres (540.3 hectares) of the Turkey Creek drainage in Management Area 8B has been designated for establishment as a Research Natural Area. The environmental analysis conducted as part of the planning process supports the recommendation to establish this Research Natural Area.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

Turkey Creek Research Natural Area was identified primarily as an outstanding example of a mixed broadleaf riparian forest. This is an important forest ecosystem in the Southwest. Riparian forests in relatively undisturbed condition are of major interest to research. Intense public demands for a wide variety of other resource uses in riparian environments, make such areas for research difficult to find. However, this area receives relatively little recreation or wilderness use. Therefore, designation as a scientific facility presents minimum conflict with other uses.

The riparian vegetation in the canyon and rock formations on either side provide habitats for many of the birds of the upper portions of the Gila River watershed, which supports one of the richest avifaunas in New Mexico.

PRINCIPAL DISTINGUISHING FEATURES

The riparian forest is the principal distinguishing feature. Both Turkey Creek and Skeleton Canyon provide permanent streams through the RNA. Based on this water supply, the biotic community contains many species which are not commonly found together over much of the Southwest. In this community are sycamore (Platanus wrightii), cottonwood (Populus angustifolia, and P. fremontii), hackberry (Celtis reticulata), silverleaf oak (Quercus hypoleucoides), Chihuahua pine (Pinus leiophylla var. chihuahuana), fendlerbush (Fendlera rupicola), and deergrass (Muhlenbergia rigens).

The geological setting is also noteworthy for its canyon wall and cliff formations that afford habitat for particularly diverse bird populations.

LOCATION

Turkey Creek is located about 12 miles (19.3 km) northeast of the small towns of Cliff and Gila, in Grant County, New Mexico (Map 1). The RNA can be found on the Canyon Hill quadrangle (USGS 7.5' map), Township 14S, Range 16W, Sections 3, 4, 9, 10, 11, 15, and 16, latitude 33° 6' N, longitude 108° 29' W. This RNA lies at the edge of the Gila Wilderness and access is difficult. The Gila River must be waded at least one time to reach it, and the access road is not always passable.

If travelling from Silver City, take U.S. Highway 180 west and north 25 miles (40.2 km; Maps 2 and 3). Turn right on N.M. Highway 211. Travel through the town of Gila (the road here becomes N.M. Highway 293). At 7.7 miles (12.4 km) from U.S. Highway 180, the pavement ends and Forest Road 155 begins. This road climbs up steeply to avoid the Gila River Middle Box and descends back to the river above the box. It is 17.5 miles (28.2 km) from the turn-off at U.S. Highway 180 to the end of this road.

If travelling from the north on U.S. Highway 180, as entering Cliff turn left onto New Mexico State Highway 211 and travel 2.3 miles (3.7 km) to Gila. On this route, the trailhead at the end of Forest Road 155 is 15.8 miles (25.4 km) from the turn-off from U.S. Highway 180.

The area is not easily accessible. From the end of the forest road, a well-used pack trail crosses the Gila River and proceeds upriver, crossing the river two more times before turning up into the Turkey Creek drainage. It is about 1.5 miles (2.4 km) from the trailhead to the south boundary of the RNA. This trail continues up Turkey Creek through the RNA, leaving the canyon bottom at the junction of Skeleton Canyon and Turkey Creek Canyon, and ascends a ridge between the two canyons. The trail passes out of the RNA at the north end on this ridge at approximately 2 miles (3.2 km) from its point of entry at the lower end. Except for this trail, travel within the RNA involves extremely steep and rugged terrain.

The boundary description of the Turkey Creek RNA is as follows:

Starting at the intersection of the Turkey Creek Trail and the section line between sections 15 & 22 T14S., R16W.,NMPM, as designated on the Canyon Hill, N. Mex. 7.5 minute USGS quadrangle;
THENCE, N 20 E, more or less following said trail a distance of 2,625 ft to point at lat. 33 deg. 05 min. 06 sec., long. 108 deg. 29 min. 12 sec., the point of beginning of this tract;
THENCE, N 13 E, following Turkey Creek a distance more or less of 950 ft to point at lat. 33 deg. 05 min. 15 sec., long. 108 deg. 29 min. 11 sec.;
THENCE, S 67 E, ascending a ridge a distance more or less of 570 ft to point at lat. 33 deg. 05 min. 08 sec., long. 108 deg. 28 min. 50 sec.;

THENCE, N 54 E, across slope a distance more or less of 425 ft to point at lat. 33 deg. 05 min. 12 sec., long. 108 deg. 28 min. 46 sec.;
THENCE, North, across slope to wilderness boundary as designated on Canyon Hill, N. Mex. 7.5 minute USGS quadrangle a distance more or less of 950 ft to point at lat. 33 deg. 05 min. 22 sec., long. 108 deg. 28 min. 46 sec.;
THENCE, N 22 E, across slope a distance more or less of 490 ft to point at lat. 33 deg. 05 min. 25 sec., long. 108 deg. 28 min. 44 sec.;
THENCE, N 64 E, across slope a distance more or less of 850 ft to point at lat. 33 deg. 05 min. 28 sec., long. 108 deg. 28 min. 34 sec.;
THENCE, N 15 W, across slope a distance more or less of 1,010 ft to point at lat. 33 deg. 05 min. 38 sec., long. 108 deg. 28 min. 37 sec.;
THENCE, N 43 E, across slope a distance more or less of 360 ft to point at lat. 33 deg. 05 min. 42 sec., long. 108 deg. 28 min. 34 sec.;
THENCE, S 61 E, across slope a distance more or less of 820 ft to point at lat. 33 deg. 05 min. 38 sec., long. 108 deg. 28 min. 26 sec.;
THENCE, N 67 E, across slope a distance more or less of 330 ft to point at lat. 33 deg. 05 min. 40 sec., long. 108 deg. 28 min. 22 sec.;
THENCE, North, across slope a distance more or less of 360 ft to point at lat. 33 deg. 05 min. 43 sec., long. 108 deg. 28 min. 22 sec.;
THENCE, N 34 E, across slope a distance more or less of 2,490 ft to point at lat. 33 deg. 06 min. 05 sec., long. 108 deg. 28 min. 07 sec.;
THENCE, N 30 W, descending slope to drainage bottom and across and then ascending slope a distance more or less of 625 ft to point at lat. 33 deg. 06 min. 10 sec., long. 108 deg. 28 min. 10 sec.;
THENCE, S 74 W, across slope a distance more or less of 625 ft to point at lat. 33 deg. 06 min. 08 sec., long. 108 deg. 28 min. 17 sec.;
THENCE, N 87 W, across slope a distance more or less of 625 ft to point at lat. 33 deg. 06 min. 08 sec., long. 108 deg. 28 min. 24 sec.;
THENCE, N 69 W, across slope to ridge a distance more or less of 490 ft to point at lat. 33 deg. 06 min. 08 sec., long. 108 deg. 28 min. 24 sec.;
THENCE, N 9 W, across slope a distance more or less of 525 ft to point at lat. 33 deg. 06 min. 14 sec., long. 108 deg. 28 min. 31 sec.;
THENCE, N 57 W, across slope a distance more or less of 460 ft to point at lat. 33 deg. 06 min. 18 sec., long. 108 deg. 28 min. 35 sec.;
THENCE, N 25 E, across slope a distance more or less of 755 ft to point at lat. 33 deg. 06 min. 25 sec., long. 108 deg. 28 min. 32 sec.;
THENCE, N 15 W, across slope to a ridge a distance more or less of 490 ft to point at lat. 33 deg. 06 min. 29 sec., long. 108 deg. 28 min. 34 sec.;
THENCE, N 30 E, across slope a distance more or less of 425 ft to point at lat. 33 deg. 06 min. 33 sec., long. 108 deg. 28 min. 33 sec.;
THENCE, N 47 W, descending slope a distance more or less of 655 ft to point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 28 min. 38 sec.;
THENCE, N 71 W, descending to drainage bottom a distance more or less of 690 ft to point at lat. 33 deg. 06 min. 38 sec., long. 108 deg. 28 min. 45 sec.;
THENCE, S 68 W, following drainage a distance more or less of 920 ft to point at lat. 33 deg. 06 min. 36 sec., long. 108 deg. 28 min. 55 sec.;
THENCE, N 78 W, following drainage to confluence with Turkey Creek a distance more

or less of 690 ft to point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 29 min. 03 sec.;
THENCE, N 78 W, ascending slope to ridge and pack trail a distance more or less of 490 ft and a point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 29 min. 09 sec.;
THENCE, N 78 W, descending to bottom of Skeleton Canyon drainage a distance more or less of 425 ft and a point at lat. 33 deg. 06 min. 38 sec., long. 108 deg. 29 min. 14 sec.;
THENCE, N 78 W, ascending slope to ridge a distance more or less of 425 ft and a point at lat. 33 deg. 06 min. 38 sec., long. 108 deg. 29 min. 23 sec.;
THENCE, S 84 W, descending to drainage bottom a distance more or less of 625 ft and a point at lat. 33 deg. 06 min. 37 sec., long. 108 deg. 29 min. 31 sec.;
THENCE, S 84 W, ascending slope a distance more or less of 950 ft to a point at lat. 33 deg. 06 min. 36 sec., long. 108 deg. 29 min. 42 sec.;
THENCE, S 25 E, across slope a distance more or less of 390 ft to a point at lat. 33 deg. 06 min. 33 sec., long. 108 deg. 29 min. 39 sec.;
THENCE, S 10 W, across slope a distance more or less of 525 ft to a point at lat. 33 deg. 06 min. 27 sec., long. 108 deg. 29 min. 40 sec.;
THENCE, S 52 E, across slope a distance more or less of 590 ft to a point at lat. 33 deg. 06 min. 23 sec., long. 108 deg. 29 min. 34 sec.;
THENCE, S 25 E, across slope a distance more or less of 590 ft to a point at lat. 33 deg. 06 min. 18 sec., long. 108 deg. 29 min. 30 sec.;
THENCE, S 85 W, across slope a distance more or less of 200 ft to a point at lat. 33 deg. 06 min. 18 sec., long. 108 deg. 29 min. 33 sec.;
THENCE, S 16 E, across slope a distance more or less of 1,640 ft to a point at lat. 33 deg. 06 min. 03 sec., long. 108 deg. 29 min. 26 sec.;
THENCE, S 76 W, across slope a distance more or less of 690 ft to a point at lat. 33 deg. 06 min. 01 sec., long. 108 deg. 29 min. 34 sec.;
THENCE, N 65 W, across slope a distance more or less of 985 ft to a point at lat. 33 deg. 06 min. 03 sec., long. 108 deg. 29 min. 45 sec.
THENCE, S 20 E, across slope a distance more or less of 1,180 ft to a point at lat. 33 deg. 05 min. 53 sec., long. 108 deg. 29 min. 40 sec.;
THENCE, S 29 W, across slope a distance more or less of 490 ft to a point at lat. 33 deg. 05 min. 48 sec., long. 108 deg. 29 min. 42 sec.;
THENCE, West, across slope a distance more or less of 460 ft to a point at lat. 33 deg. 05 min. 48 sec., long. 108 deg. 29 min. 47 sec.;
THENCE, S 55 W, across slope a distance more or less of 690 ft to a point at lat. 33 deg. 05 min. 45 sec., long. 108 deg. 29 min. 54 sec.;
THENCE, S 22 E, across slope a distance more or less of 525 ft to a point at lat. 33 deg. 05 min. 40 sec., long. 108 deg. 29 min. 50 sec.;
THENCE, N 78 E, across slope a distance more or less of 360 ft to a point at lat. 33 deg. 05 min. 41 sec., long. 108 deg. 29 min. 46 sec.;
THENCE, S 34 E, across slope a distance more or less of 790 ft to a point at lat. 33 deg. 05 min. 39 sec., long. 108 deg. 29 min. 40 sec.;
THENCE, S 7 W, across slope a distance more or less of 1,771 ft to a point at lat. 33 deg. 05 min. 16 sec., long. 108 deg. 29 min. 41 sec.;
THENCE, S 29 W, across slope a distance more or less of 330 ft to a point at lat. 33 deg. 05 min. 13 sec., long. 108 deg. 29 min. 43 sec.;
THENCE, S 51 E, descending along drainage a distance more or less of 1,510 ft to a point at lat. 33 deg. 05 min. 03 sec., long. 108 deg. 29 min. 29 sec.;

THENCE, S 84 E, descending along drainage a distance more or less of 1,410 ft to a point at lat. 33 deg. 05 min. 06 sec., long. 108 deg. 29 min. 12 sec., the point of beginning of said tract.

AREA BY COVER TYPES

The distribution of cover types was determined from data contained in the original establishment report prepared in 1969, from field surveys conducted in the summer of 1986, and from interpretation of 1980 aerial photography. Table 1 outlines the estimated total area of vegetation types based on the Society of American Foresters forest type system (Eyre 1980) and the Küchler Potential Natural Vegetation system (Küchler 1964). Map 4 depicts the distribution of SAF types on the candidate research natural area.

Table 1. Estimated Areas of Vegetation Types in the Turkey Creek Research Natural Area.

Type	Society of American Foresters Cover Type[1]	Küchler PNV Type[2]	Surface Area Acres	Hectares
Interior Douglas-fir	SAF 210	K-18 Pine - Douglas-fir	79	31.9
Cottonwood - Willow	SAF 235	[none]	97	39.3
Interior Ponderosa Pine	SAF 237	K-18	115	46.5
Pinyon - Juniper	SAF 239	K-23	1044	422.5
		TOTAL:	1335	540.2

[1]Eyre 1980.
[2]Küchler 1964.

PHYSICAL AND CLIMATIC CONDITIONS

The irregularly-shaped RNA is oriented approximately north-south along the Turkey Creek drainage. About 0.6 mile (1.0 km) from the northern boundary, Skeleton Canyon diverges to the west and then continues north, parallel to Turkey Creek. The eastern boundary more or less follows the 6,000 ft (1828.8 m) contour line, while the western boundary reaches a high of approximately 6,400 ft (1950.7 m). Elevation reaches a low of about 4,900 ft (1493.5 m) in the Turkey Creek bottom at the southern boundary of the RNA. The topography is very rough, with narrow canyon bottoms and steep slopes and rock outcrops on either side.

Climatic data are inferred by climatic analysis and extrapolations from selected Weather Bureau data (Brown 1986, USDA Forest Service 1986c). Turkey Creek is located on the southern border of a higher elevation land mass where considerably greater levels of precipitation, lower temperatures, and shorter frost free seasons are often obtained. The nearest long range weather stations are Pinos Altos and Fort Bayard to the southeast. Average annual rainfall for Turkey Creek is 23 inches (58.4 cm). Two-thirds of this falls within the warm months of May to October. Average annual snowfall is 20 inches (50.8 cm). Year round water flow in Turkey Creek and Skeleton Canyon Creek are critical components to the presence and maintenance of the distinctive plant communities in the RNA. Sharp contrasts between the riparian vegetation of the canyon bottoms and dry upland pinyon-juniper woodland emphasize that the general location of the RNA is actually in a semi-arid zone, where net moisture deficit is the usual condition. Mean annual temperature is 50° F (10.0° C), with a July average of 70° F (21.1° C) and a January average of 32° F (0° C). The frost free period per year lasts an average of 140 days.

DESCRIPTION OF VALUES

Flora

At the time of preparation of this establishment record, no publication adequately described the many habitat types occurring in the Turkey Creek RNA. Some of the non-riparian communities match descriptions contained in the manual Forest and Woodland Habitat Types in Southern New Mexico and Central Arizona (USDA Forest Service 1986b). This is the reference for habitat types cited below.

The proposed RNA has an elevation differential of nearly 1,800 ft (549 m), contains several miles of perennial and semi-perennial streams, and has a full range of slope aspects. Because of its geographical location, it is influenced by three biogeographic provinces: the Great Basin, the Chihuahuan, and the Interior-Arizonan. All of this contributes to remarkable diversities of plant communities, habitat types, and species.

In the narrow canyon bottom floodplains of Turkey Creek and the two branches of Skeleton Creek, all of which contain permanently flowing water, there are riparian communities with nearly closed tree canopies. In the lower half of Turkey Creek within the RNA, Arizona sycamore (Platanus wrightii) is codominant with Arizona alder (Alnus oblongifolia). Silverleaf oak (Quercus hypoleucoides), oneseed juniper (Juniperus monosperma), alligator juniper (J. deppeana), velvet ash (Fraxinus velutina), and black cherry (Prunus serotina) are common components of the riparian forest here. Less common trees include boxelder (Acer negundo), narrowleaf and Fremont cottonwood (Populus angustifolia, P. fremontii), Arizona oak (Quercus arizonica), netleaf hackberry (Celtis reticulata), and Arizona walnut (Juglans major). Midway up river and in Skeleton Canyon, sycamore and alder remain codominant, but the riparian canopy also begins to include Douglas-fir (Pseudotsuga menziesii), bigtooth maple (Acer grandidentatum), and Chihuahua pine (Pinus leiophylla var. chihuahuana). Oaks and junipers also become more common upstream, while the cottonwoods and netleaf hackberry drop out. This riparian community is moderately shrubby, with Wright silktassel (Garrya wrightii) as the dominant species. Other shrubs include New Mexico locust (Robinia neomexicana), smooth sumac (Rhus glabra), red raspberry (Rubus strigosus), gray oak (Quercus grisea), buckbrush ceanothus (Ceanothus fendleri), and shrub forms of some of the trees cited above. Forbs here are abundant in cover and diversity. Common species include Lupinus argenteus, Thalictrum fendleri, and Geranium spp. Grass is sparse, with a Bromus spp. the only grass noted except near some old campsites where an Agropyron spp. appear to have been introduced. Although willow species are scarce or absent from the RNA, the riparian community fits best the southwestern phase description for the SAF Cottonwood-willow forest cover type, and has been mapped as such (Map 4).

Pinyon-juniper is the other major forest type on the RNA. Tree cover on this type ranges from extremely sparse to 50 per cent cover, and is composed almost entirely of pinyon (Pinus edulis) and oneseed juniper (Juniperus monosperma). Pinyon tends to dominate. Gray oak is the dominant shrub throughout, but dense monotypic patches of pointleaf manzanita (Arctostaphylos pungens) occur frequently. Many other shrub components, including Garrya wrightii, Rhus trilobata, Nolina microcarpa, Cercocarpus montanus, Mimosa spp., and Gutierrezia sarothrae, are commonly found throughout this type. Fallugia paradoxa and Ptelea angustifolia occur on north-facing slopes, and Yucca baccata, Dasylirion leiphyllum, Haplopappus larcifolius, and Opuntia spp. are on drier aspects. Total shrub cover often exceeds 50 per cent, but on the steepest slopes, shrubs are nearly absent in a Pinus edulis/Juniperus monosperma Rockland habitat type.

Forbs are scarce in most habitats within the pinyon-juniper type, but grasses are common, especially Bouteloua curtipendula, the dominant species on most non-riparian sites throughout the RNA. Other common grasses include Bouteloua hirsuta, Muhlenbergia emersleyi, Lycurus phleoides, and Eragrostis intermedia. A mosaic of habitat types encountered here would include Pinus edulis/Cercocarpus montanus, Quercus grisea phase, possibly Quercus grisea/Bouteloua curtipendula and Pinus edulis/Arctostaphylos pungens (undescribed in the literature), in addition to the rockland type noted above.

Two other forest cover types occur in the area. Interior Douglas-fir is found on some north and east-facing drainages, and Interior Ponderosa Pine is found in two locations on the north and east boundaries of the RNA. Neither of these types were surveyed on the ground during field work for this establishment record, but they were identified in the 1969 draft establishment report and were confirmed from distant observations in 1986 and from interpretation of aerial photography. A thin strip of Chihuahua pine grows on a ridgetop where the trail exits the north end of the RNA; this is included in the Interior Ponderosa Pine type (Map 4). Other trees and shrubs associated with this ridgetop include pinyon, emory oak (Quercus emoryi), silverleaf and gray oak, mountain mahogany, and pointleaf manzanita.

There are no known threatened, endangered, or unique plant species on the proposed RNA; however, the area has not been botanically inventoried.

The following plant list was compiled from field observations on November 6, 1986. Due partly to the lateness of the season, this list is extremely meager, except for trees. It is likely that a complete list would include well over 300 taxa.

Abbreviated Plant List for Turkey Creek RNA[1]

Latin Name	Common Name2	Habitat[3]	
GRASSES AND GRASS-LIKE PLANTS:			
Agropyron spp.	Wheatgrass	R	
Andropogon barbinodis	Cane bluestem		U
Andropogon scoparius	Little bluestem		U
Aristida spp.	Three-awn grass		U
Bouteloua curtipendula	Side-oats grama		U
Bouteloua eriopoda	Black grama		U
Bouteloua hirsuta	Hairy grama		U
Bromus spp.	Brome-chess	R	
Eragrostis intermedia	Plains lovegrass		U
Lycurus phleoides	Wolftail		U
Muhlenbergia emersleyi	Bullgrass		U
Muhlenbergia pauciflora	New Mexico muhly		U
Muhlenbergia rigens	Deergrass		U
Muhlenbergia setifolia	Curlyleaf muhly		U
Sitanion hystrix	Bottlebrush squirreltail		U
Stipa speciosa	Desert needlegrass		U
FORBS:			
Aster spp.	Aster		U
Cheilanthes eatonii	Lipfern		U
Eriogonum spp.	Buckwheat		U
Geranium spp.	Geranium	R	
Gnaphalium chilense	Cottonbatting		U
Lesquerella spp.	Bladderpod	R	
Lupinus argenteus	Silvery lupine	R	
Marrubium vulgare	Horehound		U
Penstemon bridgesii	Bridges beard tongue		U
Senecio spp.	Groundsel		U
Verbascum thapsus	Flannel mullein		U
Verbena spp.	Verbena		U
Thalictrum fendleri	Meadowrue	R	U
HALF-SHRUBS, SHRUBS, AND TREES:			
Acer grandidentatum	Big tooth maple	R	
Acer negundo	Boxelder	R	
Agave parryi	Mescal		U
Alnus oblongifolia	Arizona alder	R	
Arctostaphylos pungens	Pointleaf manzanita		U
Baccharis spp.	Baccharis	R	
Brickellia californica	California brickellia	R	U

Carpochaete bigelovii	Carpochaete		U
Ceanothus fendleri	Buckbrush ceanothus	R	U
Celtis reticulata	Netleaf hackberry	R	
Cercocarpus montanus	Mountain mahogany		U
Dasylirion leiophyllum	Sotol		U
Fallugia paradoxa	Apache-plume		U
Fendlera rupicola	Cliff Fendlerbush	R	U
Fraxinus velutina	Velvetskirt ash	R	
Garrya wrightii	Wright silktassel	R	U
Gutierrezia sarothrae	Broom snakeweed		U
Haplopappus laricifolius	Turpentine bush		U
Juglans major	Arizona walnut	R	
Juniperus deppeana	Alligator bark juniper	R	U
Juniperus monosperma	One-seed juniper	R	U
Mimosa spp.	Mimosa		U
Nolina microcarpa	Beargrass		U
Opuntia engelmannii	Engelmann pricklypear		U
Opuntia spinosior	Cane cholla		U
Pinus edulis	Pinyon		U
Pinus leiophylla var. chihuahuana	Chihuahua pine	R	U
Pinus ponderosa	Ponderosa pine		U
Platanus wrightii	Arizona sycamore	R	
Populus angustifolia	Narrowleaf cottonwood	R	
Populus fremontii	Fremont cottonwood	R	
Prosopis juliflora	Common mesquite		U
Prunus serotina	Black cherry	R	
Pseudotsuga menziesii	Douglas-fir	R	U
Ptelea angustifolia	Narrowleaf hoptree		U
Quercus arizonica	Arizona white oak	R	
Quercus emoryi	Emory oak		U
Quercus grisea	Gray oak		U
Quercus hypoleucoides	Silverleaf oak	R	U
Quercus turbinella (affinity)	Shrub live oak		U
Rhus glabra	Smooth sumac	R	
Rhus radicans	Poison ivy	R	
Rhus trilobata	Squawberry		U
Robinia neomexicana	New Mexico locust	R	
Rubus strigosus	Red raspberry	R	
Symphoricarpos rotundifolius	Roundleaf snowberry		U
Vitis arizonica	Canyon grape	R	
Yucca baccata	Datil yucca	R	U

[1]Observed by Bill Dunmire (The Nature Conservancy) on November 6, 1986
[2]Common names used according to USDA, Forest Service 1974, or Martin & Hutchins 1981.
[3]R = riparian; U = upland

Fauna

The round-tailed chub (Gila robusta) occurs in Turkey Creek. No other rare, endangered, or sensitive animal species are known to inhabit this area. Ungulates include mule deer and occasionally bighorn sheep. Turkey Creek flows year round through the RNA and supports a variety of riparian animal species.

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

1. Douglas-fir - white fir series; Pseudotsuga menziesii association

2. Pine series; Pinus ponderosa association

3. Riparian deciduous biome; mixed broadleaf series;
   Platanus wrightii association

4. Pinyon - juniper series

These habitat types currently in the data base most closely corresponds to that occurring in the proposed RNA.

