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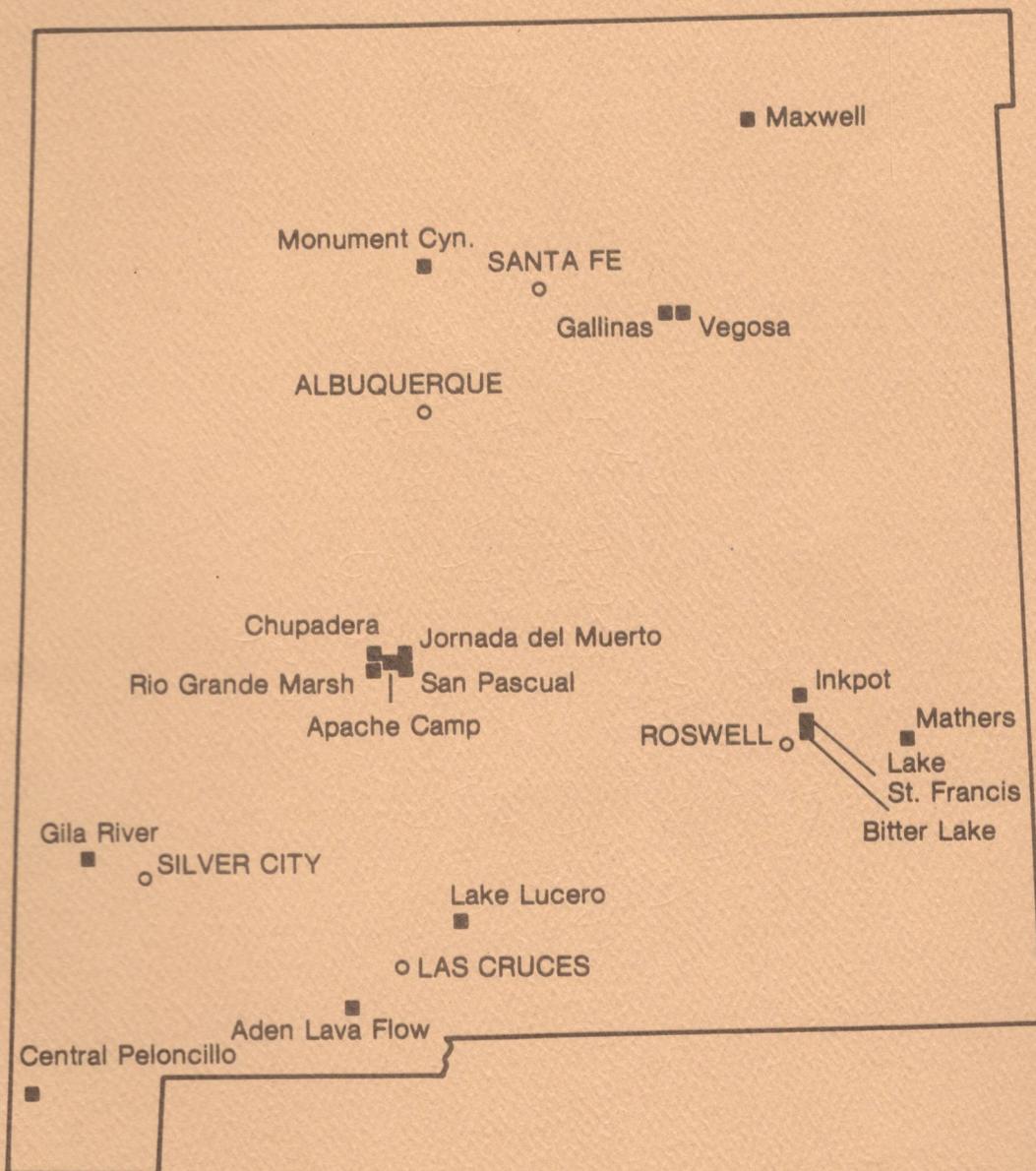
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Research Natural Areas in New Mexico

Roger S. Peterson and Eric Rasmussen



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INTRODUCTION

"Research Natural Area" (RNA) is a land management category used by federal agencies since 1927 to designate lands permanently reserved for research and educational purposes. Natural processes are supposed to dominate in these tracts, which preserve some natural features. Principal goals in protecting these lands are:

1. To preserve a representative array of all significant natural ecosystems as sources of baseline data, against which the effects of human activities in similar environments can be measured.
2. To provide sites for studies of natural processes in undisturbed ecosystems.
3. To provide gene pool preserves for plant and animal species, especially rare ones.