Potential Animal List for Turkey Creek RNA

Common Name	Latin Name
BIRDS:	
Bluebird, mountain	Sialia currucoides
Bluebird, western	Sialia mexicana
Bushit	Psaltriparus minimus
Chickadee, mountain	Parus gambeli
Cowbird, bronzed	Molothrus aeneus
Creeper, brown	Certhia americana
Crossbill, red	Loxia curvirostra
Falcon, prairie	Falco mexicanus
Finch, house	Carpodacus mexicanus
Flicker, northern	Colaptes auratus
Flycatcher, ash-throated	Myiarchus cinerascens
Flycatcher, brown-crested	Myiarchus tyrannulus
Flycatcher, buff-breasted	Empidonax fulvifrons
Flycatcher, gray	Empidonax wrightii
Flycatcher, vermilion	Pyrocephalus rubinus
Flycatcher, western	Empidonax difficilis
Gnatcatcher, blue-gray	Polioptila caerulea
Goldfinch, lesser	Carduelis psaltria
Grosbeak, black-headed	Pheucticus melanocephalus
Hawk, ferruginous	Buteo regalis
Hawk, red-tailed	Buteo jamaicensis
Hawk, sharp-shinned	Accipiter striatus
Hummingbird, black-chinned	Archilochus alexandri
Hummingbird, broad-tailed	Selasphorus platycercus
Hummingbird, magnificent	Eugenes fulgens
Jay, pinyon	Gymnorhinus cyanocephalus
Jay, Steller's	Cyanocitta stelleri
Junco, dark-eyed	Junco hyemalis
Kingbird, Cassin's	Tyrannus vociferans
Nighthawk, common	Chordeiles minor
Nighthawk, lesser	Chordeiles acutipennis
Nutcracker, Clark's	Nucifraga columbiana
Nuthatch, pygmy	Sitta pygmaea
Nuthatch, red-breasted	Sitta canadensis
Nuthatch, white-breasted	Sitta carolinensis
Oriole, Scott's	Icterus parisorum
Owl, flammulated	Otus flammeolus
Owl, great horned	Bubo virginianus
Owl, long-eared	Asio otus
Owl, northern saw-whet	Aegolius acadicus
Owl, spotted	Strix occidentalis
Pewee, greater	Contopus pertinax
Phoebe, black	Sayornis nigricans
Pigeon, band-tailed	Columba fasciata
Poorwill, common	Phalaenoptilus nuttallii
Pygmy-owl, northern	Glaucidium gnoma

Quail, Gambel's	Callipepla gambelii
Quail, scaled	Callipepla squamata
Raven, common	Corvus corax
Roadrunner, greater	Geococcyx californianus
Robin, American	Turdus migratorius
Sandpiper, spotted	Actitis macularia
Sapsucker, yellow-bellied	Sphyrapicus varius
Shrike, loggerhead	Lanius ludovicianus
Shrike, northern	Lanius excubitor
Siskin, pine	Carduelis pinus
Solitaire, Townsend's	Myadestes townsendi
Sparrow, black-chinned	Spizella atrogularis
Sparrow, black-throated	Amphispiza bilineata
Sparrow, Brewer's	Spizella breweri
Sparrow, chipping	Spizella passerina
Sparrow, lark	Chondestes grammacus
Starling, European	Sturnus vulgaris
Swallow, rough-winged	Stelgidopteryx serripennis
Swallow, violet-green	Tachycineta thalassina
Swift, white-throated	Aeronautes saxatalis
Tanager, western	Piranga ludoviciana
Thrasher, Bendire's	Toxostoma bendirei
Thrush, hermit	Catharus guttatus
Titmouse, plain	Parus inornatus
Towhee, brown	Pipilo fuscus
Turkey, wild	Meleagris gallopavo
Vireo, gray	Vireo vicinior
Vireo, solitary	Vireo solitarius
Vireo, warbling	Vireo gilvus
Vulter, turkey	Cathartes aura
Warbler, black-throated gray	Dendroica nigrescens
Warbler, Grace's	Dendroica graciae
Warbler, Lucy's	Vermivora luciae
Warbler, olive	Peucedramus taeniatus
Warbler, red-faced	Cardellina rubrifrons
Waxwing, cedar	Bombycilla cedrorum
Whip-poor-will	Caprimulgus vociferus
Woodpecker, Lewis'	Melanerpes lewis
Woodpecker, three-toed	Picoides tridactylus
Wood-pewee, western	Contopus sordidulus
Wren, Bewick's	Thryomanes bewickii
Wren, canyon	Catherpes mexicanus
Wren, house	Troglodytes aedon
Wren, rock	Salpinctes obsoletus

MAMMALS:

Badger	Taxidea taxus
Bat, Allen's big-eared	Idionycteris phyllotis
Bat, big brown	Eptesicus fuscus
Bat, Brazilian free-tailed	Tadarida brasiliensis
Bat, hoary	Lasiurus cinereus
Bat, pallid	Antrozous pallidus
Bat, Townsend's big eared	Plecotus townsendii

Bear, black	Ursus americanus
Chipmunk, cliff	Tamias dorsalis
Chipmunk, gray-collared	Tamias cinereicollis
Cottontail, eastern	Sylvilagus floridanus
Coyote	Canis latrans
Deer, mule	Odocoileus hemionus
Deer, white-tailed	Odocoileus virginianus
Elk	Cervus elaphus
Fox, gray	Urocyon cinereoargenteus
Gopher, Botta's pocket	Thomomys bottae
Lion, mountain	Felis concolor
Mouse, brush	Peromyscus boylii
Mouse, cactus	Peromyscus eremicus
Mouse, deer	Peromyscus maniculatus
Mouse, northern grasshopper	Onychomys leucogaster
Mouse, pinyon	Peromyscus truei
Mouse, western harvest	Reithrodontomys megalotis
Mouse, white-footed	Peromyscus leucopus
Myotis, California	Myotis californicus
Myotis, fringed	Myotis thysanodes
Myotis, little brown	Myotis lucifugus
Myotis, long-eared	Myotis evotis
Myotis, long-legged	Myotis volans
Myotis, small-footed	Myotis leibii
Myotis, southwestern	Myotis auriculus
Myotis, Yuma	Myotis yumanensis
Peccary, collared	Tayassu tajacu
Pipistrelle, western	Pipistrellus hesperus
Porcupine	Erethizon dorsatum
Raccoon	Procyon lotor
Rat, banner-tailed kangaroo	Dipodomys spectabilis
Rat, hispid cotton	Sigmodon hispidus
Rat, Ord's kangaroo	Dipodomys ordii
Ringtail	Bassariscus astutus
Sheep, mountain	Ovis canadensis
Shrew, vagrant	Sorex vagrans
Skunk, hog-nosed	Conepatus mesoleucus
Skunk, striped	Mephitis
Skunk, western spotted	Spilogale gracilis
Squirrel, Abert's	Sciurus aberti
Squirrel, Arizona gray	Sciurus arizonensis
Squirrel, golden-mantled ground	Spermophilus lateralis
Squirrel, Harris' antelope	Ammospermophilus harrisii
Squirrel, red	Tamiasciurus hudsonicus
Squirrel, rock	Spermophilus variegatus
Vole, long-tailed	Microtus longicaudus
Vole, Mexican	Microtus mexicanus
Woodrat, Mexican	Neotoma mexicana
Woodrat, white-throated	Neotoma albigula

REPTILES:

Kingsnake, Sonoran mountain	Lampropeltis pyromelana
Lizard, collared	Crotaphytus collaris

Lizard, side-blotched	Uta stansburiana
Lizard, tree	Urosaurus ornatus
Rattlesnake, western diamondback	Crotalus atrox
Snake, blackneck garter	Thamnophis cyrtopsis
Snake, narrowhead garter	Thamnophis rufipunctata
Whiptail, desert grassland	Cnemidophorus uniparens
Whiptail, little striped	Cnemidophorus inornatus
Whiptail, western	Cnemidophorus tigris

Geology

Turkey Creek is situated on a deep and complex series of volcanics, all of which are undivided Datil formations (Ratté and Gaskill 1975). In the Creek bottom are latite breccias and flows of banded latite, with andesite intrusions. Above this formation are welded and crystal rhyolite tuffs, ash-flows, and breccias.

Soils

Turkey Creek RNA is located within a widespread soil association of southwestern New Mexico, the Rockland-Luzena-Santana association (NMSU 1971). In this association, rock outcrops make up 35 per cent of the terrain; relatively narrow valley floors and upland summits are commonly separated by steep canyon walls, escarpments, and steep side slopes. The soils, forming from a wide variety of parent material, including conglomerates and mixed igneous rocks, are generally shallow to moderately deep.

Occasionally flooded, elevated sites in the valley plain are occupied by coarse-loamy, mixed, nonacid, mesic Typic Ustifluvents. The lower lying areas, alongside or nearer to the active channel, feature sandy-skeletal, mixed, nonacid, mesic Aquic Ustifluvents (Gass 1986, USDA Forest Service 1986c).

Lands

All lands within the proposed RNA were included within the original Gila Forest created on 3/2/1899, which was designated as a National Wilderness area on 4/4/1938. There are no known outstanding rights or rights-of-way within the proposed boundaries.

Cultural

Non-project related reconnaissance surveys along Turkey Creek and the Gila River in the vicinity of this proposed RNA have recorded quite a few sites, most of which occur along the Gila River. The proposed RNA is characterized by steep rocky slopes, except in the bottom of Turkey Creek. The six closest recorded sites all lie south of the proposed RNA boundary. Two sites are small rockshelters, three are small prehistoric habitation sites with surface masonry structures, and the sixth is a prehistoric lithic/sherd scatter. In comparison with known site densities at the mouth of Turkey Creek and along the Gila River, site density in the Turkey Creek RNA is expected to be low. Upon establishment as an RNA, the area will be withdrawn from any archeological research that would in any way modify the existing locale.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources

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

Grazing

Most of the proposed RNA is located within the Gila Wilderness. Two allotments, Brock Canyon and Watson Mountain, are adjacent, but do not include any of the RNA. Riparian bottom land in the RNA receives occasional use, however, when high water washes out the barrier at the south end. With properly maintained barriers, there should be no conflicts since this area is intended to be closed to grazing. In addition, the land is not desirable for grazing, as the topography is very rough with narrow canyon bottoms and steep side slopes and rock outcrops.

Timber

The fact that the RNA is located within the Gila Wilderness excludes all timber and fuelwood harvesting.

Watershed Values

The Turkey Creek RNA is contained within the Upper Gila River Watershed. The watershed contains the confluence of Skeleton Canyon with Turkey Creek. The landscape is dissected, and drains both west and east into Turkey Creek, which then drains into the Gila River approximately 1 mile (1.6 km) downstream.

Recreation Values

The hot springs on Turkey Creek above the RNA attract some dispersed recreation use. A trail passes through the RNA along Turkey Creek. Most recreation use of Turkey Creek RNA is concentrated in the bottom land due to the very rough topography. The area does not receive heavy hunting pressure. Turkey Creek, however, serves as trout and bass fisheries, and is used for fishing. Wilderness designation restricts off-road vehicle access to the area. There should be no conflicts between the various low-level recreational uses and potential research.

Wildlife and Plant Values

Turkey Creek RNA includes a portion of the habitat of an endangered fish species, the Gila Robusta (round-tailed chub). This chub is on the New Mexico state endangered species list, and on the notice of review for Federal listing. Intensive surveys have not been conducted for other threatened, endangered, or unique species.

The area is located within trout and bass fisheries. Game species present in the area include wild turkey, deer, javelina, and an occasional bighorn sheep.

Wilderness, Wild and Scenic River, National Recreation Area Values

The proposed RNA is located primarily within classified wilderness. The Gila River has been identified as potential wild and scenic river, from the forks of the main Gila River and the East Fork to the confluence of Turkey Creek, and from Turkey Creek to the Forest boundary. There is no proposal to designate any of the RNA as a National Recreation Area.

Transportation Plans

Wilderness designation precludes road access into the area.

Utility Corridor Plans

There are no existing or potential utility corridor plans in the vicinity of this RNA.

MANAGEMENT PLAN

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

1. Vegetation Management

The Forest Plan provides that unplanned ignitions will receive appropriate suppression action. Wildfires burning outside the area, which might enter the RNA, will be suppressed. Fire within the RNA willbe managed consistent with theoverall Wilderness fire plan. A specific fire management plan for the RNA needs to be developed.

ADMINISTRATIVERECORDS AND PROTECTION

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

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

Records for the Turkey Creek RNA will be maintained in the following offices:

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

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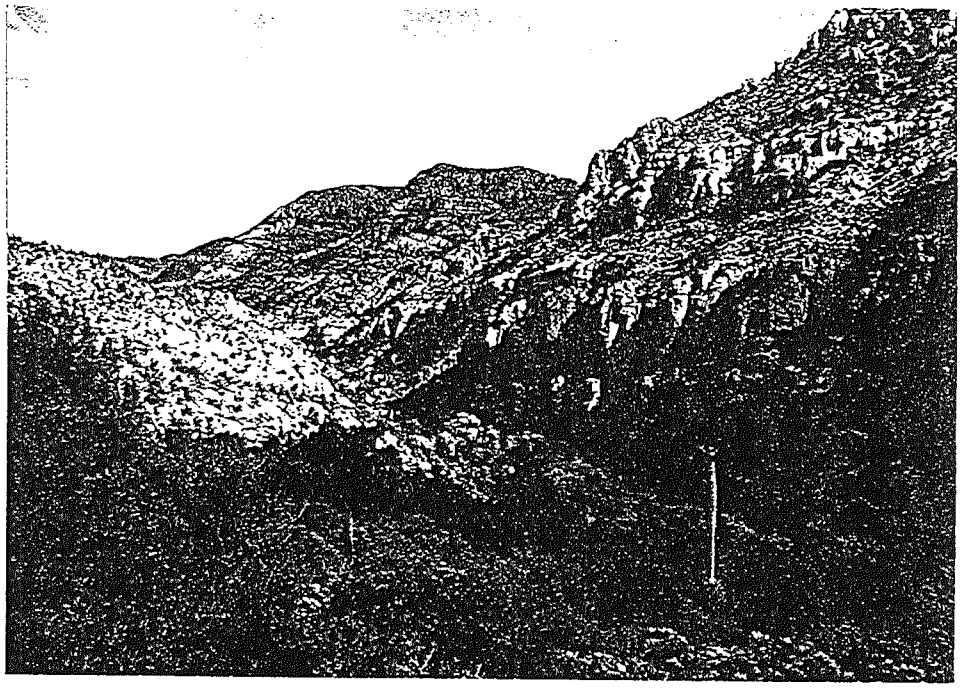

Photo 1. North up Turkey Creek from south end of RNA. Except for the distant skyline, all areas shown are within the RNA.

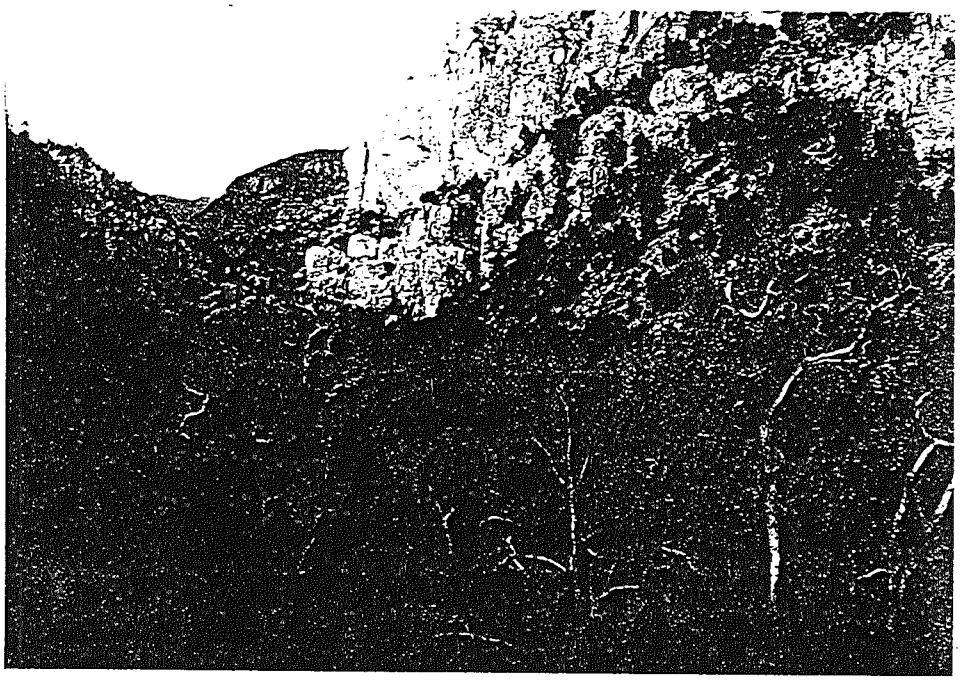

Photo 2. Arizona sycamore is codominant with Arizona alder in the lower half of the riparian woodland.

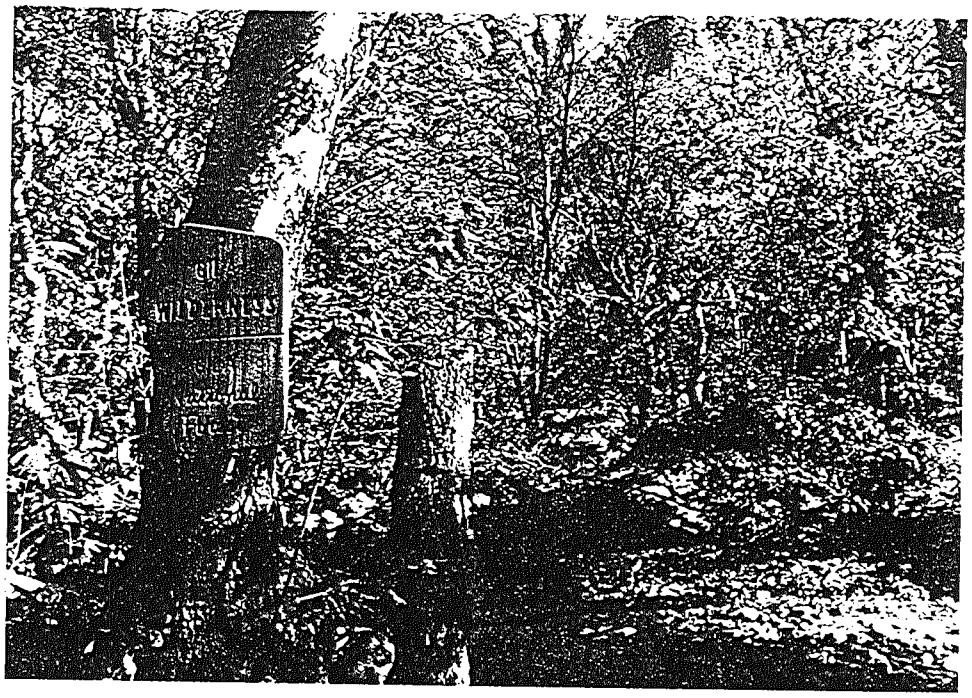

Photo 3. Most of Turkey Creek RNA is within the Gila Wilderness. The wilderness boundary crosses the south end of the RNA.

Photo 4. Douglas-fir begins to appear in the sycamore-alder riparian woodland in the upper half of the RNA.

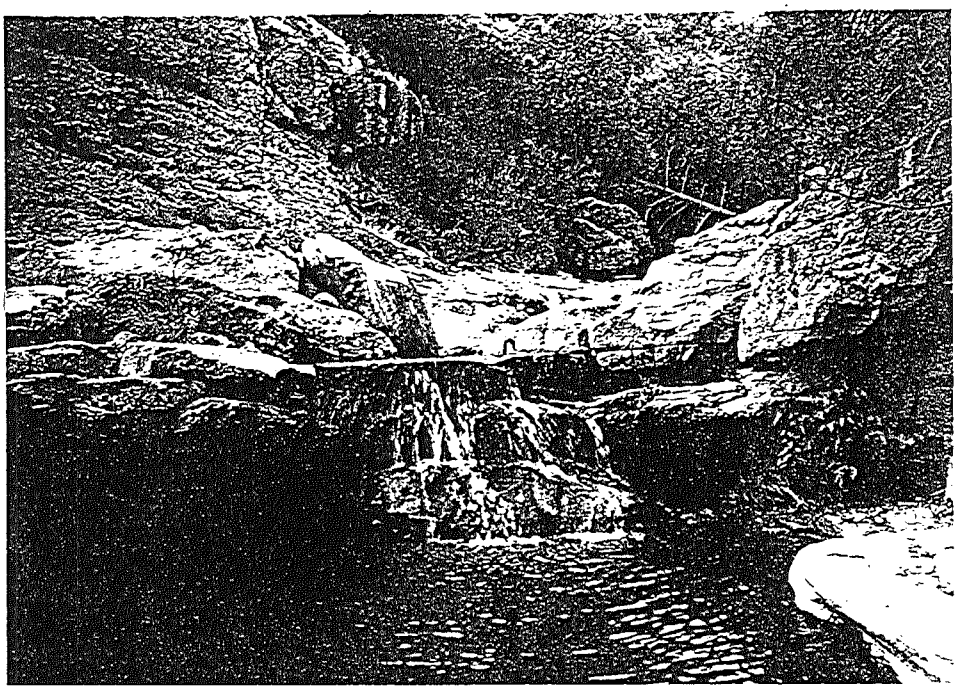

Photo 5. Skeleton Creek with a perennial waterflow is a major tributary to Turkey Creek. The riparian woodland forest continues up this side canyon to the north boundary of the RNA.

Photo 6. Bigtooth maple (here in fall foliage) becomes a component of the riparian woodland in Skeleton Canyon and Turkey Creek Canyon at the upper end of the RNA.

Photo 7. Piñon-juniper rockland is the principal forest type on the slopes of the Turkey Creek drainage within the RNA.

Photo 8. Dense monotypic patches of pointleaf manzanita are frequent on the east-facing slopes within the piñon-juniper community.

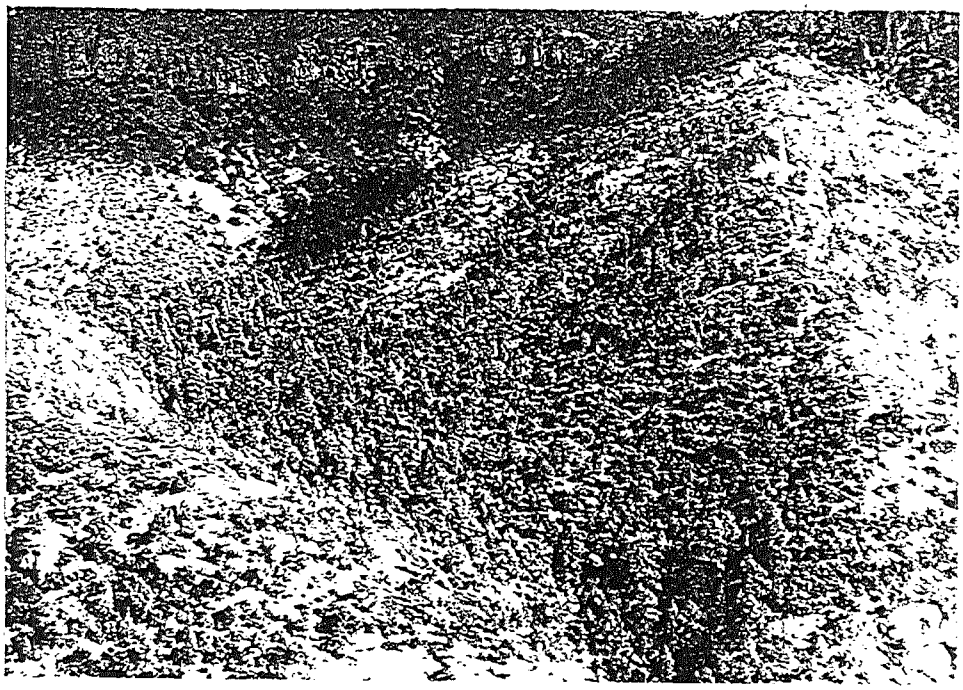

Photo 9. At the northeast end of the RNA, an Interior Ponderosa Pine forest occurs on the northwest-facing slope above a tributary to Turkey Creek.

Photo 10. A thin strip of Chihuahua pine grows on the ridge top between Skeleton and Turkey Creek Canyons at the north end of the RNA.

USDA-FOREST SERVICE

PHOTOGRAPHIC RECORD

(See FSM 1643.52)

PHOTOGRAPHER	DATE SUBMITTED
William W. Dunmire	Nov. 16, 1987
HEADQUARTERS UNIT	**LOCATION**

INITIAL DISTRIBUTION OF PRINTS AND FORM 1600-1:

☐ WO ☐ RO ☐ DIV. ☐ FOREST ☐ DISTRICT ☐ PHOTOGRAPHER Date _____

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PHOTOGRAPH NUMBER		SELECTED FOR W.O. PHOTO LIBRARY	DATE OF EXPOSURE	LOCATION (State, Forest, District and County)	CONCISE DESCRIPTION OF VIEW	NEGATIVE (Show size and BW for black and white or C for color)
TEMP. (1)	PERMANENT (To be filled in by the WO) (2)	(3)	(4)	(5)	(6)	(7)
				ALL: New Mexico Gila NF Wilderness Dist. Grant Co.		ALL: 24x36mm color slides
1.			11-6-86		North up Turkey Creek drainage from south end of Turkey Creek RNA.	
2.			11-6-86		North up Turkey Creek from south end of Turkey Creek RNA. Arizona sycamore riparian forest.	
3.			11-6-86		Gila Wilderness boundary on trail up Turkey Creek on south end of Turkey Creek RNA.	
4.			11-6-86		Riparian woodland community with Douglas-fir along Turkey Creek at 4,800 feet elevation (1,463 M).	
5.			11-6-86		Skeleton Creek at the trail crossing just above the confluence with Turkey Creek Canyon.	
6.			11-6-86		Northwest into Skeleton Canyon from trail on ridge between Skeleton and Turkey Creek Canyons, north end of Turkey Creek RNA.	
7.			11-6-86		East-facing slopes west of Turkey Creek at the lower end of Turkey Creek RNA.	
8.			11-6-86		A dense patch of pointleaf manzanita on east-facing slope above Turkey Creek on ridge trail between Skeleton and Turkey Creek Canyons.	
9.			11-6-86		East toward side canyon at northeast end of Turkey Creek RNA from ridge trail between Skeleton and Turkey Creek Canyons.	

USDA-FOREST SERVICE

PHOTOGRAPHIC RECORD

(See FSM 1643.52)

PHOTOGRAPHER	DATE SUBMITTED
William W. Dunmire	Nov. 16, 1987
HEADQUARTERS UNIT	**LOCATION**

INITIAL DISTRIBUTION OF PRINTS AND FORM 1600-1:

☐ WO ☐ RO ☐ DIV. ☐ FOREST ☐ DISTRICT ☐ PHOTOGRAPHER Date _____

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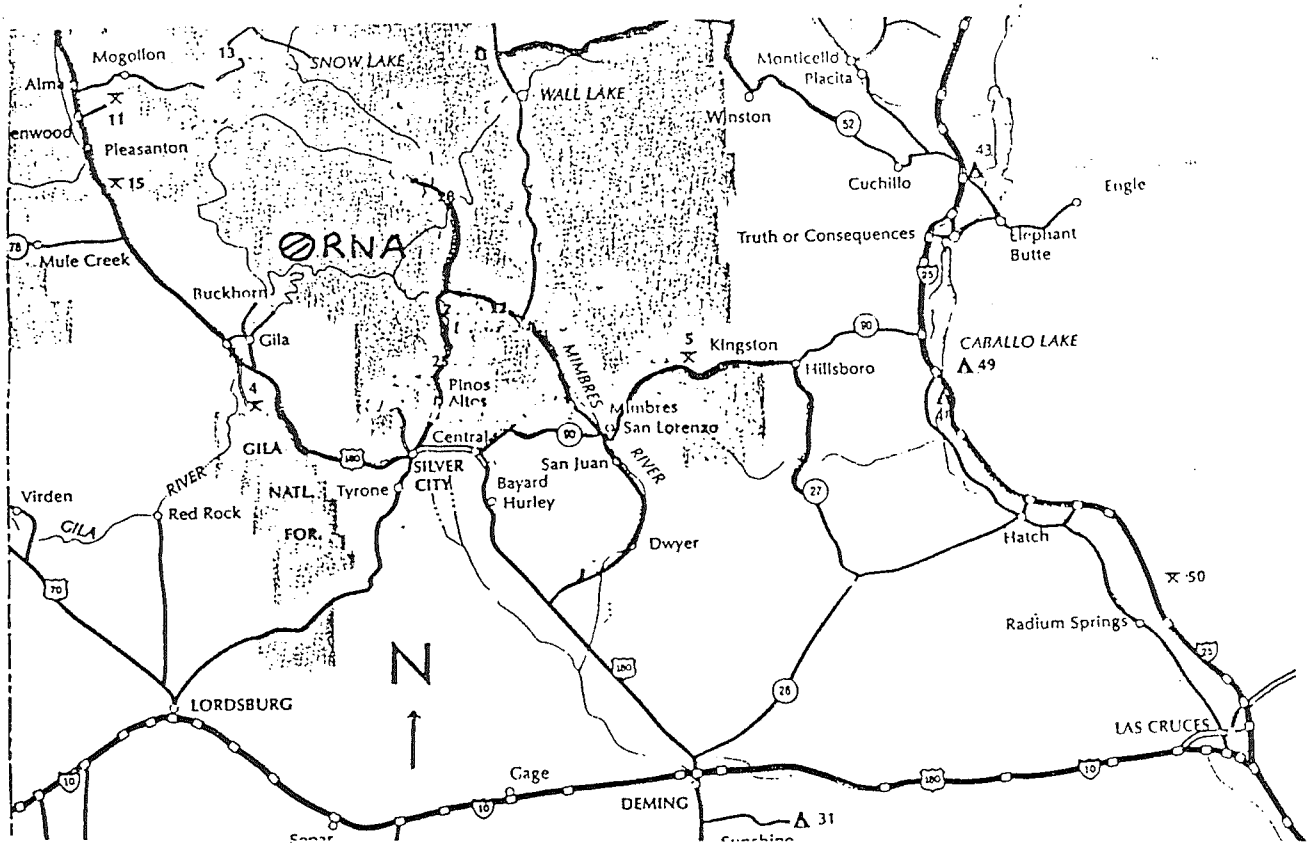
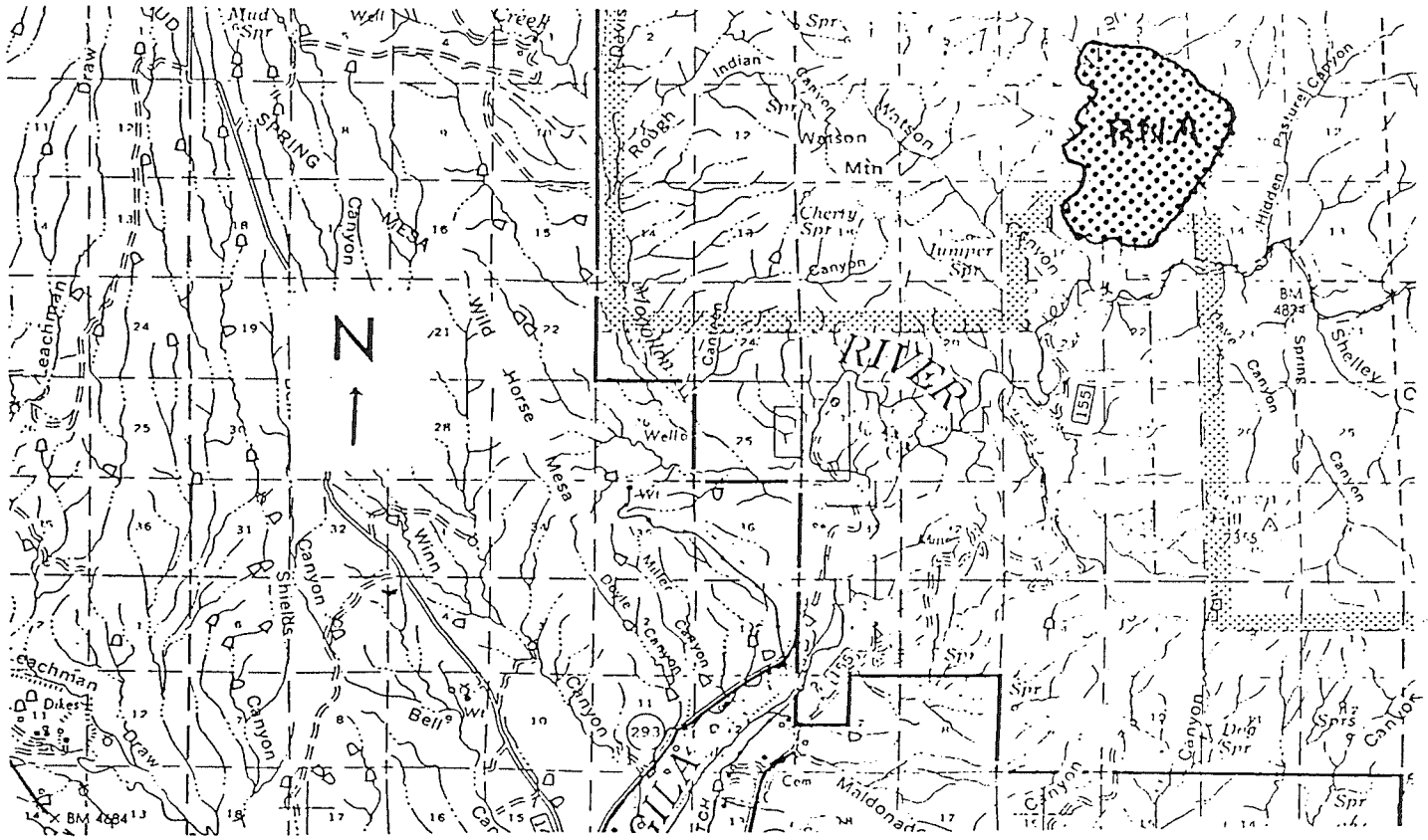
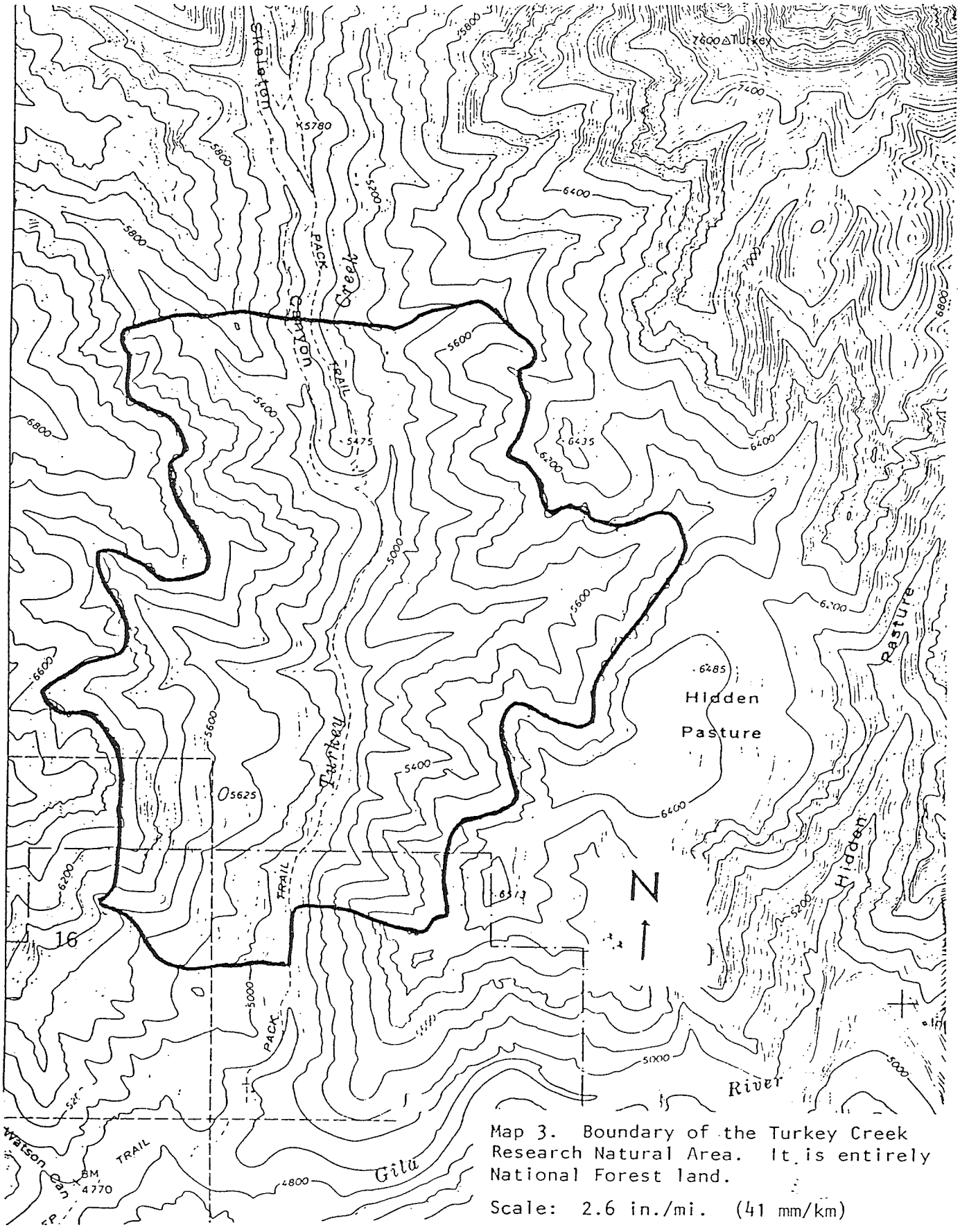
TEMP. (1)	PERMANENT *(To be filled in by the WO)* (2)	(3)	(4)	(5)	(6)	(7)
				ALL: New Mexico Gila NF Wilderness Dist. Grant Co.		ALL: 24x36mm color slides
10.			11-6-86		Chihuahua pine along trail on ridge between Skeleton and Turkey Creek Canyons, north end of Turkey Creek RNA.	



Map 1. Location of RNA (Southwest New Mexico)

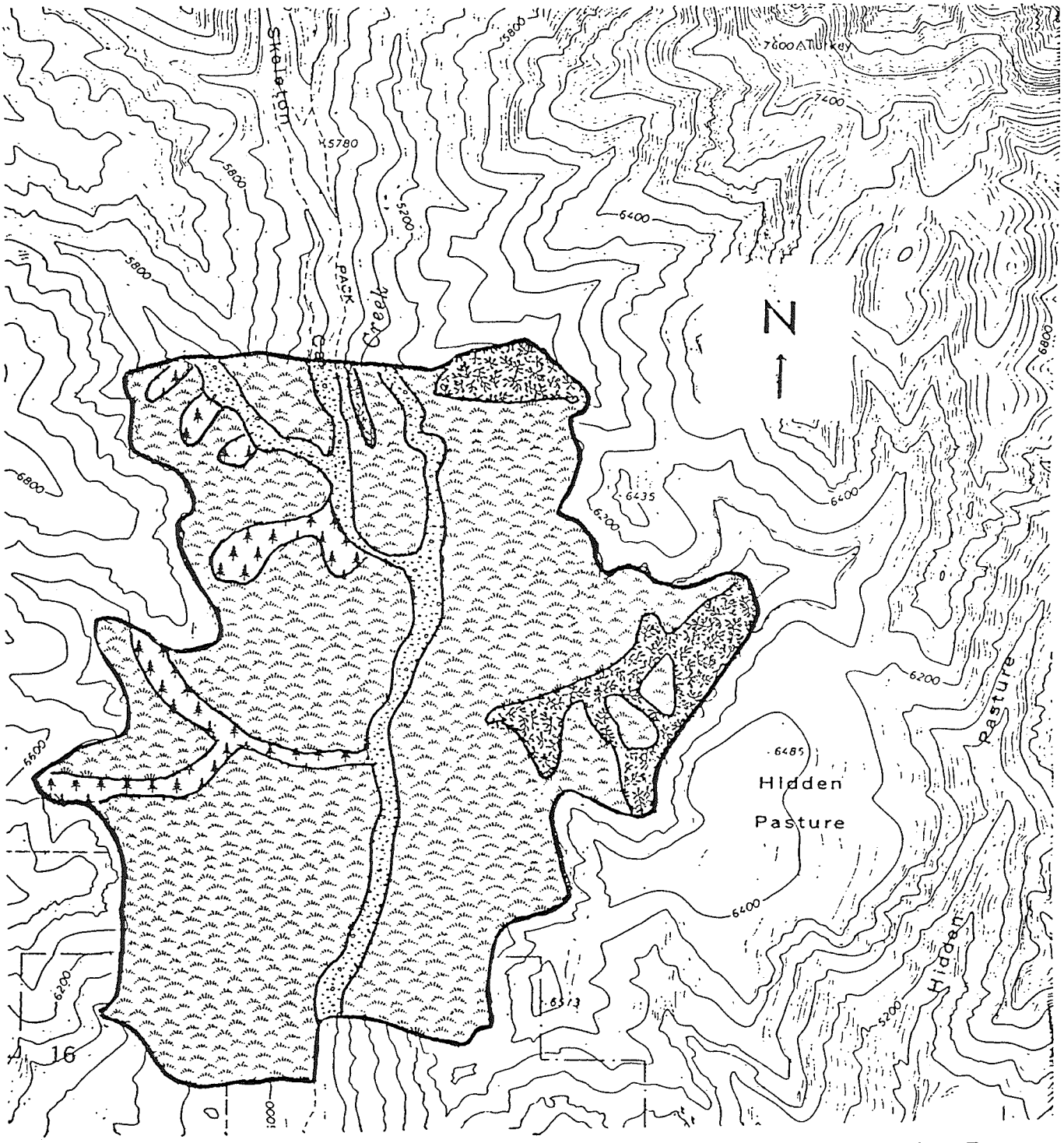


Map 2. Access Route to Turkey Creek RNA



Map 3. Boundary of the Turkey Creek Research Natural Area. It is entirely National Forest land.

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



Map Symbol	Vegetation Type
	Interior Douglas fir SAF 210, K-17
	Cottonwood-willow SAF 235
	Interior Ponderosa Pine SAF 237, K-17
	Pinyon-Juniper SAF 239, K-21

Map 4. Distribution of vegetation types in the Turkey Creek Research Natural Area.

ENVIRONMENTAL ASSESSMENT

Proposed Turkey Creek

Research Natural Area

Gila National Forest

U.S. Forest Service

Region 3

January 2, 1993

ENVIRONMENTAL ASSESSMENT

Proposed Turkey Creek Research Natural Area

January 2, 1992

Alternatives and Environmental Consequences

Alternative A, Proposed Action

Alternative A would designate 1,335 acres (540 hectares) in the Gila Wilderness of southwestern New Mexico as the "Turkey Creek" Research Natural Area. Management of wilderness areas limits recreation use to low intensity, dispersed activities, prohibits fuelwood and timber harvest (due to Wilderness status), and prohibits road access to the area (Gila National Forest Plan, pages 5-6, 49).

The environmental consequences of Alternative A are described in the EIS for the Gila National Forest Plan (page 80). These consequences include short-term losses of opportunities to change vegetation conditions through management. The area is currently being managed to maintain RNA values, therefore there are no significant cumulative effects of the establishing of the RNA.

The direction in the Forest Plan for established RNA's also includes reasonably foreseeable actions such as withdrawal of the area from mineral entry. The general consequences of withdrawal are discussed in the Forest Plan EIS. These consequences are considered to be negligible since there have been no leases for exploration. Site-specific consequences will be disclosed in more detail if or when mineral entry is proposed for withdrawal.

Alternative B, No Action

This alternative continues management according to direction in the Forest Plan (page 49) for a "proposed" RNA. This management currently includes allowing dispersed, low intensity recreation, no fuelwood or timber harvest, and no additional developments will be authorized that might change the existing character of the area. Unplanned ignitions will receive appropriate suppression action (page 49). There are no significant cumulative effects of this alternative.

The environmental consequences of Alternative B, the "No Action" alternative, are as described in the EIS for the Gila Forest Plan and are not significant becaouse current management maintains RNA values for the short-term. However, these consequences include short-term losses of opportunities to change the vegetation conditions through management as well as the potential loss of establishing a representative riparian broadleaf RNA type.

Agencies and Persons Consulted

In the process of updating information to determine whether or not conditions had changed since adoption of the Forest Plan (or as part of the Forest Plan monitoring process), the State Natural Heritage Program, Nature Conservancy, Livestockman's Association, range permittees, mineral exploration companies, etc. were contacted. The following comments were received and addressed as indicated (or no comments were received):

Natural Heritage Program -- supported establishment of the RNA.

Livestockman's Association -- no problem with establishment of the RNA because boundary changes were made at the time the Forest Plan was adopted by the Regional Forester.

Gila P.D.

ESTABLISHMENT REPORT

TURKEY CREEK RESEARCH NATURAL AREA

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

Prepared by: _____ Date_____
William W. Dunmire, The Nature Conservancy
Mollie S. Toll, Department of Biology,
University of New Mexico

Recommended by: _____ Date _____
District Ranger
Wilderness Ranger District

Recommended by: _____ Date _____
David W. Dahl, Forest Supervisor
Gila National Forest

Recommended by: _____ Date_____
John W. Russell, Chairman
Southwestern Research Natural Area Committee

Recommended by: _____ Date _____
Sotero Muniz, Regional Forester
Southwestern Region

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

ESTABLISHMENT RECORD

for

TURKEY CREEK RESEARCH NATURAL AREA

within

Gila National Forest

Grant County, New Mexico

INTRODUCTION

The Turkey Creek Research Natural Area (RNA) comprises approximately 1335 acres (540 hectares) just within the southern border of the Gila Wilderness, in southwestern New Mexico. The proposed RNA is located in the Gila National Forest, in Grant County, and is all acquired National Forest land.

Mixed broadleaf riparian forest has been noted as an important ecosystem for protection within the RNA program (USFS Regional Guide, 1983: Table 3-1). Turkey Creek was originally selected as an ideal solution to the search for representation of this forest type in 1969, and an establishment report was produced, dated July 15 of that year. The application for Turkey Creek was turned down at that time because the proposed RNA was located within a Wilderness area. It is now being resubmitted, as this constraint no longer applies.

Land Management Planning

The need for representation of this biotic community was identified in the Southwestern Regional Guide (August 1983) although this particular site was not identified by name. The Gila National Forest Plan (USFS 1986: 5-6,49) prescribes that approximately 1335 acres (540.3 hectares) of the Turkey Creek drainage in Management Area 8B has been designated for establishment as a Research Natural Area. The environmental analysis conducted as part of the planning process supports the recommendation to establish this Research Natural Area.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

Turkey Creek Research Natural Area was identified primarily as an outstanding example of a mixed broadleaf riparian forest. This is an important woodland ecosystem in the Southwest. The need to include such an ecosystem within the RNA network of the Southwestern Region has been stated in the Regional Guide (USFS 1983).

The riparian vegetation in the canyon and rock formations on either side provide habitats for many of the birds of the upper portions of the Gila River watershed. This is one of few areas in the Southwest where the particularly rich faunal and botanical diversity can be relatively easily protected because of the rough topography and isolation.

PRINCIPAL DISTINGUISHING FEATURES

Both Turkey Creek and Skeleton Canyon provide permanent flowing streams through the RNA. Based on this water supply, the biotic community contains many species which are not commonly found together over much of the Southwest. In this community are sycamore (Platanus wrightii), cottonwood (Populus angustifolia, P. fremontii), hackberry (Celtis reticulata), silverleaf oak (Quercus hypoleucoides), Chihuahua pine (Pinus leiophylla var. chihuahuana), fendlerbush (Fendlera rupicola), and deergrass (Muhlenbergia rigens), all species not found in the somewhat similar community in the West Fork of Oak Creek Research Natural Area. The hardwood vegetation in Turkey Creek canyon and the volcanic rock formations of the canyon walls afford habitat for a particularly diverse bird population.

LOCATION

Turkey Creek is located about 12 miles (19.3 km) northeast of the small towns of Cliff and Gila, in Grant County, New Mexico (Map 1). The RNA can be found on the Canyon Hill quadrangle (USGS 7.5' map), Township 14S, Range 16W, Sections 3, 4, 9, 10, 11, 15, and 16, latitude 33° 6' N, longitude 108° 29' W. This RNA lies at the edge of the Gila Wilderness and access is difficult. The Gila River must be waded at least one time to reach it, and the access road is not always passable.

If travelling from Silver City, take U.S. Highway 180 west and north 25 miles (40.2 km; Maps 2 and 3). Turn right on N.M. Highway 211. Travel through the town of Gila (the road here becomes N.M. Highway 293). At 7.7 miles (12.4 km) from U.S. Highway 180, the pavement ends and Forest Road 155 begins. This road climbs up steeply to avoid the Gila River Middle Box and descends back to the river above the box. It is 17.5 miles (28.2 km) from the turn-off at U.S. Highway 180 to the end of this road.

If you are travelling from the north on U.S. Highway 180, as you enter Cliff turn left onto New Mexico State Highway 211 and travel 2.3 miles (3.7 km) to Gila. On this route, the trailhead at the end of Forest Road 155 is 15.8 miles (25.4 km) from the turn-off from U.S. Highway 180.

From the end of the forest road, a well-used pack trail crosses the Gila River and proceeds upriver, crossing the river two more times before turning up into the Turkey Creek drainage. It is about 1.5 miles (2.4 km) from the trailhead to the south boundary of the RNA. This trail continues up Turkey Creek through the RNA, leaving the canyon bottom at the junction of Skeleton Canyon and Turkey Creek Canyon, and ascending a ridge between the two canyons. The trail passes out of the RNA at the north end on this ridge approximately 2 miles (3.2 km) from its point of entry at the lower end. Except for this trail, travel within the RNA involves extremely steep and rugged terrain.

AREA BY COVER TYPES

The distribution of cover types was determined from data contained in the original establishment report (prepared in 1969 but apparently never submitted for final approval), from field surveys conducted in the summer of 1986, and from interpretation of 1980 aerial photography. Table 1 outlines the estimated total area of vegetation types based on the Society of American Foresters forest type system (Eyre 1980) and the Küchler Potential Natural Vegetation system (Küchler 1964). Map 4 depicts the distribution of SAF types on the candidate research natural area.

Table 1. Estimated Areas of Vegetation Types in the Turkey Creek Research Natural Area.

Type	Society of American Foresters Cover Type[1]	Küchler PNV Type[2]	Surface Area Acres	Hectares
Interior Douglas-fir	SAF 210	K-18 Pine - Douglas-fir	79	31.9
Cottonwood - Willow	SAF 235	[none]	97	39.3
Interior Ponderosa Pine	SAF 237	K-18	115	46.5
Pinyon - Juniper	SAF 239	K-23	1044	422.5
		TOTAL:	1335	540.2

[1]Eyre 1980.
[2]Küchler 1964.

PHYSICAL AND CLIMATIC CONDITIONS

The irregularly-shaped RNA is oriented approximately north-south along the Turkey Creek drainage. About 0.6 mile (1.0 km) from the northern boundary, Skeleton Canyon diverges to the west and continues north, parallel to Turkey Creek. The eastern boundary more or less follows the 6000' (1828.8 m) contour line, while the western boundary reaches a high of approximately 6400' (1950.7 m). Elevation reaches a low of about 4900' (1493.5 m) in the Turkey Creek bottom at the southern boundary of the RNA. The topography is very rough, with narrow canyon bottoms and steep slopes and rock outcrops on either side.

Turkey Creek is located on the southern border of a higher elevation land mass where considerably greater levels of precipitation, lower temperatures, and shorter frost free season often obtain. The nearest long range weather stations are Pinos Altos and Fort Bayard to the southeast. Average annual rainfall for Turkey Creek is 23 inches (584 mm); two-thirds of this falls within the warm months of May to October. Average annual snowfall is 20 inches (50.8 cm). Year round water flow in Turkey Creek and Skeleton Canyon Creek are critical components in presence and maintenance of the distinctive plant communities in the RNA. Sharp contrasts between the riparian vegetation of the canyon bottoms and dry upland pinyon-juniper woodland point out the location of the RNA in a semi-arid zone, where net moisture deficit is the general condition. Mean annual temperature is 50° F (10.0° C), with a July average of 70° F (21.1° C) and a January average of 32° F (0° C). The frost free period lasts an average of 140 days.

DESCRIPTION OF VALUES

Flora

At the time of preparation of this establishment record, no publication adequately described the many habitat types occurring in the Turkey Creek RNA. Some of the non-riparian communities match descriptions contained in the manual Forest and Woodland Habitat Types in Southern New Mexico and Central Arizona (USDA Forest Service 1986b); this is the reference for habitat types cited below.

The proposed RNA has an elevation differential of nearly 1800 feet (549 m), contains several miles of perennial and semi-perennial streams, and has a full range of slope aspects. Because of its geographical location, it is influenced by three biogeographic provinces: the Great Basin, the Chihuahuan,and the Interior-Arizonan. All of this contributes to a remarkable diversity of plant communities, habitat types, and species.

In the narrow canyon bottom floodplains of Turkey Creek and the two branches of Skeleton Creek, all of which contain permanently flowing water, there is a riparian community with a nearly closed tree canopy. In the lower half of Turkey Creek within the RNA, Arizona sycamore (Platanus wrightii) is codominant with Arizona alder (Alnus oblongifolia). Silverleaf oak (Quercus hypoleucoides), oneseed juniper (Juniperus monosperma), alligator juniper (J. deppeana), velvet ash (Fraxinus velutina), and black cherry (Prunus serotina) are common components of the riparian forest here. Less common trees include boxelder (Acer negundo), narrowleaf and Fremont cottonwood (Populus angustifolia, P. fremontii), Arizona oak (Quercus arizonica), netleaf hackberry (Celtis reticulata), and Arizona walnut (Juglans major). Midway up river and in Skeleton Canyon, sycamore and alder remain codominant, but the riparian canopy also begins to include Douglas-fir (Pseudotsuga menziesii), bigtooth maple (Acer grandidentatum), and Chihuahua pine (Pinus leiophylla var. chihuahuana). Oaks and junipers also become more common upstream, while the cottonwoods and netleaf hackberry drop out. This riparian community is moderately shrubby, with Wright silktassel (Garrya wrightii) the dominant species. Other shrubs include New Mexico locust (Robinia neomexicana), smooth sumac (Rhus glabra), red raspberry (Rubus strigosus), gray oak (Quercus grisea), buckbrush ceanothus (Ceanothus fendleri), and shrub forms of some of the trees cited above. Forbs here are abundant in cover and diversity. Common species include Lupinus argenteus, Thalictrum fendleri, and Geranium sp. Grass is sparse, with Bromus sp. the only grass noted except near some old campsites where Agropyron sp. appears to have been introduced. Although willow species are scarce or absent from the RNA, the riparian community fits best the southwestern phase description for the SAF Cottonwood-willow forest cover type, and has been mapped as such (Map 4).

Pinyon-juniper is the other major forest type on the RNA. Tree cover on the area mapped as this type ranges from extremely sparse to 50 per cent cover, comprised almost entirely of pinyon (Pinus edulis) and oneseed juniper (Juniperus monosperma). Pinyon tends to dominate. Gray oak is the dominant shrub throughout, but dense monotypic patches of pointleaf manzanita (Arctostaphylos pungens) occur frequently. Many other shrub components, including Garrya wrightii, Rhus trilobata, Nolina

microcarpa, Cercocarpus montanus, Mimosa sp., and Gutierrezia sarothrae, are commonly found throughout this type. Fallugia paradoxa and Ptelea angustifolia occur on north-facing slopes, and Yucca baccata, Dasylirion leiphyllum, Haplopappus larcifolius, and Opuntia sp. on drier aspects. Total shrub cover often exceeds 50 per cent, but on the steepest slopes shrubs are nearly absent in a Pinus edulis/Juniperus monosperma Rockland habitat type.

Forbs are scarce in most habitats within the pinyon-juniper type, but grasses are common, especially Bouteloua curtipendula, the dominant species on most non-riparian sites throughout the RNA. Other common grasses include Bouteloua hirsuta, Muhlenbergia emersleyi, Lycurus phleoides, and Eragrostis intermedia. A mosaic of habitat types encountered here would include Pinus edulis/Cercocarpus montanus, Quercus grisea phase, possibly Quercus grisea/Bouteloua curtipendula and Pinus edulis/Arctostaphylos pungens (undescribed in the literature), in addition to the rockland type noted above.