In 1977, 4.4 million acres in 46 states and one territory were included in the 389 RNA's in the United States.

Other management categories on federal lands in New Mexico that share some attributes with RNA's are "outstanding natural area," "area of critical environmental concern," "wilderness," "critical wildlife habitat area," "national environmental research park," and "experimental ranch." Even without such titles, some management plans emphasize protection of natural values. An outstanding example in New Mexico is Sevilleta National Wildlife Refuge, in which the acreage reserved for natural and research goals exceeds that of all the designated research natural areas combined. Similarly, much of the area of national parks and monuments is managed mainly for preservation of natural features. This report addresses formally designated Research Natural Areas.

Management and Use

Agencies have developed similar regulations to protect scientific and educational values in Research Natural Areas. Because the guiding principle is to prevent unnatural encroachments, human manipulation is discouraged. In an RNA one expects no construction of buildings, roads, or trails; no grazing by livestock; no woodcutting; and no programs of fire hazard reduction or reforestation. Control of insects, diseases, and fire is permitted to protect adjacent resource values. Public uses, such as picnicking and camping, that might impair natural values are generally discouraged. Policies vary on providing interpretive signs for the public. Hunting and fishing often are not regulated; but, in New Mexico, most RNA's are in refuges or monuments that regulate or prohibit these activities.

Scientists who wish to use an RNA should obtain permission from the appropriate agency. For Central Peloncillo RNA, both agencies listed should be contacted. For

Forest Service RNA's, research proposals should go to the Rocky Mountain Forest and Range Experiment Station; but, on-the-ground activities should be coordinated with the National Forest. Scientists should inform the agency of progress, of published results, and of the disposition of any materials collected.

Distribution

As of early 1983, New Mexico has 17 RNA's (table 1). Six are in adjacent pairs and one, although not adjacent, is a 2-acre addendum to a larger RNA (fig. 1). Therefore, effectively, the State has 13 RNA's; but all 17 names are used in this report.

The areas are in 8 of New Mexico's 33 counties. One is in forest, 1 in lava shrubland, 3 in plains steppe or shrubsteppe, 4 in semidesert shrubsteppe, and 8 at lake or river sites.

Most RNA's in New Mexico, like Bitter Lake and Rio Grande Marsh, were designated to protect rare or unique features, rather than to create a system that represents "all significant natural ecosystems." All but one of the RNA's are at relatively low elevations. No alpine tundra nor any of the State's many subalpine forest and meadow ecosystems is included in a natural area. However, the Forest Service proposes to redress some of these deficiencies.

Sources of Information

This report outlines noteworthy features of each Research Natural Area and gives sources for further information. Some of the reference materials are based on studies that were near but not in the RNA's. Several general references, applicable to areas throughout New Mexico, are listed here but are not cited repeatedly through the report. Scientific names of trees, birds, and larger mammals are not usually stated because the common names are fairly standard in familiar manuals.

Introductory material above is in part from the 1977 publication of the Federal Committee on Ecological Reserves, National Science Foundation, "A Directory of Research Natural Areas on Federal Lands of the United States of America." The Directory (p. 142-149) summarizes the (then) 15 Research Natural Areas of New Mexico and prescribes abbreviations for them. This report expands and corrects the Directory's summaries.

Aerial photographs of the areas are available for viewing at appropriate administrative offices and usually also at the nearest Soil Conservation offices, including those in Raton, Silver City, Socorro, and Albuquerque. Aerial imagery may be purchased from the U.S. Geological Survey and, for forest areas, from the U.S. Department of Agriculture. A convenient source from nongovern-