Two other forest cover types occur in the area, Interior Douglas-fir on some north and east-facing drainages, and Interior Ponderosa Pine in two locations on the north and east boundaries of the RNA. Neither of these types were surveyed on the ground during field work for this establishment record, but they were identified in the 1969 draft establishment report and were confirmed from distant observations in 1986 and from interpretation of aerial photography. A thin strip of Chihuahua pine grows on a ridgetop where the trail exits the north end of the RNA; this is included in the Interior Ponderosa Pine type (Map 4). Other trees and shrubs associated with this ridgetop include pinyon, emory oak (Quercus emoryi), silverleaf and gray oak, mountain mahogany, and pointleaf manzanita.

There are no known threatened, endangered, or unique plant species on the proposed RNA; however, the area has not been botanically inventoried.

The following plant list was compiled from field observations by Bill Dunmire (The Nature Conservancy) on November 6, 1986. Due partly to the lateness of the season, this list is extremely meager, except for trees. It is likely that a complete list would include well over 300 taxa.

Abbreviated Plant List for Turkey Creek RNA[1]

Latin Name	Common Name[2]	Habitat[3]	
GRASSES AND GRASS-LIKE PLANTS:			
Agropyron sp.	Wheatgrass	R	
Andropogon barbinodis	Cane bluestem		U
Andropogon scoparius	Little bluestem		U
Aristida sp.	Three-awn grass		U
Bouteloua curtipendula	Side-oats grama		U
Bouteloua eriopoda	Black grama		U
Bouteloua hirsuta	Hairy grama		U
Bromus sp.	Brome-chess	R	
Eragrostis intermedia	Plains lovegrass		U
Lycurus phleoides	Wolftail		U
Muhlenbergia emersleyi	Bullgrass		U
Muhlenbergia pauciflora	New Mexico muhly		U
Muhlenbergia rigens	Deergrass		U
Muhlenbergia setifolia	Curlyleaf muhly		U
Sitanion hystrix	Bottlebrush squirreltail		U
Stipa speciosa	Desert needlegrass		U
FORBS:			
Aster sp.	Aster		U
Cheilanthes eatonii	Lipfern		U
Eriogonum sp.	Buckwheat		U
Geranium sp.	Geranium	R	
Gnaphalium chilense	Cottonbatting		U
Lesquerella sp.	Bladderpod	R	
Lupinus argenteus	Silvery lupine	R	
Marrubium vulgare	Horehound		U
Penstemon bridgesii	Bridges beard tongue		U
Senecio sp.	Groundsel		U
Verbascum thapsus	Flannel mullein		U
Verbena sp.	Verbena		U
Thalictrum fendleri	Meadowrue	R	U
HALF-SHRUBS, SHRUBS, AND TREES:			
Acer grandidentatum	Big tooth maple	R	
Acer negundo	Boxelder	R	
Agave parryi	Mescal		U
Alnus oblongifolia	Arizona alder	R	
Arctostaphylos pungens	Pointleaf manzanita		U
Baccharis sp.	Baccharis	R	
Brickellia californica	California brickellia	R	U
Carpochaete bigelovii	Carpochaete		U
Ceanothus fendleri	Buckbrush ceanothus	R	U

Celtis reticulata	Netleaf hackberry	R	
Cercocarpus montanus	Mountain mahogany		U
Dasylirion leiophyllum	Sotol		U
Fallugia paradoxa	Apache-plume		U
Fendlera rupicola	Cliff Fendlerbush	R	U
Fraxinus velutina	Velvetskirt ash	R	
Garrya wrightii	Wright silktassel	R	U
Gutierrezia sarothrae	Broom snakeweed		U
Haplopappus laricifolius	Turpentine bush		U
Juglans major	Arizona walnut	R	
Juniperus deppeana	Alligator bark juniper	R	U
Juniperus monosperma	One-seed juniper	R	U
Mimosa sp.	Mimosa		U
Nolina microcarpa	Beargrass		U
Opuntia engelmannii	Engelmann pricklypear		U
Opuntia spinosior	Cane cholla		U
Pinus edulis	Pinyon		U
Pinus leiophylla var. chihuahuana	Chihuahua pine	R	U
Pinus ponderosa	Ponderosa pine		U
Platanus wrightii	Arizona sycamore	R	
Populus angustifolia	Narrowleaf cottonwood	R	
Populus fremontii	Fremont cottonwood	R	
Prosopis juliflora	Common mesquite		U
Prunus serotina	Black cherry	R	
Pseudotsuga menziesii	Douglas-fir	R	U
Ptelea angustifolia	Narrowleaf hoptree		U
Quercus arizonica	Arizona white oak	R	
Quercus emoryi	Emory oak		U
Quercus grisea	Gray oak		U
Quercus hypoleucoides	Silverleaf oak	R	U
Quercus turbinella	Shrub live oak		U
Rhus glabra	Smooth sumac	R	
Rhus radicans	Poison ivy	R	
Rhus trilobata	Squawberry		U
Robinia neomexicana	New Mexico locust	R	
Rubus strigosus	Red raspberry	R	
Symphoricarpos rotundifolius	Roundleaf snowberry		U
Vitis arizonica	Canyon grape	R	
Yucca baccata	Datil yucca	R	U

[1]Observed by Bill Dunmire (The Nature Conservancy) on November 6, 1986
[2]Common names used according to USDA, Forest Service 1974, or Martin & Hutchins 1981.
[3]R = riparian; U = upland

Fauna

The round-tailed chub (Gila robusta) occurs in Turkey Creek. No other rare, endangered, or sensitive animal species are known to inhabit this area. Ungulates include mule deer and occasionally bighorn sheep. Turkey Creek flow year round through the RNA and supports a variety of riparian animal species.

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

1. Douglas-fir - white fir series; Pseudotsuga menziesii association

2. Pine series; Pinus ponderosa association

3. Riparian deciduous biome; mixed broadleaf series; Platanus wrightii association

4. Pinyon - juniper series

These habitat types currently in the data base most closely corresponds to that occurring in the proposed RNA.

POTENTIAL ANIMAL LIST FOR TURKEY CREEK RNA

BIRDS

*	BLUEBIRD, MOUNTAIN	SIALIA CURRUCOIDES
*	BLUEBIRD, WESTERN	SIALIA MEXICANA
*	BUSHTIT	PSALTRIPARUS MINIMUS
*	CHICKADEE, MOUNTAIN	PARUS GAMBELI
*	CHUKAR	ALECTORIS CHUKAR
*	COWBIRD, BRONZED	MOLOTHRUS AENEUS
*	CREEPER, BROWN	CERTHIA AMERICANA
*	CROSSBILL, RED	LOXIA CURVIROSTRA
*	FALCON, PRAIRIE	FALCO MEXICANUS
*	FINCH, HOUSE	CARPODACUS MEXICANUS
*	FLICKER, NORTHERN	COLAPTES AURATUS
*	FLYCATCHER, ASH-THROATED	MYIARCHUS CINERASCENS
*	FLYCATCHER, BROWN-CRESTED	MYIARCHUS TYRANNULUS
*	FLYCATCHER, BUFF-BREASTED	EMPIDONAX FULVIFRONS
*	FLYCATCHER, GRAY	EMPIDONAX WRIGHTII
*	FLYCATCHER, VERMILION	PYROCEPHALUS RUBINUS
*	FLYCATCHER, WESTERN	EMPIDONAX DIFFICILIS
*	GNATCATCHER, BLUE-GRAY	POLIOPTILA CAERULEA
*	GOLDFINCH, LESSER	CARDUELIS PSALTRIA
*	GROSBEAK, BLACK-HEADED	PHEUCTICUS MELANOCEPHALUS
*	HAWK, FERRUGINOUS	BUTEO REGALIS
*	HAWK, RED-TAILED	BUTEO JAMAICENSIS
*	HAWK, SHARP-SHINNED	ACCIPITER STRIATUS
*	HUMMINGBIRD, BLACK-CHINNED	ARCHILOCHUS ALEXANDRI
*	HUMMINGBIRD, BROAD-TAILED	SELASPHORUS PLATYCERCUS
*	HUMMINGBIRD, MAGNIFICENT	EUGENES FULGENS
*	JAY, PINYON	GYMNORHINUS CYANOCEPHALUS
*	JAY, STELLER'S	CYANOCITTA STELLERI
*	JUNCO, DARK-EYED	JUNCO HYEMALIS
*	KINGBIRD, CASSIN'S	TYRANNUS VOCIFERANS
*	MAGPIE, BLACK-BILLED	PICA PICA
*	NIGHTHAWK, COMMON	CHORDEILES MINOR
*	NUTCRACKER, CLARK'S	NUCIFRAGA COLUMBIANA
*	NUTHATCH, PYGMY	SITTA PYGMAEA
*	NUTHATCH, RED-BREASTED	SITTA CANADENSIS
*	NUTHATCH, WHITE-BREASTED	SITTA CAROLINENSIS
*	ORIOLE, SCOTT'S	ICTERUS PARISORUM
*	OWL, FLAMMULATED	OTUS FLAMMEOLUS
*	OWL, GREAT HORNED	BUBO VIRGINIANUS
*	OWL, LONG-EARED	ASIO OTUS
*	OWL, NORTHERN SAW-WHET	AEGOLIUS ACADICUS
*	OWL, SPOTTED	STRIX OCCIDENTALIS
*	PEWEE, GREATER	CONTOPUS PERTINAX
*	PHOEBE, BLACK	SAYORNIS NIGRICANS
*	PIGEON, BAND-TAILED	COLUMBA FASCIATA
*	POORWILL, COMMON	PHALAENOPTILUS NUTTALLII
*	PYGMY-OWL, NORTHERN	GLAUCIDIUM GNOMA
*	QUAIL, SCALED	CALLIPEPLA SQUAMATA
*	RAVEN, COMMON	CORVUS CORAX

*	ROADRUNNER, GREATER	GEOCOCCYX CALIFORNIANUS
*	ROBIN, AMERICAN	TURDUS MIGRATORIUS
*	SANDPIPER, SPOTTED	ACTITIS MACULARIA
*	SAPSUCKER, YELLOW-BELLIED	SPHYRAPICUS VARIUS
*	SHRIKE, LOGGERHEAD	LANIUS LUDOVICIANUS
*	SHRIKE, NORTHERN	LANIUS EXCUBITOR
*	SISKIN, PINE	CARDUELIS PINUS
*	SOLITAIRE, TOWNSEND'S	MYADESTES TOWNSENDI
*	SPARROW, BLACK-CHINNED	SPIZELLA ATROGULARIS
*	SPARROW, BLACK-THROATED	AMPHISPIZA BILINEATA
*	SPARROW, BREWER'S	SPIZELLA BREWERI
*	SPARROW, CHIPPING	SPIZELLA PASSERINA
*	SPARROW, LARK	CHONDESTES GRAMMACUS
*	STARLING, EUROPEAN	STURNUS VULGARIS
*	SWALLOW, VIOLET-GREEN	TACHYCINETA THALASSINA
*	SWIFT, WHITE-THROATED	AERONAUTES SAXATALIS
*	TANAGER, WESTERN	PIRANGA LUDOVICIANA
*	THRASHER, BENDIRE'S	TOXOSTOMA BENDIREI
*	THRUSH, HERMIT	CATHARUS GUTTATUS
*	TITMOUSE, PLAIN	PARUS INORNATUS
*	TOWHEE, BROWN	PIPILO FUSCUS
*	TURKEY, WILD	MELEAGRIS GALLOPAVO
*	VIREO, GRAY	VIREO VICINIOR
*	VIREO, SOLITARY	VIREO SOLITARIUS
*	VIREO, WARBLING	VIREO GILVUS
*	VULTURE, TURKEY	CATHARTES AURA
*	WARBLER, BLACK-THROATED GRAY	DENDROICA NIGRESCENS
*	WARBLER, GRACE'S	DENDROICA GRACIAE
*	WARBLER, LUCY'S	VERMIVORA LUCIAE
*	WARBLER, OLIVE	PEUCEDRAMUS TAENIATUS
*	WARBLER, RED-FACED	CARDELLINA RUBRIFRONS
*	WAXWING, CEDAR	BOMBYCILLA CEDRORUM
*	WHIP-POOR-WILL	CAPRIMULGUS VOCIFERUS
*	WOODPECKER, LEWIS'	MELANERPES LEWIS
*	WOODPECKER, THREE-TOED	PICOIDES TRIDACTYLUS
*	WOOD-PEWEE, WESTERN	CONTOPUS SORDIDULUS
*	WREN, BEWICK'S	THRYOMANES BEWICKII
*	WREN, CANYON	CATHERPES MEXICANUS
*	WREN, HOUSE	TROGLODYTES AEDON
*	WREN, ROCK	SALPINCTES OBSOLETUS

MAMMALS

*	BADGER	TAXIDEA TAXUS
*	BAT, ALLEN'S BIG-EARED	IDIONYCTERIS PHYLLOTIS
*	BAT, BIG BROWN	EPTESICUS FUSCUS
*	BAT, BRAZILIAN FREE-TAILED	TADARIDA BRASILIENSIS
*	BAT, HOARY	LASIURUS CINEREUS
*	BAT, PALLID	ANTROZOUS PALLIDUS
*	BAT, TOWNSEND'S BIG-EARED	PLECOTUS TOWNSENDII
*	BEAR, BLACK	URSUS AMERICANUS
*	CHIPMUNK, CLIFF	TAMIAS DORSALIS
*	CHIPMUNK, GRAY-COLLARED	TAMIAS CINEREICOLLIS
*	COTTONTAIL, EASTERN	SYLVILAGUS FLORIDANUS

*	COYOTE	CANIS LATRANS
*	DEER, MULE	ODOCOILEUS HEMIONUS
*	DEER, WHITE-TAILED	ODOCOILEUS VIRGINIANUS
*	ELK	CERVUS ELAPHUS
*	FOX, KIT	VULPES MACROTIS
*	GOPHER, BOTTA'S POCKET	THOMOMYS BOTTAE
*	LION, MOUNTAIN	FELIS CONCOLOR
*	MOUSE, BRUSH	PEROMYSCUS BOYLII
*	MOUSE, CACTUS	PEROMYSCUS EREMICUS
*	MOUSE, DEER	PEROMYSCUS MANICULATUS
*	MOUSE, NORTHERN GRASSHOPPER	ONYCHOMYS LEUCOGASTER
*	MOUSE, PINYON	PEROMYSCUS TRUEI
*	MOUSE, WESTERN HARVEST	REITHRODONTOMYS MEGALOTIS
*	MOUSE, WHITE-FOOTED	PEROMYSCUS LEUCOPUS
*	MYOTIS, CALIFORNIA	MYOTIS CALIFORNICUS
*	MYOTIS, FRINGED	MYOTIS THYSANODES
*	MYOTIS, LITTLE BROWN	MYOTIS LUCIFUGUS
*	MYOTIS, LONG-EARED	MYOTIS EVOTIS
*	MYOTIS, LONG-LEGGED	MYOTIS VOLANS
*	MYOTIS, SMALL-FOOTED	MYOTIS LEIBII
*	MYOTIS, SOUTHWESTERN	MYOTIS AURICULUS
*	MYOTIS, YUMA	MYOTIS YUMANENSIS
*	PECCARY, COLLARED	TAYASSU TAJACU
*	PIPISTRELLE, WESTERN	PIPISTRELLUS HESPERUS
*	PORCUPINE	ERETHIZON DORSATUM
*	RACCOON	PROCYON LOTOR
*	RAT, BANNER-TAILED KANGAROO	DIPODOMYS SPECTABILIS
*	RAT, HISPID COTTON	SIGMODON HISPIDUS
*	RAT, ORD'S KANGAROO	DIPODOMYS ORDII
*	RINGTAIL	BASSARISCUS ASTUTUS
*	SHEEP, MOUNTAIN	OVIS CANADENSIS
*	SHREW, VAGRANT	SOREX VAGRANS
*	SKUNK, HOG-NOSED	CONEPATUS MESOLEUCUS
*	SKUNK, STRIPED	MEPHITIS MEPHITIS
*	SKUNK, WESTERN SPOTTED	SPILOGALE GRACILIS
*	SQUIRREL, ABERT'S	SCIURUS ABERTI
*	SQUIRREL, ARIZONA GRAY	SCIURUS ARIZONENSIS
*	SQUIRREL, GOLDEN-MANTLED GROUND	SPERMOPHILUS LATERALIS
*	SQUIRREL, HARRIS' ANTELOPE	AMMOSPERMOPHILUS HARRISII
*	SQUIRREL, RED	TAMIASCIURUS HUDSONICUS
*	SQUIRREL, ROCK	SPERMOPHILUS VARIEGATUS
*	VOLE, LONG-TAILED	MICROTUS LONGICAUDUS
*	VOLE, MEXICAN	MICROTUS MEXICANUS
*	WOODRAT, MEXICAN	NEOTOMA MEXICANA
*	WOODRAT, WHITE-THROATED	NEOTOMA ALBIGULA

REPTILES

*	KINGSNAKE, SONORAN MOUNTAIN	LAMPROPELTIS PYROMELANA
*	LIZARD, SIDE-BLOTCHED	UTA STANSBURIANA
*	LIZARD, COLLARED	CROTAPHYTUS COLLARIS
*	LIZARD, TREE	UROSAURUS ORNATUS
*	RATTLESNAKE, WESTERN DIAMONDBACK	CROTALUS ATROX
*	SNAKE, BLACKNECK GARTER	THAMNOPHIS CYRTOPSIS
*	SNAKE, NARROWHEAD GARTER	THAMNOPHIS RUFIPUNCTATA
*	WHIPTAIL, DESERT GRASSLAND	CNEMIDOPHORUS UNIPARENS
*	WHIPTAIL, LITTLE STRIPED	CNEMIDOPHORUS INORNATUS
*	WHIPTAIL, WESTERN	CNEMIDOPHORUS TIGRIS

Geology

Turkey Creek is situated on a deep and complex series of volcanics, all undivided Datil formations (Ratté and Gaskill 1975). In the Creek bottom are latite breccias and flows of banded latite, with andesite intrusions. Above this formation are welded and crystal rhyolite tuffs, ash-flows, and breccias.

Soils

Turkey Creek RNA is located within a widespread soil association of southwestern New Mexico, the Rockland-Luzena-Santana association (NMSU 1971). In this association, rock outcrops make up 35 per cent of the terrain; relatively narrow valley floors and upland summits are commonly separated by steep canyon walls, escarpments, and steep side slopes. The soils, forming in materials from a wide variety of rocks including conglomerates and mixed igneous rocks, are generally shallow to moderately deep.

The more stable sites in the valley plain are occupied by Typic ustifluvents, coarse-loamy, mixed, nonacid, mesic. The lower lying areas (characterized by reproducing riparian vegetation) are occupied by Aquic Ustifluvents, sandy-skeletal, mixed, nonacid, mesic.

Lands

All lands within the proposed RNA were included within the original Gila Forest created on 3/2/1899, and designated as a National Wilderness area on 4/4/1938. There are no known outstanding rights or rights-of-way within the proposed boundaries.

Cultural

Non-project related reconnaissance surveys along Turkey Creek and the Gila River in the vicinity of this proposed RNA have recorded quite a few sites, most of which occur along the Gila River. The proposed RNA is characterized by steep rocky slopes, except in the bottom of Turkey Creek. The six closest recorded sites all lie south of the proposed RNA boundary: two are small rockshelters, three are small prehistoric habitation sites with surface masonry structures, and the sixth is a prehistoric lithic/sherd scatter. In comparison with known site densities at the mouth of Turkey Creek and along the Gila River, site density in the Turkey Creek RNA is expected to be low. Upon establishment as an RNA, the area will be withdrawn from any archeological research that would in any way modify the existing locale.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources

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

Grazing

Most of the proposed RNA is located within the Gila Wilderness. Two allotments, Brock Canyon and Watson Mountain, are adjacent, but do not include any of the RNA. Riparian bottom land in the RNA receives occasional use, however, when high water washes out the barrier at the south end. With properly maintained barriers, there should be no conflicts since this area is intended to be closed to grazing. In addition, the land is not desirable for grazing, as the topography is very rough with narrow canyon bottoms and steep side slopes and rock outcrops.

Timber

Vegetation in this area consists of sycamore, cottonwood, alder, ash, box elder, chokecherry, and walnut. Some Chihuahuan pine and white fir are present in the canyon bottom. The timber is scattered and not suitable for commercial purposes. The fact that the RNA is located within the Gila Wilderness excludes all timber and fuelwood harvesting.

Total forest: 1200 acres (485.6 hectares)

Total commercial forest: 0

Watershed Values

The Turkey Creek RNA is contained within the Upper Gila River watershed. The watershed contains the confluence of Skeleton Canyon with Turkey Creek. The landscape is dissected, and drains both west and east into Turkey Creek, which then drains into the Gila River approximately 1 mile (1.6 km) downstream.

Recreation Values

The hot springs on Turkey Creek above the RNA attract some dispersed recreation use. A trail passes through the RNA along Turkey Creek. Most recreation use of Turkey Creek RNA is concentrated in the bottom land due to the very rough topography. The area does not receive heavy hunting pressure. Turkey Creek, however, serves as trout and bass fisheries, and is used for fishing. Wilderness designation restricts off-road vehicle access to the area. There should be no conflicts between the various low-level recreational uses and potential research.

Wildlife and Plant Values

Turkey Creek RNA includes a portion of the habitat of an endangered fish species, the Gila Robusta (round-tailed chub). This chub is on the New Mexico state endangered species list, and on the notice of review for Federal listing. Intensive surveys have not been conducted for other threatened, endangered, or unique species.

The area is located within trout and bass fisheries. Game species present in the area include wild turkey, deer, javelina, and an occasional bighorn sheep.

Wilderness, Wild and Scenic River, National Recreation Area Values

The proposed RNA is located primarily within classified wilderness. The Gila River has been identified as potential wild and scenic river, from the forks of the main Gila River and the East Fork to the confluence

of Turkey Creek, and from Turkey Creek to the Forest boundary. There is no proposal to designate any of the RNA as a National Recreation Area.

Transportation Plans

This RNA is accessed from Forest Road 155. From the Gila River to the confluence of Turkey Creek, vehicular travel is limited to four-wheel drive vehicles. One trail runs up the canyon bottom; there are no roads in the RNA. There are no transportation plans that would adversely affect the RNA.

Utility Corridor Plans

There are no existing or potential utility corridor plans in the vicinity of this RNA.

MANAGEMENT PLAN

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

1. Vegetation Management

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

ADMINISTRATIVE RECORDS AND PROTECTION

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

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

Records for the Turkey Creek RNA will be maintained in the following offices:

Regional Forester, Southwestern Region, Albuquerque, NM
Rocky Mountain Station, Fort Collins, CO

Gila National Forest, Silver City, NM
District Ranger, Wilderness Ranger District, Silver City, NM

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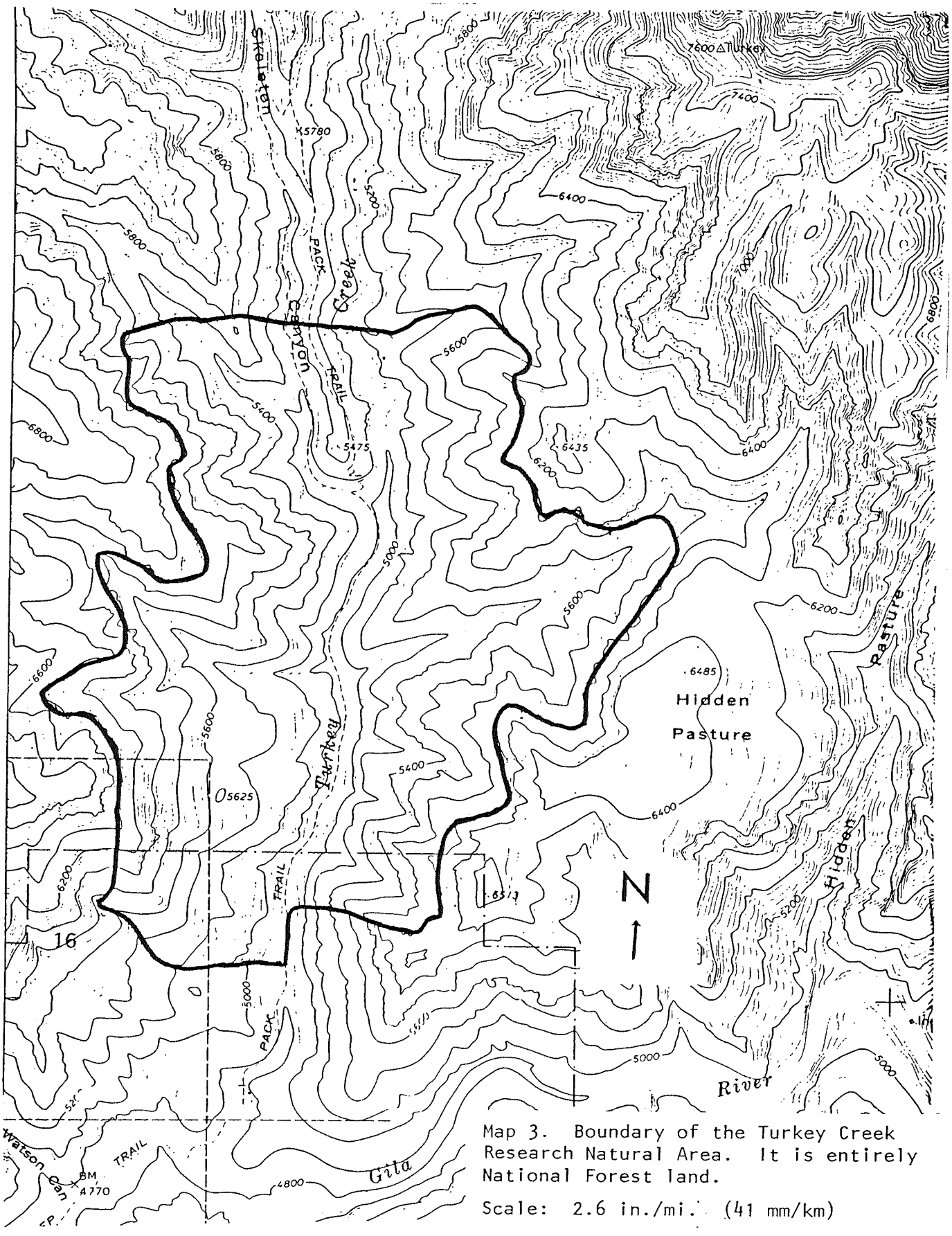
DESIGNATION ORDER

By virtue of the authority vested in me by the Secretary of Agriculture under regulations 7 CFR 2.60(a) and 36 CFR 251.23, I hereby designate as the Turkey Creek Research Natural Area the lands described in the following establishment record prepared by William W. Dunmire and Mollie S. Toll, dated April 30, 1987. These lands shall hereafter be administered as a research natural area subject to the above regulations and instructions issued thereunder.

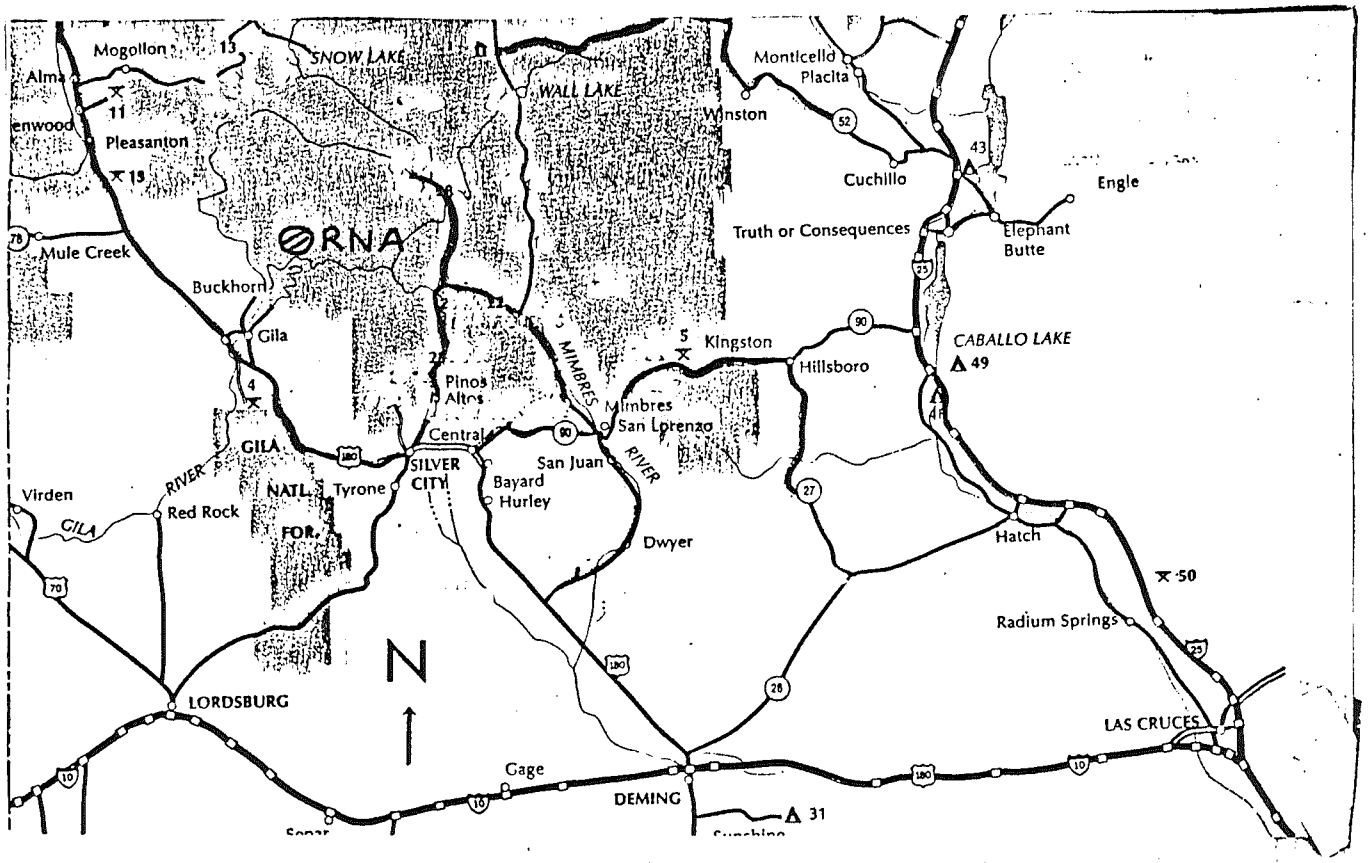
_____ _____

Chief Date

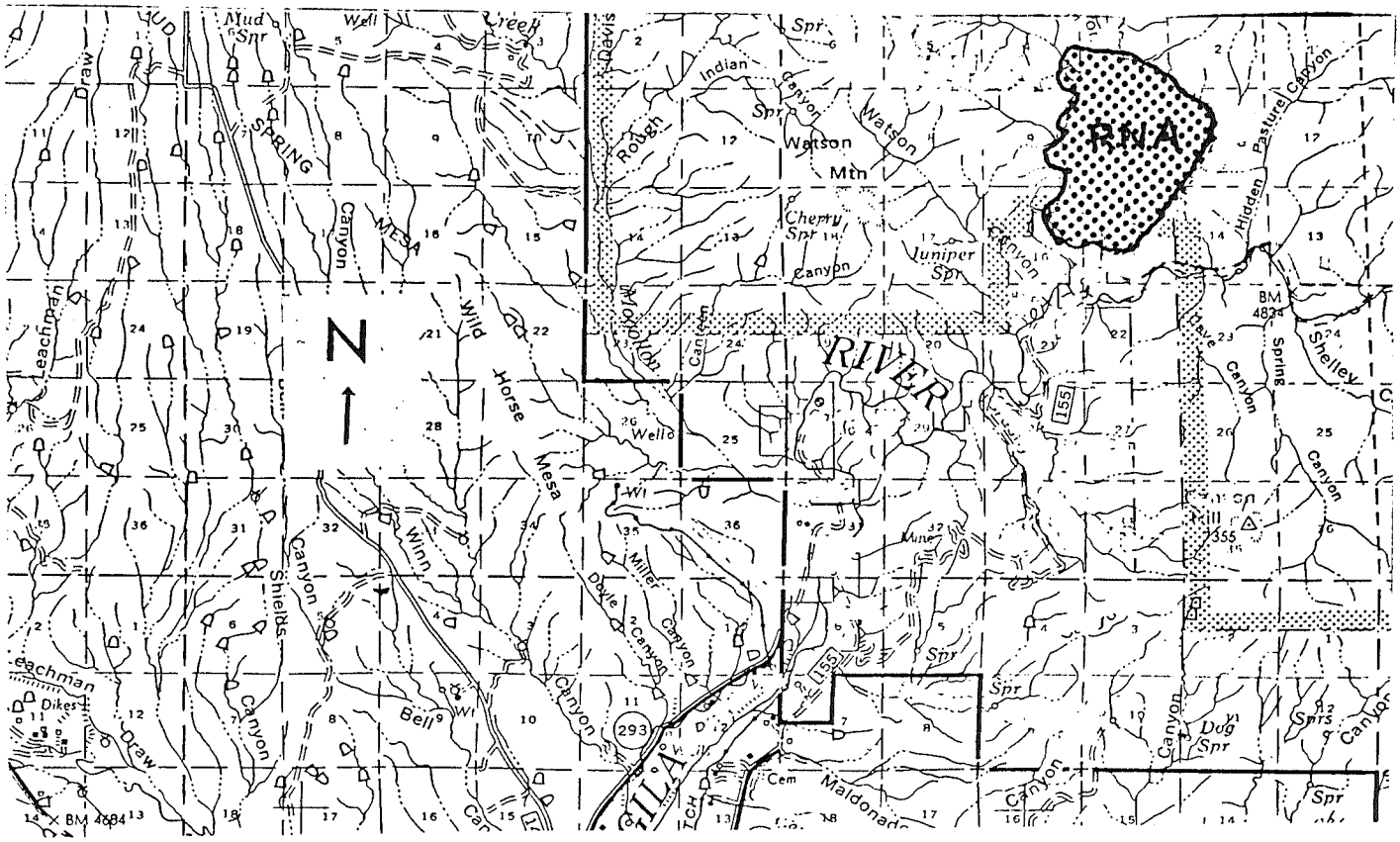


Map 3. Boundary of the Turkey Creek Research Natural Area. It is entirely National Forest land.

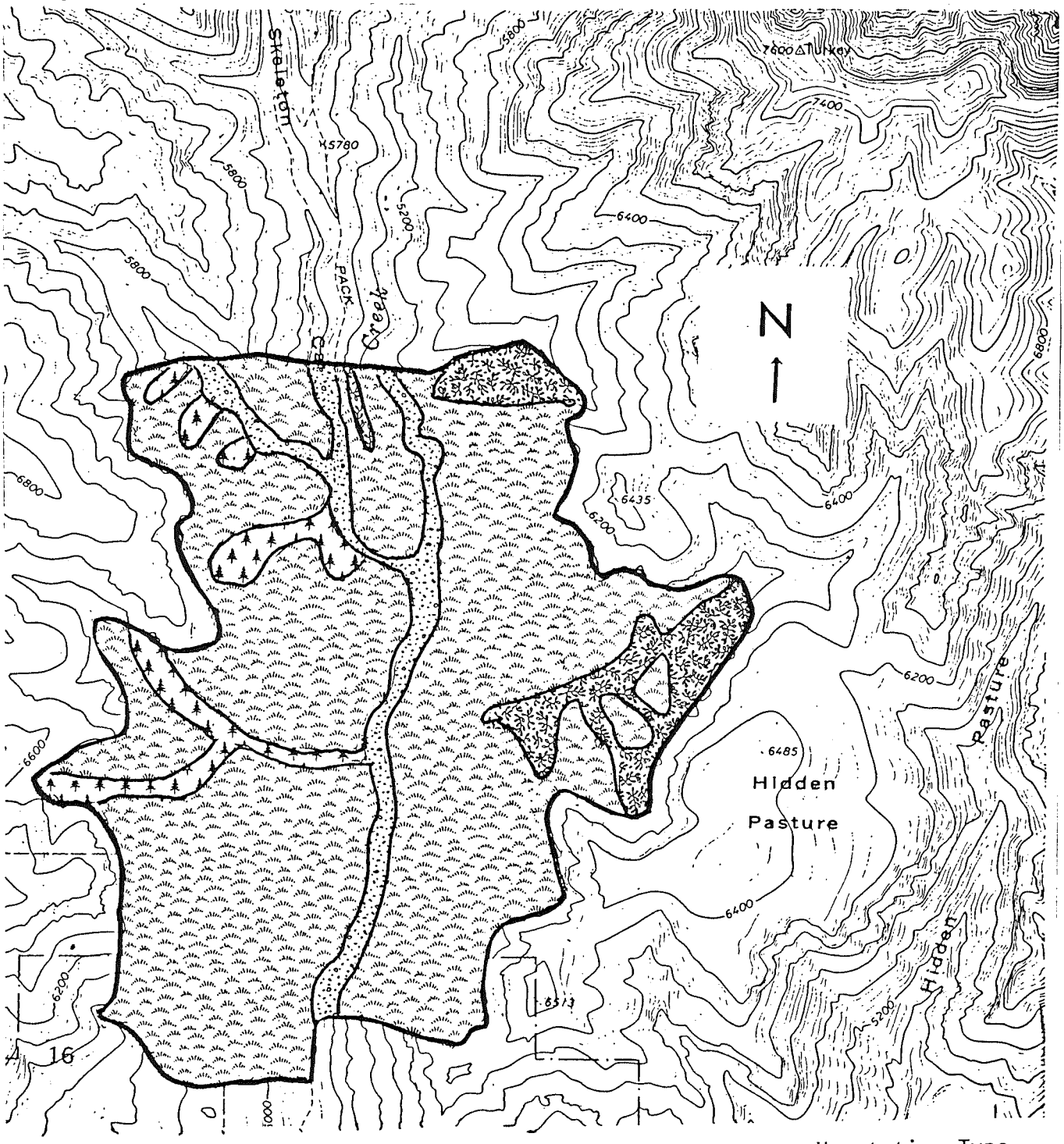
Scale: 2.6 in./mi. (41 mm/km)



Map 1. Location of RNA (Southwest New Mexico)



Map 2. Access Route to Turkey Creek RNA



Map Symbol	Vegetation Type
	Interior Douglas fir SAF 210, K-18
	Cottonwood-willow SAF 235
	Interior Ponderosa Pine SAF 237, K-18
	Pinyon-Juniper SAF 239, K-23

Map 4. Distribution of vegetation types in the Turkey Creek Research Natural Area.

United States Department of Agriculture | Forest Service | Gila National Forest | 2610 N. Silver Street Silver City, NM 88061

Reply To: 4060

Date: October 19, 1993

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

To: Regional Forester

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

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

MAYNARD T. ROST
Forest Supervisor

Enclosure

cc:
S.Libby
R.Fletcher, RO

Range and Ecology
OCT 2 2 1993

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

Environmental Assessment

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

Proposed Action

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

Purpose and Need for Action

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

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

Alternative A, Proposed Action

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

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

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

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

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

Alternative B, No Action

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

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

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

Agencies and Persons Consulted

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

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

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

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

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

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

Decision Notice
Finding of No Significant Impact and
Designation Order

Rabbit Trap, Turkey Creek and Largo Mesa Research Natural Areas

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

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

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

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

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

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

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

It has been determined through the environmental assessment that the proposed action is not a major Federal action that would significantly affect the quality of the human environment; therefore, an environmental impact statement is not needed. This determination is based on the following factors
(40 CFR 1508.27):

A. Context.

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

B. Intensity.

1. There are no known effects on public health and safety.

2. There are no known effects on historic or cultural resources, actual or eligible National Register of Historic places sites, park lands, prime farmlands, wetlands, wild and scenic rivers. Effects on ecologically critical areas are minimal.

3. Effects on the human environment are not uncertain, do not involve unique or unknown risks, and are not likely to be highly controversial.

4. The action is not likely to establish a precedent for future actions with significant effects.

5. There are no known cumulative effects.

6. The proposed action would not adversely affect an endangered or threatened species or its critical habitat.

7. The proposed action in consistent with Federal, State, and local laws and requirements for the protection of the environment.

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

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

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

_____ _____

Chief Date

ESTABLISHMENT RECORD

for

TURKEY CREEK RESEARCH NATURAL AREA

within

Gila National Forest

Grant County, New Mexico

INTRODUCTION

The Turkey Creek Research Natural Area (RNA) comprises approximately 1,335 acres (540 hectares) just within the southern border of the Gila Wilderness, in southwestern New Mexico. The proposed RNA is located in the Gila National Forest, in Grant County, and is all acquired National Forest land.

Mixed broadleaf riparian forest has been noted as an important ecosystem for protection within the RNA program (USFS Regional Guide, 1983: Table 3-1). Turkey Creek was originally selected as an ideal solution to the search for representation of this forest type in 1969, and an establishment report was produced, dated July 15 of that year. It is now being resubmitted.

LAND MANAGEMENT PLANNING

The need for representation of this biotic community was identified in the Southwestern Regional Guide (August 1983). The Gila National Forest Plan (USFS 1986: 5-6,49) prescribes that approximately 1,335 acres (540.3 hectares) of the Turkey Creek drainage in Management Area 8B has been designated for establishment as a Research Natural Area. The environmental analysis conducted as part of the planning process supports the recommendation to establish this Research Natural Area.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

Turkey Creek Research Natural Area was identified primarily as an outstanding example of a mixed broadleaf riparian forest. This is an important forest ecosystem in the Southwest. Riparian forests in relatively undisturbed condition are of major interest to research. Intense public demands for a wide variety of other resource uses in riparian environments, make such areas for research difficult to find. However, this area receives relatively little recreation or wilderness use. Therefore, designation as a scientific facility presents minimum conflict with other uses.

The riparian vegetation in the canyon and rock formations on either side provide habitats for many of the birds of the upper portions of the Gila River watershed, which supports one of the richest avifaunas in New Mexico.

PRINCIPAL DISTINGUISHING FEATURES

The riparian forest is the principal distinguishing feature. Both Turkey Creek and Skeleton Canyon provide permanent streams through the RNA. Based on this water supply, the biotic community contains many species which are not commonly found together over much of the Southwest. In this community are sycamore (Platanus wrightii), cottonwood (Populus angustifolia, and P. fremontii), hackberry (Celtis reticulata), silverleaf oak (Quercus hypoleucoides), Chihuahua pine (Pinus leiophylla var. chihuahuana), fendlerbush (Fendlera rupicola), and deergrass (Muhlenbergia rigens). The geological setting is also noteworthy for its canyon wall and cliff formations that afford habitat for particularly diverse bird populations.

LOCATION

Turkey Creek is located about 12 miles (19.3 km) northeast of the small towns of Cliff and Gila, in Grant County, New Mexico (Map 1). The RNA can be found on the Canyon Hill quadrangle (USGS 7.5' map), Township 14S, Range 16W, Sections 3, 4, 9, 10, 11, 15, and 16, latitude 33° 6' N, longitude 108° 29' W. This RNA lies at the edge of the Gila Wilderness and access is difficult. The Gila River must be waded at least one time to reach it, and the access road is not always passable.

If travelling from Silver City, take U.S. Highway 180 west and north 25 miles (40.2 km; Maps 2 and 3). Turn right on N.M. Highway 211. Travel through the town of Gila (the road here becomes N.M. Highway 293). At 7.7 miles (12.4 km) from U.S. Highway 180, the pavement ends and Forest Road 155 begins. This road climbs up steeply to avoid the Gila River Middle Box and descends back to the river above the box. It is 17.5 miles (28.2 km) from the turn-off at U.S. Highway 180 to the end of this road.

If travelling from the north on U.S. Highway 180, as entering Cliff turn left onto New Mexico State Highway 211 and travel 2.3 miles (3.7 km) to Gila. On this route, the trailhead at the end of Forest Road 155 is 15.8 miles (25.4 km) from the turn-off from U.S. Highway 180.

The area is not easily accessible. From the end of the forest road, a well-used pack trail crosses the Gila River and proceeds upriver, crossing the river two more times before turning up into the Turkey Creek drainage. It is about 1.5 miles (2.4 km) from the trailhead to the south boundary of the RNA. This trail continues up Turkey Creek through the RNA, leaving the canyon bottom at the junction of Skeleton Canyon and Turkey Creek Canyon, and ascends a ridge between the two canyons. The trail passes out of the RNA at the north end on this ridge at approximately 2 miles (3.2 km) from its point of entry at the lower end. Except for this trail, travel within the RNA involves extremely steep and rugged terrain.

The boundary description of the Turkey Creek RNA is as follows:

Starting at the intersection of the Turkey Creek Trail and the section line between sections 15 & 22 T.14S., R.16 W.,NMPM, as designated on the Canyon Hill, New Mexico 7.5 minute USGS quadrangle;

THENCE, N 20 deg. E more or less following said trail a distance of 2,625 ft. to a point with a lat. 33 deg. 05' 06" N and a long. 108 deg. 29' 13" W, the point of beginning.

THENCE, N 86 deg. 21' E., 1,529.0 ft. to a point at lat. 33 deg. 05' 15" N., long. 108 deg. 29' 11" W.

THENCE, S 51 deg. 03' E., 800.7 ft. to a point at lat. 33 deg. 05' 13" N., long. 108 deg. 29' 02" W.

THENCE, S 51 deg. 18' E., 653.1 ft. to a point at lat. 33 deg. 05' 08" N., long. 108 deg. 28' 51" W.

THENCE, S 44 deg. 07' W., 286.9 ft. to a point at lat. 33 deg. 05' 12" N., long. 108 deg. 28' 46" W.

THENCE, S 13 deg. 16' E., 561.6 ft. to a point at lat. 33 deg. 05' 22" N., long. 108 deg. 28' 46" W.

THENCE, S 11 deg. 33' W., 877.3 ft. to a point at lat. 33 deg. 05' 25" N., long. 108 deg. 28' 45" W.

THENCE, S 01 deg. 31' E., 615.8 ft. to a point at lat. 33 deg. 05' 28" N., long. 108 deg. 28' 35" W.

THENCE, S 36 deg. 16' E., 603.8 ft. to a point at lat. 33 deg. 05' 38" N., long. 108 deg. 28' 35" W.

THENCE, S 65 deg. 08' E., 760.9 ft. to a point at lat. 33 deg. 05' 42" N., long. 108 deg. 28' 35" W.

THENCE, S 48 deg. 28' W., 551.7 ft. to a point at lat. 33 deg. 05' 38" N., long. 108 deg. 28' 26" W.

THENCE, S 77 deg. 47' W., 579.7 ft. to a point at lat. 33 deg. 05' 40" N., long. 108 deg. 28' 22" W.

THENCE, S 27 deg. 47' W., 445.0 ft. to a point at lat. 33 deg. 05' 43" N., long. 108 deg. 28' 22" W.

THENCE, S 17 deg. 56' E., 1,192.2 ft. to a point at lat. 33 deg. 06' 05" N., long. 108 deg. 28' 07" W.

THENCE, N 87 deg. 40' W., 699.6 ft. to a point at lat. 33 deg. 06' 10" N., long. 108 deg. 29' 10" W.

THENCE, S 70 deg. 04' W., 411.6 ft. to a point at lat. 33 deg. 06' 08" N., long. 108 deg. 28' 17" W.

THENCE, S 21 deg. 01' E., 1,093.4 ft. to a point at lat. 33 deg. 06' 08" N., long. 108 deg. 28' 24" W.

THENCE, S 17 deg. 35' W., 470.2 ft. to a point at lat. 33 deg. 06' 10" N., long. 108 deg. 28' 30" W.

THENCE, S 39 deg. 11' E., 750.6 ft. to a point at lat. 33 deg. 06' 16" N., long. 108 deg. 28' 32" W.

THENCE, S 04 deg. 12' E., 679.6 ft. to a point at lat. 33 deg. 06' 18" N., long. 108 deg. 28' 36" W.

THENCE, S 05 deg. 48' W., 391.3 ft. to a point at lat. 33 deg. 06' 24" N., long. 108 deg. 28' 33" W.

THENCE, N 82 deg. 40' W., 1,476.4 ft. to a point at lat. 33 deg. 06' 29" N., long. 108 deg. 28' 34" W.

THENCE, N 84 deg. 52' W., 972.1 ft. to a point at lat. 33 deg. 06' 32" N., long. 108 deg. 28' 31" W.

THENCE, N 82 deg. 19' W., 1,202.1 ft. to a point at lat. 33 deg. 06' 40" N., long. 108 deg. 28' 40" W.

THENCE, S 72 deg. 19' W., 658.3 ft. to a point at lat. 33 deg. 06' 37" N., long. 108 deg. 28' 50" W.

THENCE, S 71 deg. 56' W., 921.2 ft. to a point at lat. 33 deg. 06' 35" N., long. 108 deg. 28' 58" W.

THENCE, N 40 deg. 45' W., 1,111.4 ft. to a point at lat. 33 deg. 06' 37" N., long. 108 deg. 29' 12" W.

THENCE, N 34 deg. 48' E., 379.6 ft. to a point at lat. 33 deg. 06' 38" N., long. 108 deg. 29' 23" W.

THENCE, N 09 deg. 56' W., 473.4 ft. to a point at lat. 33 deg. 06' 36" N., long. 108 deg. 29' 40" W.

THENCE, N 24 deg. 08' E., 728.3 ft. to a point at lat. 33 deg. 06' 32" N., long. 108 deg. 29' 41" W.

THENCE, N 61 deg. 47' W., 395.1 ft. to a point at lat. 33 deg. 06' 25" N., long. 108 deg. 29' 40" W.

THENCE, N 20 deg. 14' W., 636.7 ft. to a point at lat. 33 deg. 06' 19" N., long. 108 deg. 29' 34" W.

THENCE, N 70 deg. 28' W., 515.5 ft. to a point at lat. 33 deg. 06' 15" N., long. 108 deg. 29' 36" W.

THENCE, N 86 deg. 05' W., 610.3 ft. to a point at lat. 33 deg. 06' 05" N., long. 108 deg. 29' 31" W.

THENCE, S 68 deg. 50' W., 599.8 ft. to a point at lat. 33 deg. 06' 03" N., long. 108 deg. 29' 36" W.

THENCE, N 24 deg. 44' W., 589.8 ft. to a point at lat. 33 deg. 06' 04" N., long. 108 deg. 29' 44" W.

THENCE, N 30 deg. 59' E., 2,486.6 ft. to a point at lat. 33 deg. 05' 52" N., long. 108 deg. 29' 40" W.

THENCE, N 04 deg. 58' W., 313.1 ft. to a point at lat. 33 deg. 05' 49" N., long. 108 deg. 29' 42" W.

THENCE, N 57 deg. 50' E., 477.1 ft. to a point at lat. 33 deg. 05' 47" N., long. 108 deg. 29' 49" W.

THENCE, S 60 deg. 55' E., 798.3 ft. to a point at lat. 33 deg. 05' 44" N., long. 108 deg. 29' 54" W.

THENCE, N 30 deg. 18' E., 462.6 ft. to a point at lat. 33 deg. 05' 41" N., long. 108 deg. 29' 45" W.

THENCE, N 11 deg. 33' W., 1,011.3 ft. to a point at lat. 33 deg. 05' 36" N., long. 108 deg. 29' 41" W.

THENCE, N 68 deg. 47' E., 873.2 ft. to a point at lat. 33 deg. 05' 30" N., long. 108 deg. 29' 41" W.

THENCE, N 28 deg. 01' E., 333.3 ft. to a point at lat. 33 deg. 05' 21" N., long. 108 deg. 29' 43" W.

THENCE, N 01 deg. 00' E., 964.9 ft. to a point at lat. 33 deg. 05' 16" N., long. 108 deg. 29' 41" W.

THENCE, N 41 deg. 41' E., 567.7 ft. to a point at lat. 33 deg. 05' 13" N., long. 108 deg. 29' 44" W.

THENCE, S 64 deg. 09' E., 1,069.6 ft. to a point at lat. 33 deg. 05' 10" N., long. 108 deg. 29' 38" W.

THENCE, S 73 deg. 07' E., 801.5 ft. to a point at lat. 33 deg. 05' 05" N., long. 108 deg. 29' 30" W.

THENCE, N 07 deg. 15' E., 921.3 ft. to a point at lat. 33 deg. 05' 06" N., long. 108 deg. 29' 12" W. the point of beginning.

AREA BY COVER TYPES

The distribution of cover types was determined from data contained in the original establishment report prepared in 1969, from field surveys conducted in the summer of 1986, and from interpretation of 1980 aerial photography. Table 1 outlines the estimated total area of vegetation types based on the Society of American Foresters forest type system (Eyre 1980) and the Küchler Potential Natural Vegetation system (Küchler 1964). Map 4 depicts the distribution of SAF types on the candidate research natural area.

Table 1. Estimated Areas of Vegetation Types in the Turkey Creek Research Natural Area.

Type	Society of American Foresters Cover Type[1]	Küchler PNV Type[2]	Surface Area Acres	Hectares
Interior Douglas-fir	SAF 210	K-18 Pine - Douglas-fir	79	31.9
Cottonwood - Willow	SAF 235	[none]	97	39.3
Interior Ponderosa Pine	SAF 237	K-18	115	46.5
Pinyon - Juniper	SAF 239	K-23	1044	422.5
		TOTAL:	1335	540.2

[1] Eyre 1980.
[2] Küchler 1964.

PHYSICAL AND CLIMATIC CONDITIONS

The irregularly-shaped RNA is oriented approximately north-south along the Turkey Creek drainage. About 0.6 mile (1.0 km) from the northern boundary, Skeleton Canyon diverges to the west and then continues north, parallel to Turkey Creek. The eastern boundary more or less follows the 6,000 ft (1828.8 m) contour line, while the western boundary reaches a high of approximately 6,400 ft (1950.7 m). Elevation reaches a low of about 4,900 ft (1493.5 m) in the Turkey Creek bottom at the southern boundary of the RNA. The topography is very rough, with narrow canyon bottoms and steep slopes and rock outcrops on either side.

Climatic data are inferred by climatic analysis and extrapolations from selected Weather Bureau data (Brown 1986, USDA Forest Service 1986c). Turkey Creek is located on the southern border of a higher elevation land mass where considerably greater levels of precipitation, lower temperatures, and shorter frost free seasons are often obtained. The nearest long range weather stations are Pinos Altos and Fort Bayard to the southeast. Average annual rainfall for Turkey Creek is 23 inches (58.4 cm). Two-thirds of this falls within the warm months of May to October. Average annual snowfall is 20 inches (50.8 cm). Year round water flow in Turkey Creek and Skeleton Canyon Creek are critical components to the presence and maintenance of the distinctive plant communities in the RNA. Sharp contrasts between the riparian vegetation of the canyon bottoms and dry upland pinyon-juniper woodland emphasize that the general location of the RNA is actually in a semi-arid zone, where net moisture deficit is the usual condition. Mean annual temperature is 50° F (10.0° C), with a July average of 70° F (21.1° C) and a January average of 32° F (0° C). The frost free period per year lasts an average of 140 days.

DESCRIPTION OF VALUES

Flora

At the time of preparation of this establishment record, no publication adequately described the many habitat types occurring in the Turkey Creek RNA. Some of the non-riparian communities match descriptions contained in the manual Forest and Woodland Habitat Types in Southern New Mexico and Central Arizona (USDA Forest Service 1986b). This is the reference for habitat types cited below.

The proposed RNA has an elevation differential of nearly 1,800 ft (549 m), contains several miles of perennial and semi-perennial streams, and has a full range of slope aspects. Because of its geographical location, it is influenced by three biogeographic provinces: the Great Basin, the Chihuahuan, and the Interior-Arizonan. All of this contributes to remarkable diversities of plant communities, habitat types, and species.

In the narrow canyon bottom floodplains of Turkey Creek and the two branches of Skeleton Creek, all of which contain permanently flowing water, there are riparian communities with nearly closed tree canopies. In the lower half of Turkey Creek within the RNA, Arizona sycamore (Platanus wrightii) is codominant with Arizona alder (Alnus oblongifolia). Silverleaf oak (Quercus hypoleucoides), oneseed juniper (Juniperus monosperma), alligator juniper (J. deppeana), velvet ash (Fraxinus velutina), and black cherry (Prunus serotina) are common components of the riparian forest here. Less common trees include boxelder (Acer negundo), narrowleaf and Fremont cottonwood (Populus angustifolia, P. fremontii), Arizona oak (Quercus arizonica), netleaf hackberry (Celtis reticulata), and Arizona walnut

(Juglans major). Midway up river and in Skeleton Canyon, sycamore and alder remain codominant, but the riparian canopy also begins to include Douglas-fir (Pseudotsuga menziesii), bigtooth maple (Acer grandidentatum), and Chihuahua pine (Pinus leiophylla var. chihuahuana). Oaks and junipers also become more common upstream, while the cottonwoods and netleaf hackberry drop out. This riparian community is moderately shrubby, with Wright silktassel (Garrya wrightii) as the dominant species. Other shrubs include New Mexico locust (Robinia neomexicana), smooth sumac (Rhus glabra), red raspberry (Rubus strigosus), gray oak (Quercus grisea), buckbrush ceanothus (Ceanothus fendleri), and shrub forms of some of the trees cited above. Forbs here are abundant in cover and diversity. Common species include Lupinus argenteus, Thalictrum fendleri, and Geranium spp. Grass is sparse, with a Bromus spp. the only grass noted except near some old campsites where an Agropyron spp. appear to have been introduced. Although willow species are scarce or absent from the RNA, the riparian community fits best the southwestern phase description for the SAF Cottonwood-willow forest cover type, and has been mapped as such (Map 4).

Pinyon-juniper is the other major forest type on the RNA. Tree cover on this type ranges from extremely sparse to 50 per cent cover, and is composed almost entirely of pinyon (Pinus edulis) and oneseed juniper (Juniperus monosperma). Pinyon tends to dominate. Gray oak is the dominant shrub throughout, but dense monotypic patches of pointleaf manzanita (Arctostaphylos pungens) occur frequently. Many other shrub components, including Garrya wrightii, Rhus trilobata, Nolina microcarpa, Cercocarpus montanus, Mimosa spp., and Gutierrezia sarothrae, are commonly found throughout this type. Fallugia paradoxa and Ptelea angustifolia occur on north-facing slopes, and Yucca baccata, Dasylirion leiphyllum, Haplopappus larcifolius, and Opuntia spp. are on drier aspects. Total shrub cover often exceeds 50 per cent, but on the steepest slopes, shrubs are nearly absent in a Pinus edulis/Juniperus monosperma Rockland habitat type.

Forbs are scarce in most habitats within the pinyon-juniper type, but grasses are common, especially Bouteloua curtipendula, the dominant species on most non-riparian sites throughout the RNA. Other common grasses include Bouteloua hirsuta, Muhlenbergia emersleyi, Lycurus phleoides, and Eragrostis intermedia. A mosaic of habitat types encountered here would include Pinus edulis/Cercocarpus montanus, Quercus grisea phase, possibly Quercus grisea/Bouteloua curtipendula and Pinus edulis/Arctostaphylos pungens (undescribed in the literature), in addition to the rockland type noted above.

Two other forest cover types occur in the area. Interior Douglas-fir is found on some north and east-facing drainages, and Interior Ponderosa Pine is found in two locations on the north and east boundaries of the RNA. Neither of these types were surveyed on the ground during field work for this establishment record, but they were identified in the 1969 draft establishment report and were confirmed from distant observations in 1986 and from interpretation of aerial photography. A thin strip of Chihuahua pine grows on a ridgetop where the trail exits the north end of the RNA; this is included in the Interior Ponderosa Pine type (Map 4). Other trees and shrubs associated with this ridgetop include pinyon, emory oak (Quercus emoryi), silverleaf and gray oak, mountain mahogany, and pointleaf manzanita.

There are no known threatened, endangered, or unique plant species on the proposed RNA; however, the area has not been botanically inventoried.

The following plant list was compiled from field observations on November 6, 1986. Due partly to the lateness of the season, this list is extremely meager, except for trees. It is likely that a complete list would include well over 300 taxa.

Abbreviated Plant List for Turkey Creek RNA[1]

Latin Name	*Common Name*[2]	*Habitat*[3]	
GRASSES AND GRASS-LIKE PLANTS:			
Agropyron spp.	*Wheatgrass*	*R*	
Andropogon barbinodis	*Cane bluestem*		*U*
Andropogon scoparius	*Little bluestem*		*U*
Aristida spp.	*Three-awn grass*		*U*
Bouteloua curtipendula	*Side-oats grama*		*U*
Bouteloua eriopoda	*Black grama*		*U*
Bouteloua hirsuta	*Hairy grama*		*U*
Bromus spp.	*Brome-chess*	*R*	
Eragrostis intermedia	*Plains lovegrass*		*U*
Lycurus phleoides	*Wolftail*		*U*
Muhlenbergia emersleyi	*Bullgrass*		*U*
Muhlenbergia pauciflora	*New Mexico muhly*		*U*
Muhlenbergia rigens	*Deergrass*		*U*
Muhlenbergia setifolia	*Curlyleaf muhly*		*U*
Sitanion hystrix	*Bottlebrush squirreltail*		*U*
Stipa speciosa	*Desert needlegrass*		*U*
FORBS:			
Aster spp.	*Aster*		*U*
Cheilanthes eatonii	*Lipfern*		*U*
Eriogonum spp.	*Buckwheat*		*U*
Geranium spp.	*Geranium*	*R*	
Gnaphalium chilense	*Cottonbatting*		*U*
Lesquerella spp.	*Bladderpod*	*R*	
Lupinus argenteus	*Silvery lupine*	*R*	
Marrubium vulgare	*Horehound*		*U*
Penstemon bridgesii	*Bridges beard tongue*		*U*
Senecio spp.	*Groundsel*		*U*
Verbascum thapsus	*Flannel mullein*		*U*
Verbena spp.	*Verbena*		*U*
Thalictrum fendleri	*Meadowrue*	*R*	*U*
HALF-SHRUBS, SHRUBS, AND TREES:			
Acer grandidentatum	*Big tooth maple*	*R*	
Acer negundo	*Boxelder*	*R*	
Agave parryi	*Mescal*		*U*
Alnus oblongifolia	*Arizona alder*	*R*	
Arctostaphylos pungens	*Pointleaf manzanita*		*U*
Baccharis spp.	*Baccharis*	*R*	
Brickellia californica	*California brickellia*	*R*	*U*
Carpochaete bigelovii	*Carpochaete*		*U*

Ceanothus fendleri	*Buckbrush ceanothus*	*R*	*U*
Celtis reticulata	*Netleaf hackberry*	*R*	
Cercocarpus montanus	*Mountain mahogany*		*U*
Dasylirion leiophyllum	*Sotol*		*U*
Fallugia paradoxa	*Apache-plume*		*U*
Fendlera rupicola	*Cliff Fendlerbush*	*R*	*U*
Fraxinus velutina	*Velvetskirt ash*	*R*	
Garrya wrightii	*Wright silktassel*	*R*	*U*
Gutierrezia sarothrae	*Broom snakeweed*		*U*
Haplopappus laricifolius	*Turpentine bush*		*U*
Juglans major	*Arizona walnut*	*R*	
Juniperus deppeana	*Alligator bark juniper*	*R*	*U*
Juniperus monosperma	*One-seed juniper*	*R*	*U*
Mimosa spp.	*Mimosa*		*U*
Nolina microcarpa	*Beargrass*		*U*
Opuntia engelmannii	*Engelmann pricklypear*		*U*
Opuntia spinosior	*Cane cholla*		*U*
Pinus edulis	*Pinyon*		*U*
Pinus leiophylla var. chihuahuana	*Chihuahua pine*	*R*	*U*
Pinus ponderosa	*Ponderosa pine*		*U*
Platanus wrightii	*Arizona sycamore*	*R*	
Populus angustifolia	*Narrowleaf cottonwood*	*R*	
Populus fremontii	*Fremont cottonwood*	*R*	
Prosopis juliflora	*Common mesquite*		*U*
Prunus serotina	*Black cherry*	*R*	
Pseudotsuga menziesii	*Douglas-fir*	*R*	*U*
Ptelea angustifolia	*Narrowleaf hoptree*		*U*
Quercus arizonica	*Arizona white oak*	*R*	
Quercus emoryi	*Emory oak*		*U*
Quercus grisea	*Gray oak*		*U*
Quercus hypoleucoides	*Silverleaf oak*	*R*	*U*
Quercus turbinella (affinity)	*Shrub live oak*		*U*
Rhus glabra	*Smooth sumac*	*R*	
Rhus radicans	*Poison ivy*	*R*	
Rhus trilobata	*Squawberry*		*U*
Robinia neomexicana	*New Mexico locust*	*R*	
Rubus strigosus	*Red raspberry*	*R*	
Symphoricarpos rotundifolius	*Roundleaf snowberry*		*U*
Vitis arizonica	*Canyon grape*	*R*	
Yucca baccata	*Datil yucca*	*R*	*U*

[1] *Observed by Bill Dunmire (The Nature Conservancy) on November 6, 1986*
[2] *Common names used according to USDA, Forest Service 1974, or Martin & Hutchins 1980. Taxonomy follows Martin and Hutchins.*
[3] *R = riparian; U = upland*

Fauna

The round-tailed chub (Gila robusta) occurs in Turkey Creek. No other rare, endangered, or sensitive animal species are known to inhabit this area. Ungulates include mule deer and occasionally bighorn sheep. Turkey Creek flows year round through the RNA and supports a variety of riparian animal species.

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

1. Douglas-fir - white fir series; Pseudotsuga menziesii association

2. Pine series; Pinus ponderosa association

3. Riparian deciduous biome; mixed broadleaf series

Platanus wrightii association

4. Pinyon - juniper series

These habitat types currently in the data base most closely corresponds to that occurring in the proposed RNA.

Potential Animal List for Turkey Creek RNA

Common Name	Latin Name
BIRDS:	
Bluebird, mountain	Sialia currucoides
Bluebird, western	Sialia mexicana
Bushit	Psaltriparus minimus
Chickadee, mountain	Parus gambeli
Cowbird, bronzed	Molothrus aeneus
Creeper, brown	Certhia americana
Crossbill, red	Loxia curvirostra
Falcon, prairie	Falco mexicanus
Finch, house	Carpodacus mexicanus
Flicker, northern	Colaptes auratus
Flycatcher, ash-throated	Myiarchus cinerascens
Flycatcher, brown-crested	Myiarchus tyrannulus
Flycatcher, buff-breasted	Empidonax fulvifrons
Flycatcher, gray	Empidonax wrightii
Flycatcher, vermilion	Pyrocephalus rubinus
Flycatcher, western	Empidonax difficilis
Gnatcatcher, blue-gray	Polioptila caerulea
Goldfinch, lesser	Carduelis psaltria
Grosbeak, black-headed	Pheucticus melanocephalus
Hawk, ferruginous	Buteo regalis
Hawk, red-tailed	Buteo jamaicensis
Hawk, sharp-shinned	Accipiter striatus
Hummingbird, black-chinned	Archilochus alexandri
Hummingbird, broad-tailed	Selasphorus platycercus
Hummingbird, magnificent	Eugenes fulgens
Jay, pinyon	Gymnorhinus cyanocephalus
Jay, Steller's	Cyanocitta stelleri
Junco, dark-eyed	Junco hyemalis
Kingbird, Cassin's	Tyrannus vociferans
Nighthawk, common	Chordeiles minor
Nighthawk, lesser	Chordeiles acutipennis
Nutcracker, Clark's	Nucifraga columbiana
Nuthatch, pygmy	Sitta pygmaea
Nuthatch, red-breasted	Sitta canadensis
Nuthatch, white-breasted	Sitta carolinensis
Oriole, Scott's	Icterus parisorum
Owl, flammulated	Otus flammeolus
Owl, great horned	Bubo virginianus
Owl, long-eared	Asio otus
Owl, northern saw-whet	Aegolius acadicus
Owl, spotted	Strix occidentalis
Pewee, greater	Contopus pertinax
Phoebe, black	Sayornis nigricans
Pigeon, band-tailed	Columba fasciata
Poorwill, common	Phalaenoptilus nuttallii
Pygmy-owl, northern	Glaucidium gnoma

Quail, Gambel's	Callipepla gambelii
Quail, scaled	Callipepla squamata
Raven, common	Corvus corax
Roadrunner, greater	Geococcyx californianus
Robin, American	Turdus migratorius
Sandpiper, spotted	Actitis macularia
Sapsucker, yellow-bellied	Sphyrapicus varius
Shrike, loggerhead	Lanius ludovicianus
Shrike, northern	Lanius excubitor
Siskin, pine	Carduelis pinus
Solitaire, Townsend's	Myadestes townsendi
Sparrow, black-chinned	Spizella atrogularis
Sparrow, black-throated	Amphispiza bilineata
Sparrow, Brewer's	Spizella breweri
Sparrow, chipping	Spizella passerina
Sparrow, lark	Chondestes grammacus
Starling, European	Sturnus vulgaris
Swallow, rough-winged	Stelgidopteryx serripennis
Swallow, violet-green	Tachycineta thalassina
Swift, white-throated	Aeronautes saxatalis
Tanager, western	Piranga ludoviciana
Thrasher, Bendire's	Toxostoma bendirei
Thrush, hermit	Catharus guttatus
Titmouse, plain	Parus inornatus
Towhee, brown	Pipilo fuscus
Turkey, wild	Meleagris gallopavo
Vireo, gray	Vireo vicinior
Vireo, solitary	Vireo solitarius
Vireo, warbling	Vireo gilvus
Vulter, turkey	Cathartes aura
Warbler, black-throated gray	Dendroica nigrescens
Warbler, Grace's	Dendroica graciae
Warbler, Lucy's	Vermivora luciae
Warbler, olive	Peucedramus taeniatus
Warbler, red-faced	Cardellina rubrifrons
Waxwing, cedar	Bombycilla cedrorum
Whip-poor-will	Caprimulgus vociferus
Woodpecker, Lewis'	Melanerpes lewis
Woodpecker, three-toed	Picoides tridactylus
Wood-pewee, western	Contopus sordidulus
Wren, Bewick's	Thryomanes bewickii
Wren, canyon	Catherpes mexicanus
Wren, house	Troglodytes aedon
Wren, rock	Salpinctes obsoletus

MAMMALS:

Badger	Taxidea taxus
Bat, Allen's big-eared	Idionycteris phyllotis
Bat, big brown	Eptesicus fuscus
Bat, Brazilian free-tailed	Tadarida brasiliensis
Bat, hoary	Lasiurus cinereus
Bat, pallid	Antrozous pallidus
Bat, Townsend's big eared	Plecotus townsendii

Bear, black	*Ursus americanus*
Chipmunk, cliff	*Tamias dorsalis*
Chipmunk, gray-collared	*Tamias cinereicollis*
Cottontail, eastern	*Sylvilagus floridanus*
Coyote	*Canis latrans*
Deer, mule	*Odocoileus hemionus*
Deer, white-tailed	*Odocoileus virginianus*
Elk	*Cervus elaphus*
Fox, gray	*Urocyon cinereoargenteus*
Gopher, Botta's pocket	*Thomomys bottae*
Lion, mountain	*Felis concolor*
Mouse, brush	*Peromyscus boylii*
Mouse, cactus	*Peromyscus eremicus*
Mouse, deer	*Peromyscus maniculatus*
Mouse, northern grasshopper	*Onychomys leucogaster*
Mouse, pinyon	*Peromyscus truei*
Mouse, western harvest	*Reithrodontomys megalotis*
Mouse, white-footed	*Peromyscus leucopus*
Myotis, California	*Myotis californicus*
Myotis, fringed	*Myotis thysanodes*
Myotis, little brown	*Myotis licifugus*
Myotis, long-eared	*Myotis evotis*
Myotis, long-legged	*Myotis volans*
Myotis, small-footed	*Myotis leibii*
Myotis, southwestern	*Myotis auriculus*
Myotis, Yuma	*Myotis yumanensis*
Peccary, collared	*Tayassu tajacu*
Pipistrelle, western	*Pipistrellus hesperus*
Porcupine	*Erethizon dorsatum*
Raccoon	*Procyon lotor*
Rat, banner-tailed kangaroo	*Dipodomys spectabilis*
Rat, hispid cotton	*Sigmodon hispidus*
Rat, Ord's kangaroo	*Dipodomys ordii*
Ringtail	*Bassariscus astutus*
Sheep, mountain	*Ovis canadensis*
Shrew, vagrant	*Sorex vagrans*
Skunk, hog-nosed	*Conepatus mesoleucus*
Skunk, striped	*Mephitis*
Skunk, western spotted	*Spilogale gracilis*
Squirrel, Abert's	*Sciurus aberti*
Squirrel, Arizona gray	*Sciurus arizonensis*
Squirrel, golden-mantled ground	*Spermophilus lateralis*
Squirrel, Harris' antelope	*Ammospermophilus harrisii*
Squirrel, red	*Tamiasciurus hudsonicus*
Squirrel, rock	*Spermophilus variegatus*
Vole, long-tailed	*Microtus longicaudus*
Vole, Mexican	*Microtus mexicanus*
Woodrat, Mexican	*Neotoma mexicana*
Woodrat, white-throated	*Neotoma albigula*

REPTILES:

Kingsnake, Sonoran mountain	*Lampropeltis pyromelana*
Lizard, collared	*Crotaphytus collaris*

Lizard, side-blotched	*Uta stansburiana*
Lizard, tree	*Urosaurus ornatus*
Rattlesnake, western diamondback	*Crotalus atrox*
Snake, blackneck garter	*Thamnophis cyrtopsis*
Snake, narrowhead garter	*Thamnophis rufipunctata*
Whiptail, desert grassland	*Cnemidophorus uniparens*
Whiptail, little striped	*Cnemidophorus inornatus*
Whiptail, western	*Cnemidophorus tigris*

Geology

Turkey Creek is situated on a deep and complex series of volcanics, all of which are undivided Datil formations (Ratté and Gaskill 1975). In the Creek bottom are latite breccias and flows of banded latite, with andesite intrusions. Above this formation are welded and crystal rhyolite tuffs, ash-flows, and breccias.

Soils

Turkey Creek RNA is located within a widespread soil association of southwestern New Mexico, the Rockland-Luzena-Santana association (NMSU 1971). In this association, rock outcrops make up 35 per cent of the terrain; relatively narrow valley floors and upland summits are commonly separated by steep canyon walls, escarpments, and steep side slopes. The soils, forming from a wide variety of parent material, including conglomerates and mixed igneous rocks, are generally shallow to moderately deep.

Occasionally flooded, elevated sites in the valley plain are occupied by coarse-loamy, mixed, nonacid, mesic Typic Ustifluvents. The lower lying areas, alongside or nearer to the active channel, feature sandy-skeletal, mixed, nonacid, mesic Aquic Ustifluvents (Gass 1986, USDA Forest Service 1986c).

Lands

All lands within the proposed RNA were included within the original Gila Forest created on 3/2/1899, which was designated as a National Wilderness area on 4/4/1938. There are no known outstanding rights or rights-of-way within the proposed boundaries.

Cultural

Non-project related reconnaissance surveys along Turkey Creek and the Gila River in the vicinity of this proposed RNA have recorded quite a few sites, most of which occur along the Gila River. The proposed RNA is characterized by steep rocky slopes, except in the bottom of Turkey Creek. The six closest recorded sites all lie south of the proposed RNA boundary. Two sites are small rockshelters, three are small prehistoric habitation sites with surface masonry structures, and the sixth is a prehistoric lithic/sherd scatter. In comparison with known site densities at the mouth of Turkey Creek and along the Gila River, site density in the Turkey Creek RNA is expected to be low. Upon establishment as an RNA, the area will be withdrawn from any archeological research that would in any way modify the existing locale.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources

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

Grazing

Most of the proposed RNA is located within the Gila Wilderness. Two allotments, Brock Canyon and Watson Mountain, are adjacent, but do not include any of the RNA. Riparian bottom land in the RNA receives occasional use, however, when high water washes out the barrier at the south end. With properly maintained barriers, there should be no conflicts since this area is intended to be closed to grazing. In addition, the land is not desirable for grazing, as the topography is very rough with narrow canyon bottoms and steep side slopes and rock outcrops.

Timber

The fact that the RNA is located within the Gila Wilderness excludes all timber and fuelwood harvesting.

Watershed Values

The Turkey Creek RNA is contained within the Upper Gila River Watershed. The watershed contains the confluence of Skeleton Canyon with Turkey Creek. The landscape is dissected, and drains both west and east into Turkey Creek, which then drains into the Gila River approximately 1 mile (1.6 km) downstream.

Recreation Values

The hot springs on Turkey Creek above the RNA attract some dispersed recreation use. A trail passes through the RNA along Turkey Creek. Most recreation use of Turkey Creek RNA is concentrated in the bottom land due to the very rough topography. The area does not receive heavy hunting pressure. Turkey Creek, however, serves as trout and bass fisheries, and is used for fishing. Wilderness designation restricts off-road vehicle access to the area. There should be no conflicts between the various low-level recreational uses and potential research.

Wildlife and Plant Values

Turkey Creek RNA includes a portion of the habitat of an endangered fish species, the Gila Robusta (round-tailed chub). This chub is on the New Mexico state endangered species list, and on the notice of review for Federal listing. Intensive surveys have not been conducted for other threatened, endangered, or unique species.

The area is located within trout and bass fisheries. Game species present in the area include wild turkey, deer, javelina, and an occasional bighorn sheep.

Wilderness, Wild and Scenic River, National Recreation Area Values

The proposed RNA is located primarily within classified wilderness. The Gila River has been identified as potential wild and scenic river, from the forks of the main Gila River and the East Fork to the confluence of Turkey Creek, and from Turkey Creek to the Forest boundary. There is no proposal to designate any of the RNA as a National Recreation Area.

Transportation Plans

Wilderness designation precludes road access into the area.

Utility Corridor Plans

There are no existing or potential utility corridor plans in the vicinity of this RNA.

MANAGEMENT PLAN

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

Vegetation Management

The Forest Plan provides that unplanned ignitions will receive appropriate suppression action. Wildfires burning outside the area, which might enter the RNA, will be suppressed. Fire within the RNA willbe managed consistent with theoverall Wilderness fire plan. A specific fire management plan for the RNA needs to be developed.

ADMINISTRATIVE RECORDS AND PROTECTION

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

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

Records for the Turkey Creek RNA will be maintained in the following offices:

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

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

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

Rocky Hildebrand

ROCKY HILDEBRAND
Forest Land Surveyor

12/7/93
DATE

United States
Department of
Agriculture

Forest
Service

Southwestern
Region

September 1986

Environmental Impact Statement, Gila National Forest Plan

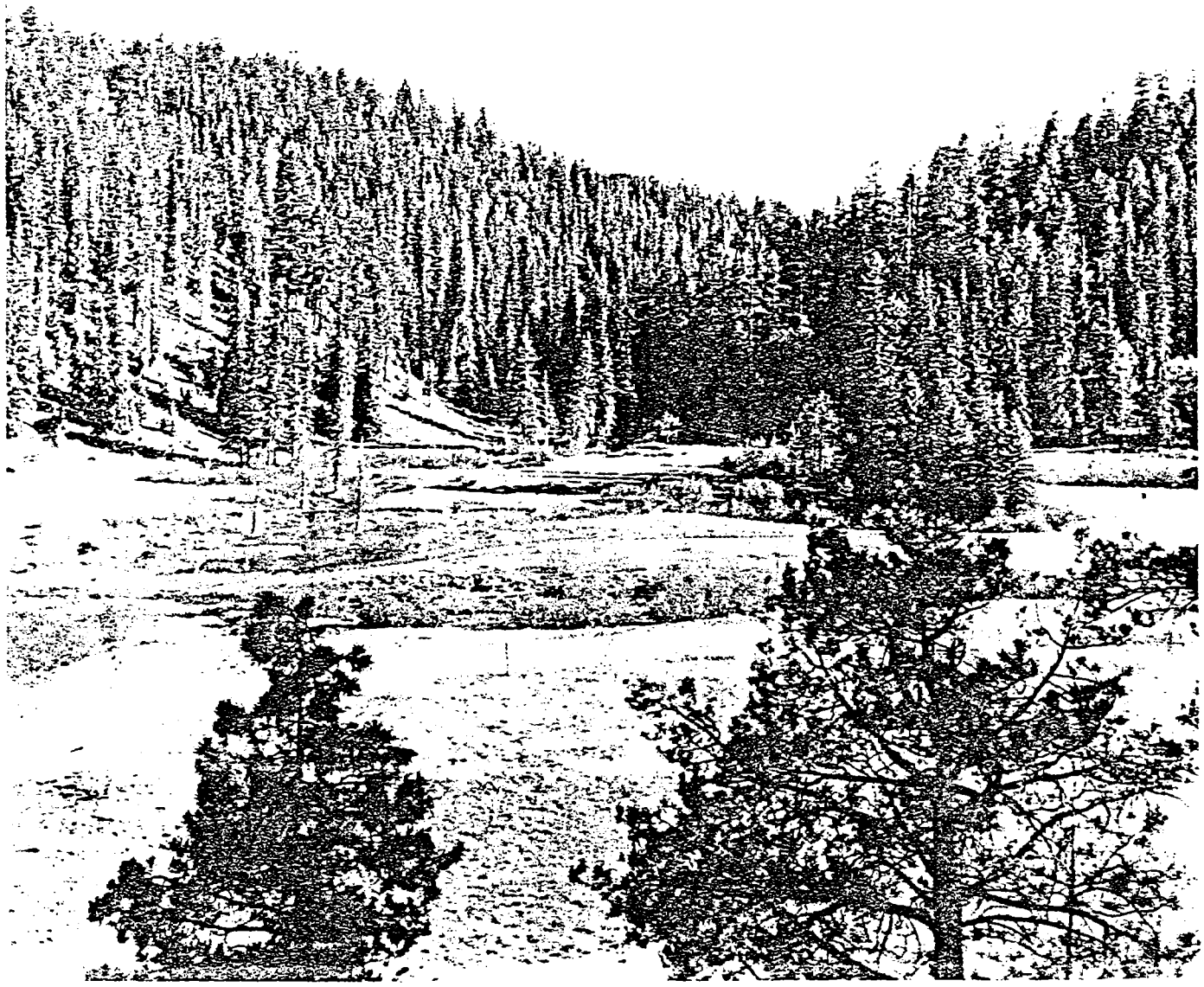

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Table 1. Reader's Guide (Continued)

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

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

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

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

Future Trends

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

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

RESEARCH NATURAL AREAS

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

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

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

RIPARIAN

These small zones along waterways make up approximately 0.8 percent of the Forest. In addition to being a vital wildlife habitat and diversity component, riparian areas attract recreation use and concentrations of livestock. Roads and trails are many times located within riparian zones because they usually provide easier travel routes.

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

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

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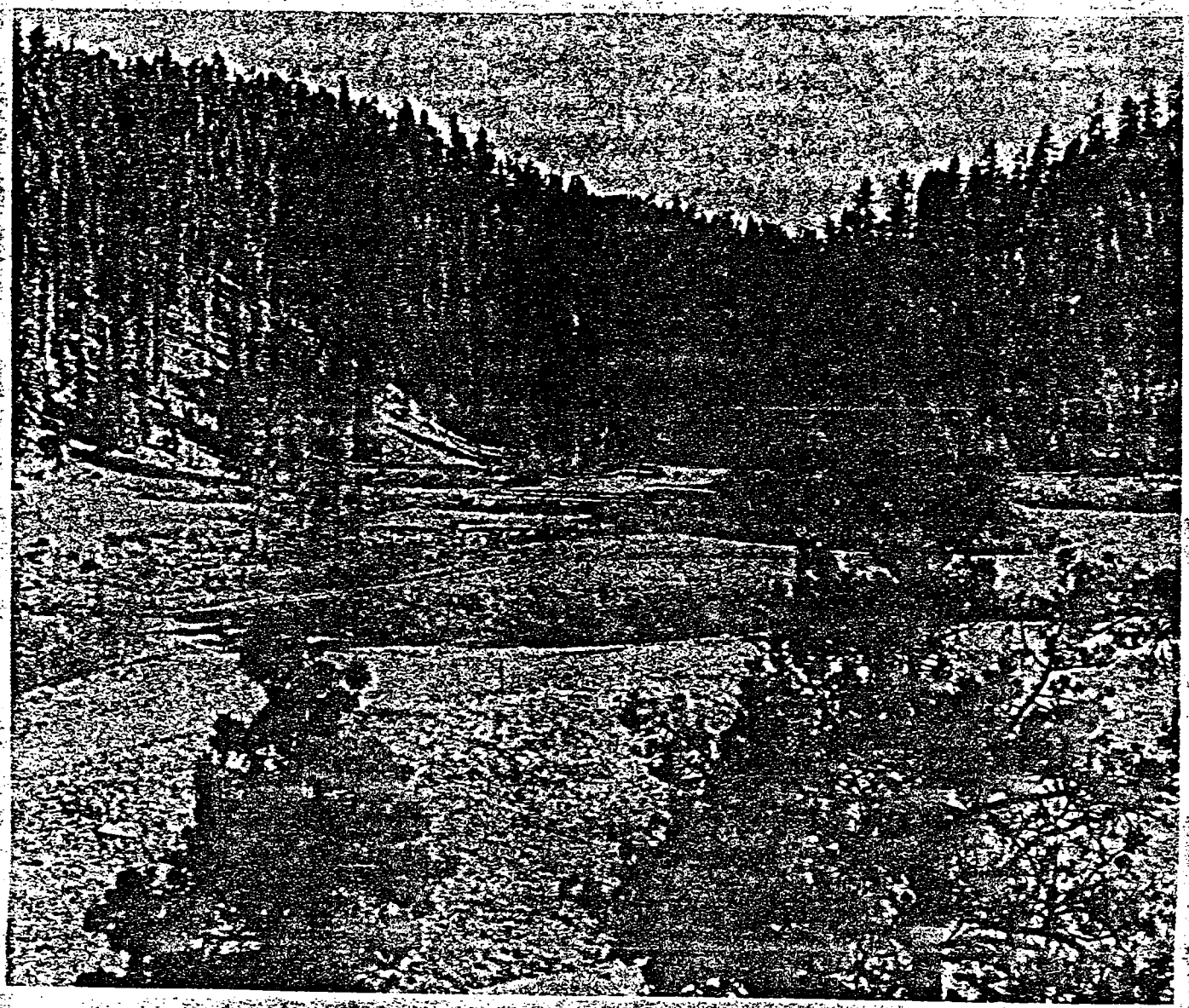
Gila National Forest Plan



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

OBJECTIVES

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

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

RESOURCE	ACTIVITY	APPLICABLE AREA	STANDARDS AND GUIDELINES
	D08		This analysis area contains one Research Natural Area [Gila River] and one proposed Research Natural Area [Rabbit Trap]. The Gila River Research Natural Area [402 acres] contains 125 acres of pinyon-juniper, 52 acres of riparian hardwood and 225 acres of desert shrub. It is located in E1/2 E1/2 Sec. 32; NW1/4 W1/2 SW1/4 Sec. 33, T17S, R17W, N.M.P.M. and will be maintained as a Research Natural Area in its natural condition. The Rabbit Trap area consists of 287 acres of scrub grassland vegetative type located in Sec. 34, T17S, R 16W, and Sec. 3, T18S, R16W N.M.P.M. This area will be managed as a Research Natural Area and maintained in its present natural condition.
7A TIMBER	E08	Non-Wilderness	PJ Fuelwood harvest will not exceed 1,500 acres in the first decade. Volume control for fuelwood will be on the par acre basis.
7A LANDS	J12	All	Lands identified for acquisition for the Management Area are as follows:

LOCATION			ACRES
SW1/4,SW1/4	Sec. 9	T17S,R17W	40
N1/2,SW1/4	Sec. 9	T17S,R17W	80
SE1/4,NW1/4	Sec. 9	T17S,R17W	40
SW1/4,NE1/4	Sec. 9	T17S,R17W	40
SE1/4,SE1/4	Sec. 9	T17S,R17W	40
E1/2,NE1/4	Sec. 17	T17S,R17W	8
			320

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

DESCRIPTION	LOCATION	ACRES
Power Site Reserve	T17S,R17W Sec. 8,10,16, 17,21,22,27,28,32,33	4,120
Water Power Designation	T17S,R17W Sec. 32	240
Gila River Bird Area	T17S,R17W Sec. 9,10,16, 17,21,27,28,32,33	2,480
San Carlos Indian Irrigation Project	T18S,R17W Sec. 5,8,7,8,18	2,982
Water Power Designation	T18S,R17W Sec. 5,8,7,8,18	1,078
	Total	10,900

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

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

7A FACILITIES	L01		Cooperate with the Continental Divide Trail Advisory Committee and the New Mexico State Trail Advisory Committee for designation of the Continental Divide Trail.

RESOURCE	ACTIVITY	APPLICABLE AREA	STANDARDS AND GUIDELINES
	C05,C08		Threatened and endangered species habitat developments are projected at the following improvement levels: Improvement Activity — Prescribed Fire: 120
	C03	Within Wilderness	Integrated historic wildlife habitat distributions with the Gila prescribed fire program and the Gila wilderness implementation program.
	C11	Within Wilderness	Continue recovery of the Gila trout and maintain natural and recovered habitats for threatened and endangered species. Maintenance projected for the following: Man-made barriers: 2 Structures Natural barriers: 2 Structure
	C12	Within Wilderness	Continue to cooperate with the New Mexico State Game and Fish Department on stocking of fry on West, Middle, and Main Forks of the Gila River during the first decade. Evaluate the need for restrictions of stocking and modification of angling impact at the end of the first decade.
	C12	Within Wilderness	Require the New Mexico State Game and Fish Department to maintain wildlife trick tanks under permit in operable condition. When maintenance cost exceeds 50 percent of replacement cost, the improvements will be removed and the need for replacement evaluated. If needed, replacement will be an improvement that does not detract significantly from wilderness character.
	C15,L01		During transportation planning trail densities will be evaluated within key wildlife habitat areas.
8B RESEARCH NATURAL AREA	D08		The proposed Turkey Creek Research Natural Area, consisting of 1335 acres of riparian hardwood, is located in Sec. 9, 10, 15, and 16, T14S, R16W NMPM. This major ecosystem will be maintained in its present natural condition.
8B LANDS	J04	Non-Wilderness	By the end of the first decade recommend for withdrawal all lands not currently withdrawn within the Highway 15 corridor. This corridor extends from the District boundary to the Gila Cliff Dwelling National Monument and includes the National Forest System lands outside the Wilderness boundary.
	J12	All	Lands identified for acquisition for the Management Area are as follows: SW1/4,SW1/4 — LOCATION: Sect. 15 T14S,R16W — ACRES: 40
	J01	All	Game and Fish Department cabins at Prior and Miller Springs will be maintained at their present state of repair. No major reconstruction will be undertaken. A structure will not be replaced if structural damage exceeds 50 percent.
	J04	All	Lands with withdrawals presently in effect recommended for revocation are as follows: DESCRIPTION — LOCATION Water Power — T12S,R14W Sec. 13,22,23,24,26,36 Water Power — T13S,R14W Sec. 24,25,26,27,33,34 35,36

RESOURCE	ACTIVITY	APPLICABLE AREA	STANDARDS AND GUIDELINES
			Wildlife habitat development [Continued]:
			Planting Browse — 50 Acres Grass & Forb Seeding — 200 Acres Control of Habitat Access — 1 Mile Browse Pruning — 15 Acres Wetland Development — 1 Structure
	C05,C08	All	Continue threatened and endangered species habitat improvements as identified through approved recovery plans. Objectives are to maintain T&E habitats and address recovery needs on a case by case basis.
			The Bald Eagle is the only T&E and sensitive species known within this area.
	C09,C10, C11		Provide maintenance of habitat improvements to sustain emphasized population levels. Maintenance priority is 1) T&E species, 2) game species, 3) other species.
			Habitat maintenance is projected at the following level by the first decade:
			Water Developments (trick tanks, rockheaders, spring developments, etc.) — 2 Structures Control of Habitat Access — 1 Mile
9A RANGE	D02	All	Grazing allotments generally will be managed to a level of C or above. Based on existing data, this is projected to result in a long term capacity of approximately 9,270 AUMs. Any additional forage capacity that becomes available after Management Area emphasized levels for livestock and wildlife have been attained will generally be allocated according to the long term management emphasis ratio.
	D02	All	Lands classified as full capacity rangeland include 61,510 acres, of which 42,695 acres are currently unsatisfactory. Approximately 37,273 acres are estimated to be unsatisfactory by the fifth decade.
	D04,D03		Nonstructural range improvement needs have been identified to include 3,914 acres of reinvasion Pinyon/Juniper and 3,400 acres of new invasion Pinyon/Juniper. The treatment of these acres can be accomplished if funding becomes available through other means.
	D05	All	Reconstruct range improvements needed to manage at level C on a 40 year cycle. Priority for expenditure of funds on existing improvements is as follows:
			Reconstruction: Allotment boundary fences. — 67 Miles Water Developments Stock Tanks — 12 Springs — 8 Pipelines — 7 Miles Allotment Interior Fences — 32.8 Miles
	D08	Largo Mesa	The proposed Largo Mesa Research Natural Area consists of 300 acres of pinyon-juniper woodland. Located in Sections 34 and 35, T19, R17W, this major ecosystem will be maintained in its present natural condition.
9A TIMBER	E08	All	Timber will be harvested from the following LTMAs and slopes as indicated:

Turkey Creek location

EXIHIT A
Turkey Creek RNA

The geological setting is also noteworthy for its canyon wall and cliff formations that afford habitat for particularly diverse bird populations.

LOCATION

Turkey Creek is located about 12 miles (19.3 km) northeast of the small towns of Cliff and Gila, in Grant County, New Mexico (Map 1). The RNA can be bound on the Canyon Hill quadrangle (USGS 7.5′ map), Township 14S, Rang 16W, Sections 3, 4, 9, 10, 11, 15, and 16, latitude 33° 6′ N, longitude 108° 29′ W. The RNA lies at the edge of The Gila Wilderness and access is difficult. The Gila River must be waded at least on time to reach it, and the access road is not always passable.

If traveling from Silver City, take U.S. Highway 180 west and north 25 miles (40.2 km; Maps 2 and 3). Turn right on N.M. Highway 211. Travel through the town of Gila (the road here becomes N.M. Highway 293). At 7.7 miles (12.4 km) from U.S. Highway 180, the pavement ends and Forest Road 155 begins. This road climbs up steeply to avoid the Gila River Middle Box and descends back to the river above the box. It is 17.5 miles (28.2 km) from the turn-off at U.S. Highway 180 to the end of the this road.

If travelling from the north on U.S. Highway 180, as entering Cliff turn left onto New Mexico State Highway 211 and travel 2.3 miles (3.7 km) to Gila. On this route, the trailhead at the end of Forest Road 155 is 15.8 miles (25.4 km) from the turn-off from U.S. Highway 180.

The area is note easily accessible. From the end of the forest road, a well-used pack trail crosses the Gila River and proceeds upriver, crossing the river two more times before turning up into the Turkey Creek drainage. It is about 1.5 miles (2.4 km) from the trailhead to the south boundary of the RNA. This trail continues up Turkey Creek through the RNA, leaving the canyon bottom at the junction of Skeleton Canyon and Turkey Creek Canyon, and ascends a ridge between the two canyons. The trail passes out of the RNA at the north end on this ridge at approximately 2 miles (3.2 km) from its point of entry at the lower end. Except for this trail, travel within the RNA involves extremely steep and rugged terrain.

The boundary description of the Turkey Creek RNA is as follows:

Starting at the intersection of the Turkey Creek Trail and the section line between sections 15 and 22 T.14 S.,R.16 W.,NMPM, as designated on the Canyon Hill, New Mexico 7.5 minute USGS quadrangle:

THENCE, N 20° E more or less following said trail a distance of 2,625 ft to a point with a lat 33° 05′ 06" N and a long. 108° 29′ 13" W the point of beginning.

THENCE N 86° 21′ E., 1,529.0 ft. to a point at lat. 33° 05′ 15" N., long. 108° 29′ 11" W.
THENCE, S. 51° 03′ E., 800.7 ft. to a point at lat. 33° 05′ 13" N., long. 108° 29′ 02" W.
THENCE, S 51° 18′ E., 653.1 ft. to a point at lat. 33° 05′ 08" N., long. 108° 28′ 51" W.
THENCE, S 44° 07′ W., 286.9 ft. to a point at lat. 33° 05′ 12" N., long. 108° 28′ 46" W.
THENCE S 13° 16′ E., 561.6 ft. to a point at lat. 33° 05′ 22" N., long. 108° 28′ 46" W.
THENCE S 11° 33′ W., 877.3 ft. to a point at lat. 33° 05′ 25" N., long. 108° 28′ 45" W.
THENCE, S. 01° 31′ E., 615.8 ft. to a point at lat. 33° 05′ 28" N., long. 108° 28′ 35" W.
THENCE, S 36° 16′ E., 603.8 ft. to a point at lat. 33° 05′ 38" N., long. 108° 28′ 35" W.
THENCE, S 65° 08′ E., 760.9 ft. to a point at lat. 33° 05′ 42" N., long. 108° 28′ 35" W.
THENCE, S 48° 28′ W., 551.7 ft. to a point at lat. 33° 05′ 38" N., long. 108° 28′ 26" W.
THENCE S 77° 47′ W., 579.7 ft. to a point at lat. 33° 05′ 40" N., long. 108° 28′ 22" W.
THENCE, S 27° 47′ W., 445.0 ft. to a point at lat. 33° 05′ 43" N., long. 108° 28′ 22" W.
THENCE, S 17° 56′ E., 1,192.2 ft. to a point at lat. 33° 06′ 05" N., long. 108° 28′ 07" W.
THENCE N 87° 40′ W., 699.6 ft. to a point at lat. 33° 06′ 10" N., long. 108° 28′ 10" W.
THENCE, S 70° 04′ W., 411.6 ft. to a point at lat. 33° 06′ 08" N., long. 108° 28′ 17" W.
THENCE, S 21° 01′ E., 1,093.4 ft. to a point at lat. 33° 06′ 08" N., long. 108° 28′ 24" W.
THENCE, S 17° 35′ W., 470.2 ft. to a point at lat. 33° 06′ 10" N., long. 108° 28′ 30" W.
THENCE S 39° 11′ E., 750.6 ft. to a point at lat. 33° 06′ 16" N., long. 108° 28′ 32" W.
THENCE S 04° 12′ E., 679.6 ft. to a point at lat. 33° 06′ 18" N., long. 108° 28′ 36" W.
THENCE S. 05° 48′ W., 391.3 ft. to a point at lat. 33° 06′ 24" N., long. 108° 28′ 33" W.
THENCE N 82° 40′ W., 1,476.4 ft. to a point at lat. 32° 06′ 29" N., long. 108° 28′ 34" W.
THENCE, N 84° 52′ W., 972.1 ft. to a point at lat. 33° 06′ 32" N., long. 108° 28′ 31" W.
THENCE, N 82° 19′ W., 1,202.1 ft. to a point at lat. 33° 06′ 40" N., long. 108° 28′ 40" W.
THENCE S 72° 19′ W., 658.3 ft. to a point at lat. 33° 06′ 37" N., long. 108° 28′ 50" W.
THENCE, S 71° 56′ W., 921.2 ft. to a point at lat. 33° 06′ 35" N., long. 108° 28′ 58" W.
THENCE, N 40° 45′ W., 1,111.4 ft. to a point at lat. 33° 06′ 37" N., long. 108° 29′ 12" W.

THENCE N 34° 48′ E., 379.6 ft. to a point at lat. 33° 06′ 38" N., long. 108° 29′ 23" W.
THENCE, N 09° 56′ W., 473.4 ft. to a point at lat. 33° 06′ 36" N., long. 108° 29′ 40" W.
THENCE, N 24° 08′ E., 728.3 ft. to a point at lat. 33° 06′ 32" N., long. 108° 29′ 41" W.
THENCE, N 61° 47′ W., 395.1 ft. to a point at lat. 33° 06′ 25" N., long. 108° 29′ 40" W.
THENCE, N 20° 14′ W., 636.7 ft. to a point at lat. 33° 06′ 19" N., long. 108° 29′ 34" W.
THENCE N 70° 28′ W., 515.5 ft. to a point at lat. 33° 06′ 15" N., long. 108° 29′ 36" W.
THENCE, N 86° 05′ W., 610.3 ft. to a point at lat. 33° 06′ 05" N., long. 108° 29′ 31" W.
THENCE, S 68° 50′ W., 599.8 ft. to a point at lat. 33° 06′ 03" N., long. 108° 29′ 36" W.
THENCE, N 24° 44′ W., 589.8 ft. to a point at lat. 33° 06′ 04" N., long. 108° 29′ 44" W.
THENCE, N 30° 59′ E., 2,486.6 ft. to a point at lat. 33° 05′ 52" N., long. 108° 29′ 40" W.
THENCE N 04° 58′ W., 313.1 ft. to a point at lat. 33° 05′ 49" N., long. 108° 29′ 42" W.
THENCE, N 57° 50′ E., 477.1 ft. to a point at lat. 33° 05′ 47" N., long. 108° 29′ 49" W.
THENCE, S 60° 55′ E., 798.3 ft. to a point at lat. 33° 05′ 44" N., long. 108° 29′ 54" W.
THENCE N 30° 18′ E., 462.6 ft. to a point at lat. 33° 05′ 41" N., long. 108° 29′ 45" W.
THENCE, N 11° 33′ W., 1,011.3 ft. to a point at lat. 33° 05′ 36" N., long. 108° 29′ 41" W.
THENCE, N 68° 47′ E., 873.2 ft. to a point at lat. 33° 05′ 30" N., long. 108° 29′ 41" W.
THENCE, N 28° 01′ E., 333.3 ft. to a point at lat. 33° 05′ 21" N., long. 108° 29′ 43" W.
THENCE, N 01° 00′ E., 964.9 ft. to a point at lat. 33° 05′ 16" N., long. 108° 29′ 41" W.
THENCE, N 41° 41′ E., 567.7 ft. to a point at lat. 33° 05′ 13" N., long. 108° 29′ 44" W.
THENCE, S 64° 09′ E., 1,069.6 ft. to a point at lat. 33° 05′ 10" N., long. 108° 29′ 38" W.
THENCE, S 73° 07′ E., 801.5 ft. to a point at lat. 33° 05′ 05" N., long. 108° 29′ 30" W.
THENCE, N 07° 15′ E., 921.3 ft. to a point at lat. 33° 05′ 06" N., long. 108° 29′ 12" W. the point of beginning.

AREA BY COVER TYPES

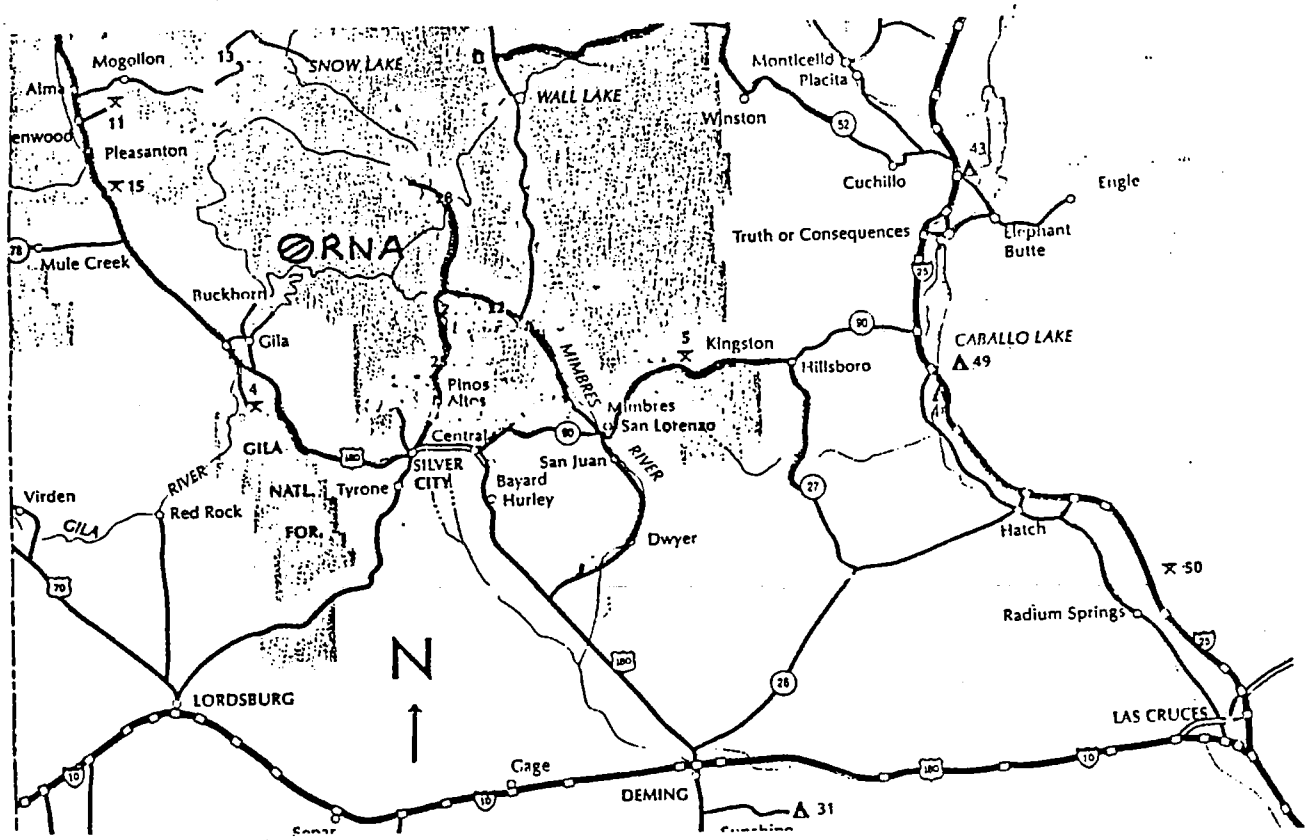
The distribution of cover types was determined from data contained in the original establishment report prepared in 1969, from field surveys conducted in the summer of 1986, and from interpretation of 1980 aerial photography. Table 1 outlines the estimated total area of vegetation types based on the Society of American Foresters forest type system (Eyre 1980) and the Kuchler Potential

Natural Vegetation system (Kuchler 1964). Map 4 depicts the distribution of SAF types on the candidate research natural area.

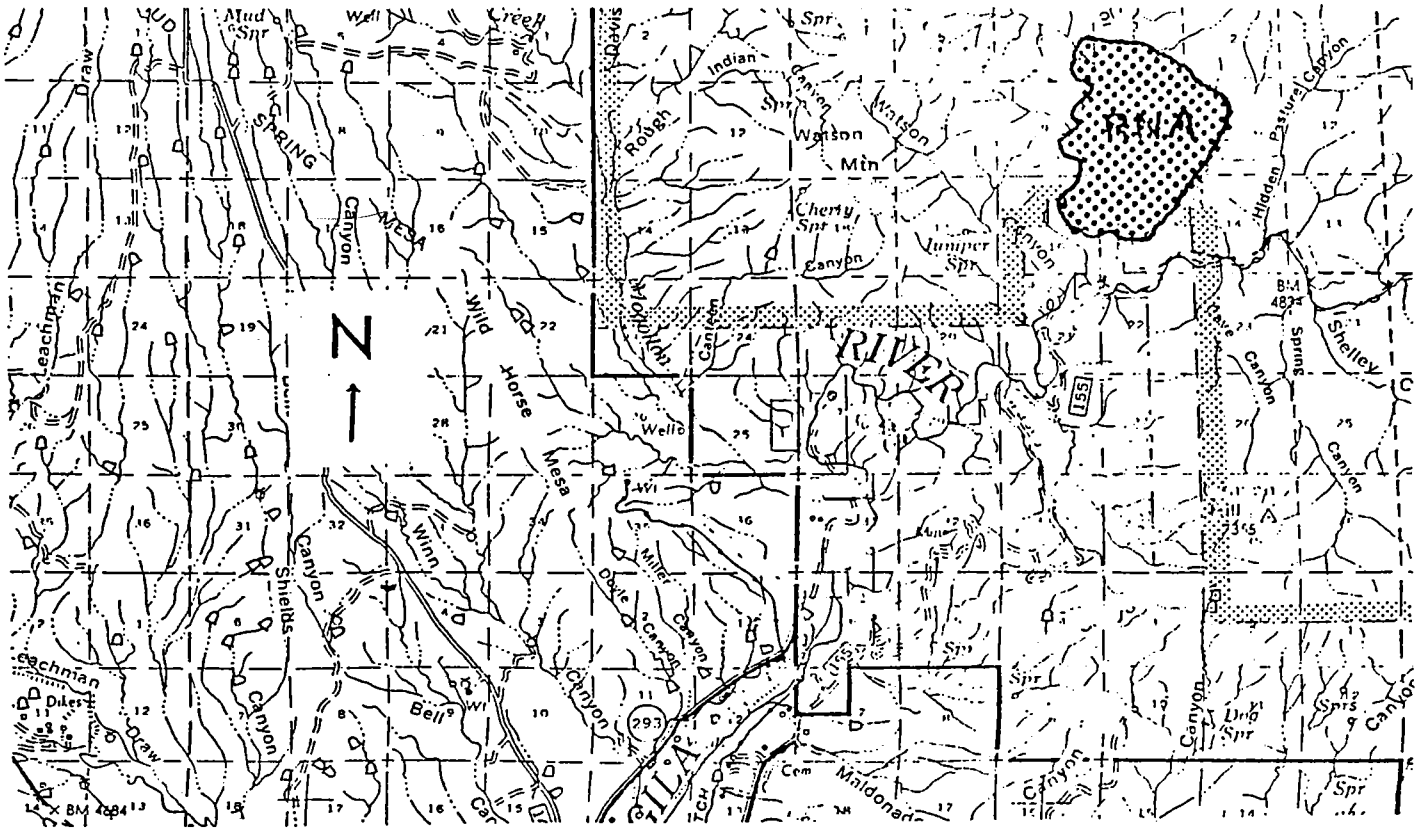
Table 1. Estimated Areas of Vegetation Types in the Turkey Creek Research Natural Area.

Type	Society of American Foresters Cover Type[1]	Kuchler PNV Type[2]	Surface Area Acres	Hectares
Interior Douglas-fir	SAF 210	K-18 Pine-Douglas-fir	79	31.9
Cottonwood - Willow	SAF 235	[none]	97	39.3
Interior Ponderosa Pine	SAF 237	K-18	115	46.5
Pinyon-Juniper	SAF 239	K-23	1044	422.5
		TOTAL	1335	540.2

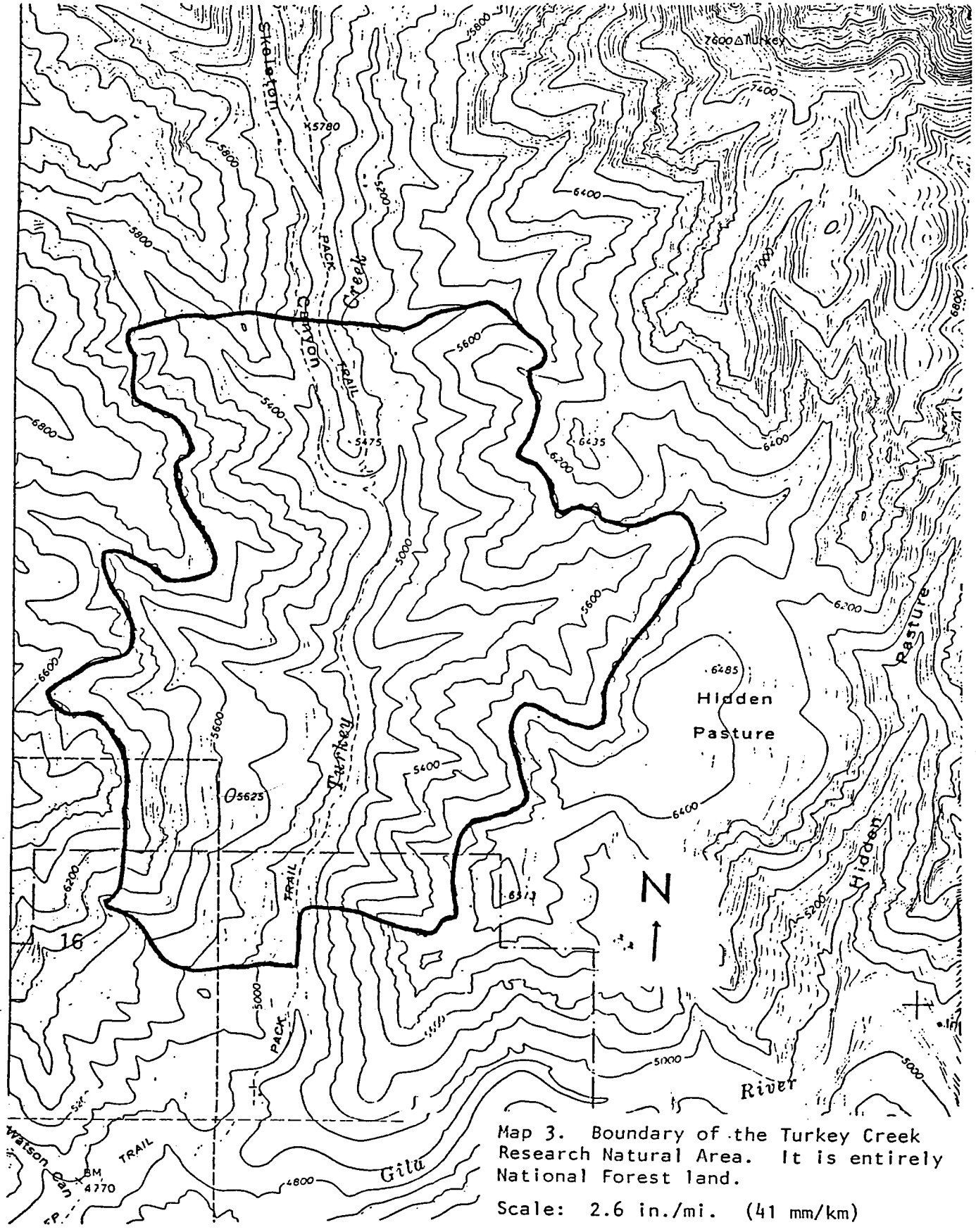
[1] Eyre 1980.
[2] Kuchles 1964.



Map 1. Location of RNA (Southwest New Mexico)

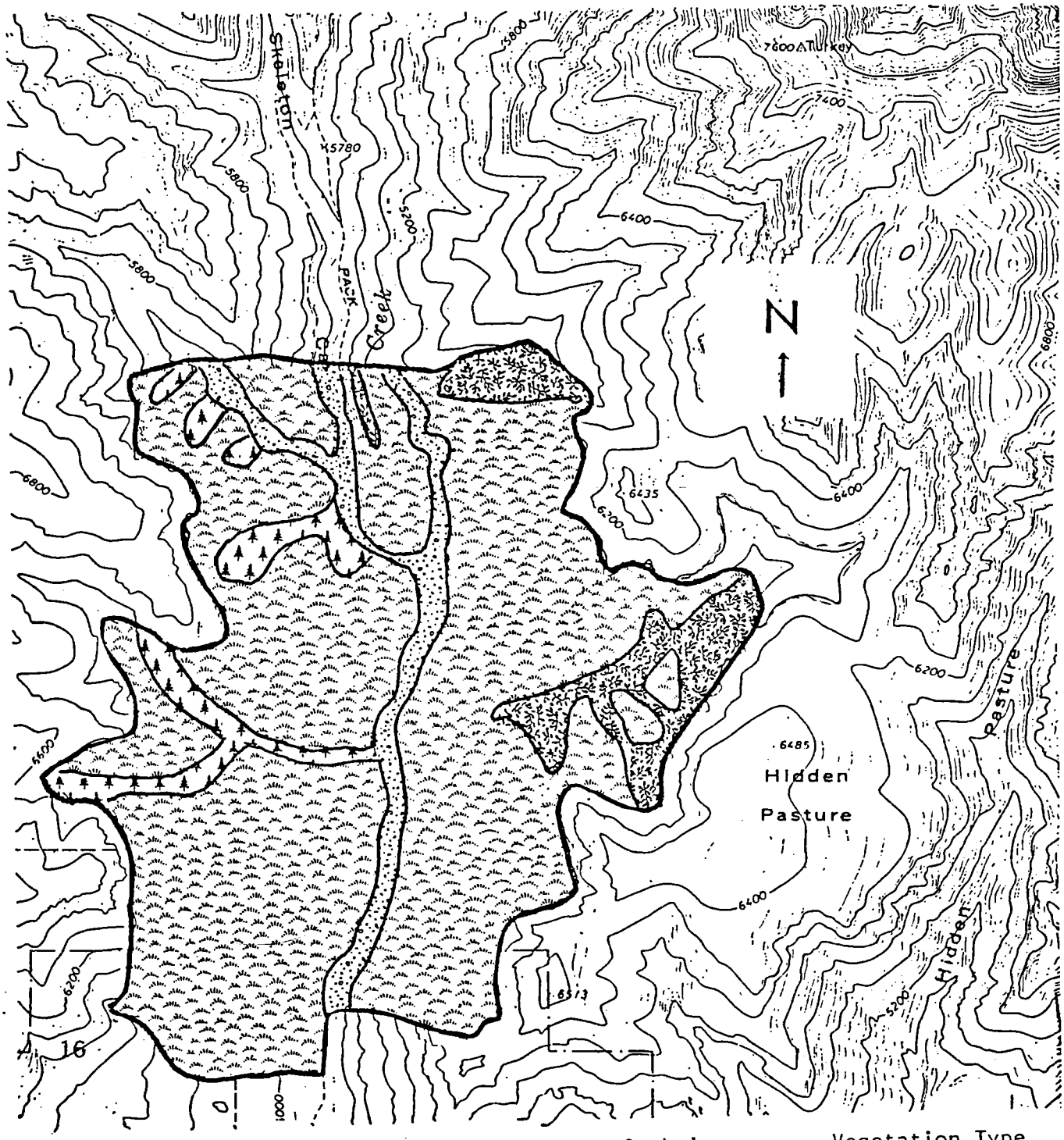


Map 2. Access Route to Turkey Creek RNA



Map 3. Boundary of the Turkey Creek Research Natural Area. It is entirely National Forest land.

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



Map Symbol	Vegetation Type	Map Symbol	Vegetation Type
	Interior Douglas fir SAF 210, K-17		Interior Ponderosa Pine SAF 237, K-17
	Cottonwood-willow SAF 235		Pinyon-Juniper SAF 239, K-21

Map 4. Distribution of vegetation types in the Turkey Creek Research Natural Area.

USDA-FOREST SERVICE

PHOTOGRAPHIC RECORD

(See FSM 1643.52)

PHOTOGRAPHER: William W. Dunmire

DATE SUBMITTED: Nov. 16, 1987

HEADQUARTERS UNIT:

LOCATION:

INITIAL DISTRIBUTION OF PRINTS AND FORM 1600-1:

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INSTRUCTIONS: Submit to Washington Office in quadruplicate. Permanent numbers will be assigned and the forms will be distributed as follows: (1) Washington Office, (2) RO or Station, (3) Forest or Center and (4) Photographer.

PHOTOGRAPH NUMBER		SELECTED FOR W.O. PHOTO LIBRARY	DATE OF EXPOSURE	LOCATION (State, Forest, District and County)	CONCISE DESCRIPTION OF VIEW	NEGATIVE (Show size and BW for black and white or C for color)
TEMP. (1)	PERMANENT (To be filled in by the WO) (2)	(3)	(4)	(5)	(6)	(7)
				ALL: New Mexico Gila NF Wilderness Dist. Grant Co.		ALL: 24x36mm color slides
1.			11-6-86		North up Turkey Creek drainage from south end of Turkey Creek RNA.	
2.			11-6-86		North up Turkey Creek from south end of Turkey Creek RNA. Arizona sycamore riparian forest.	
3.			11-6-86		Gila Wilderness boundary on trail up Turkey Creek on south end of Turkey Creek RNA.	
4.			11-6-86		Riparian woodland community with Douglas-fir along Turkey Creek at 4,800 feet elevation (1,463 M).	
5.			11-6-86		Skeleton Creek at the trail crossing just above the confluence with Turkey Creek Canyon.	
6.			11-6-86		Northwest into Skeleton Canyon from trail on ridge between Skeleton and Turkey Creek Canyons, north end of Turkey Creek RNA.	
7.			11-6-86		East-facing slopes west of Turkey Creek at the lower end of Turkey Creek RNA.	
8.			11-6-86		A dense patch of pointleaf manzanita on east-facing slope above Turkey Creek on ridge trail between Skeleton and Turkey Creek Canyons.	
9.			11-6-86		East toward side canyon at northeast end of Turkey Creek RNA from ridge trail between Skeleton and Turkey Creek Canyons.	

USDA-FOREST SERVICE

PHOTOGRAPHIC RECORD

(See FSM 1643.52)

PHOTOGRAPHER	DATE SUBMITTED
William W. Dunmire	Nov. 16, 1987
HEADQUARTERS UNIT	**LOCATION**

INITIAL DISTRIBUTION OF PRINTS AND FORM 1600-1:

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PHOTOGRAPH NUMBER		SELECTED FOR W.O. PHOTO LIBRARY	DATE OF EXPOSURE	LOCATION *(State, Forest, District and County)*	CONCISE DESCRIPTION OF VIEW	NEGATIVE *(Show size and BW for black and white or C for color)*
TEMP. (1)	PERMANENT *(To be filled in by the WO)* (2)	(3)	(4)	(5)	(6)	(7)
				ALL: New Mexico Gila NF Wilderness Dist. Grant Co.		ALL: 24x36mm color slides
10.			11-6-86		Chihuahua pine along trail on ridge between Skeleton and Turkey Creek Canyons, north end of Turkey Creek RNA.	

1600-1 (8/67)

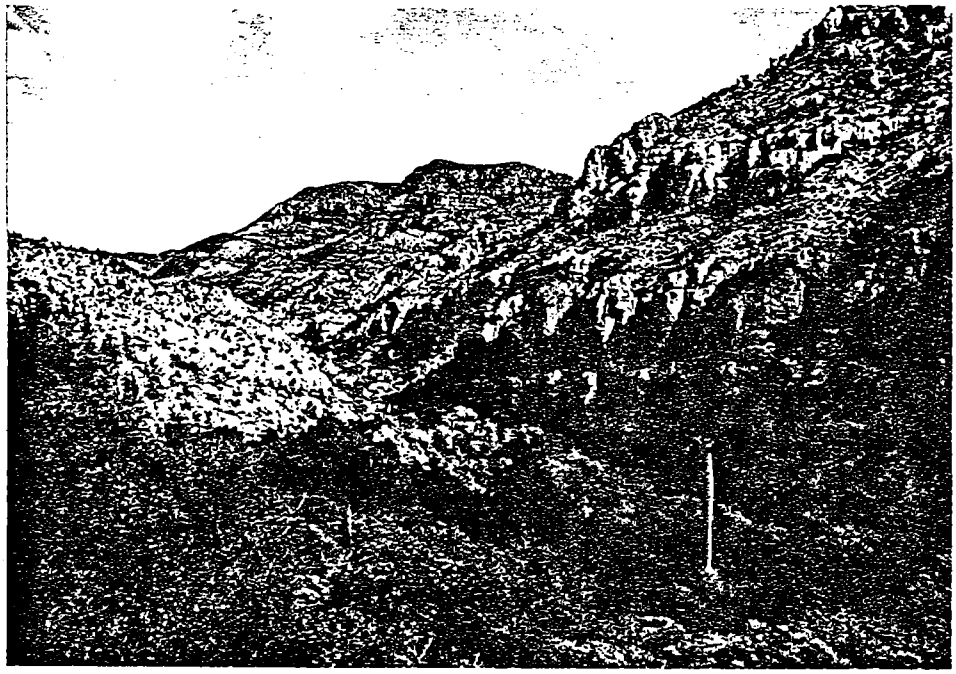

Photo 1. North up Turkey Creek from south end of RNA. Except for the distant skyline, all areas shown are within the RNA.

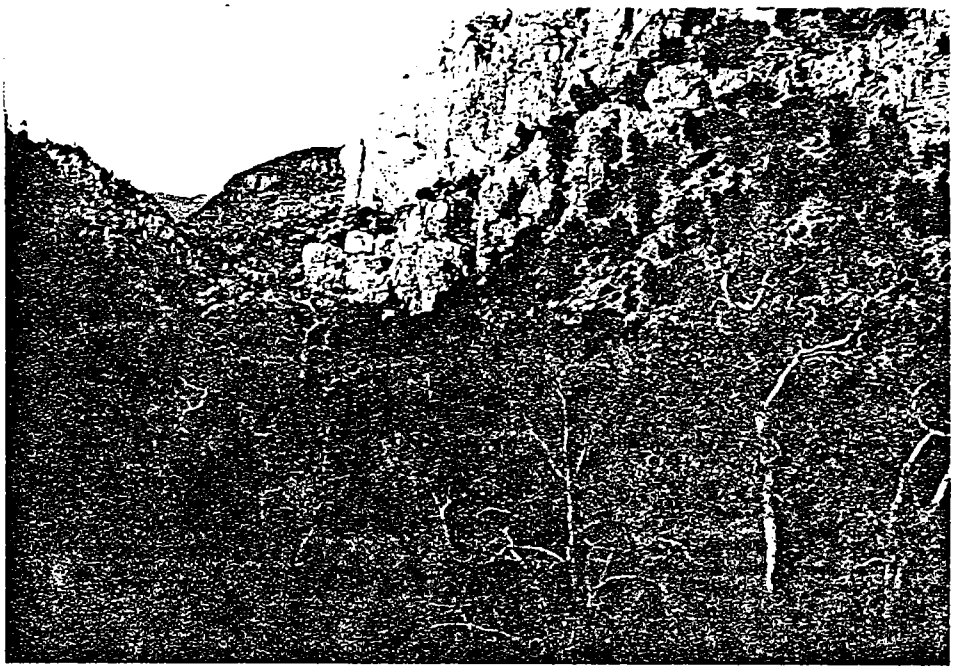

Photo 2. Arizona sycamore is codominant with Arizona alder in the lower half of the riparian woodland.

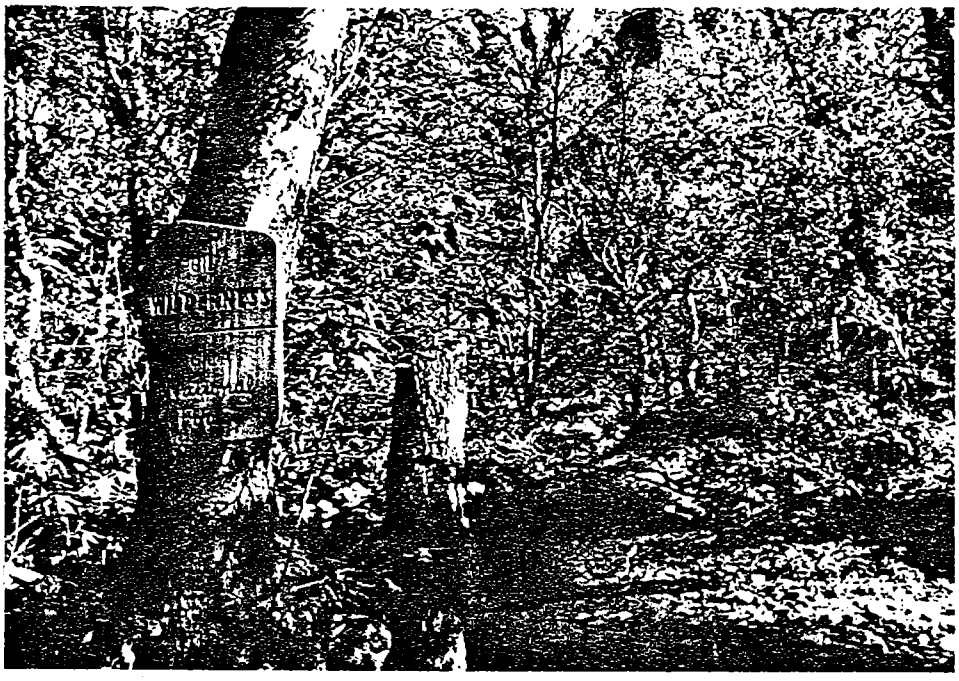

Photo 3. Most of Turkey Creek RNA is within the Gila Wilderness. The wilderness boundary crosses the south end of the RNA.

Photo 4. Douglas-fir begins to appear in the sycamore-alder riparian woodland in the upper half of the RNA.

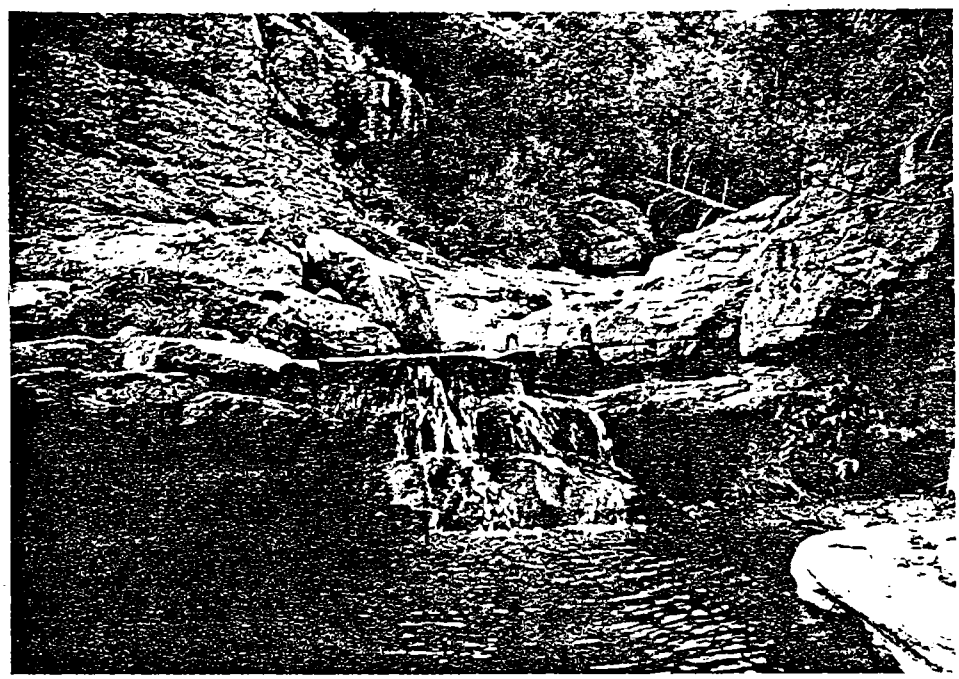

Photo 5. Skeleton Creek with a perennial waterflow is a major tributary to Turkey Creek. The riparian woodland forest continues up this side canyon to the north boundary of the RNA.

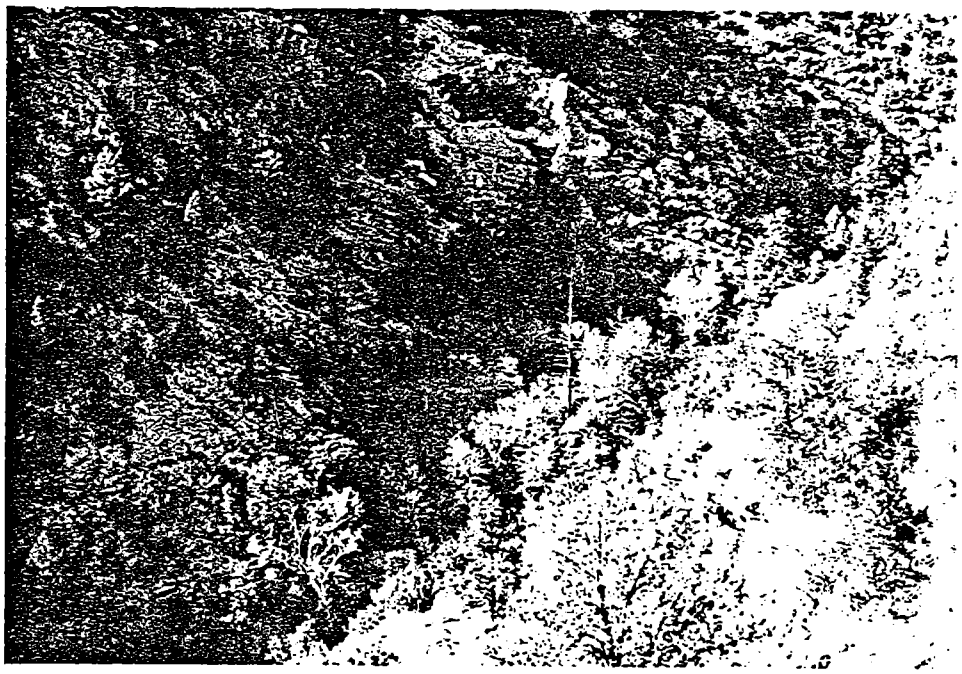

Photo 6. Bigtooth maple (here in fall foliage) becomes a component of the riparian woodland in Skeleton Canyon and Turkey Creek Canyon at the upper end of the RNA.

Photo 7. Piñon-juniper rockland is the principal forest type on the slopes of the Turkey Creek drainage within the RNA.

Photo 8. Dense monotypic patches of pointleaf manzanita are frequent on the east-facing slopes within the piñon-juniper community.

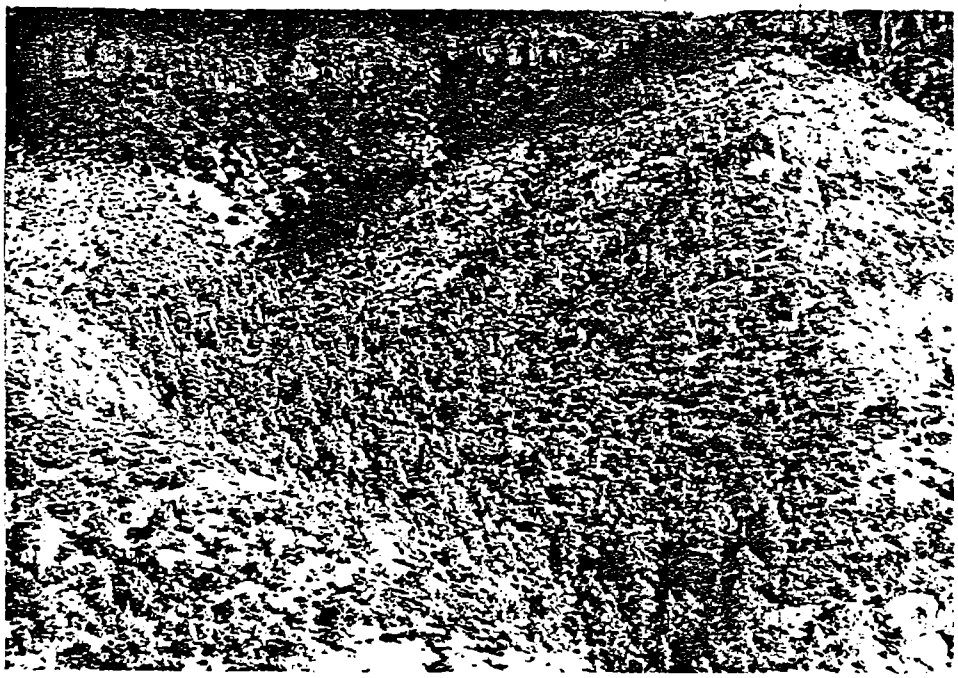

Photo 9. At the northeast end of the RNA, an Interior Ponderosa Pine forest occurs on the northwest-facing slope above a tributary to Turkey Creek.

Photo 10. A thin strip of Chihuahua pine grows on the ridge top between Skeleton and Turkey Creek Canyons at the north end of the RNA.

Turkey Creek

Turkey Creek Riparian Hardwoods

Skeleton Canyon

Turkey Creek Riparian Hardwoods

Skeleton Creek Chihuahua Pine