

ARIZONA GAME AND FISH DEPARTMENT

REEVALUATION OF THE MOUNT LOGAN AND MOUNT TRUMBULL AREAS
AS POTENTIAL KAIBAB SQUIRREL HABITAT

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Abstract

Certain areas within the ponderosa pine (transition) type in the Mount Logan and Mount Trumbull vicinity were judged to be suitable for the introduction of Kaibab squirrels (Sciurus aberti kaibabensis).

Recommendations

It is recommended that between 20 and 40 Kaibab squirrels be trapped from the North Kaibab National Forest and transplanted to three locations in the immediate vicinity of Mount Logan. Trapping and transplanting operations should be conducted during March and April. An evaluation of the success of the introduction is to be determined by periodic investigations.

Background

The Kaibab squirrel (Sciurus aberti kaibabensis, Merriam) is a distinctly recognizable, reproductively isolated, color phase of the Abert squirrel and is presently restricted to the Kaibab Plateau (Cockrum, 1960). Population estimates range from 1,000 (Anon., 1968) to 3,000 (Hall, 1967) and above. This subspecies is currently classified as a "rare species" in the Red Book of Rare and Endangered Fish and Wildlife of the United States, although personnel of the Arizona Game and Fish Department maintain that it does not fit the criterion for rare, i. e., "rare or uncommon within its range" (Brown, 1970; Webb, 1969). The Kaibab squirrel is currently the subject of studies by the National Park Service (Hall, op. cit.) and the U. S. Forest Service (Rasmussen, 1970). The Arizona Game and Fish Department has included the Kaibab squirrel in the Tree Squirrel Management Information job (Project W-53, Work Plan 3, Job 3) since 1964. The primary objective is to determine suitable survey and inventory techniques. This subspecies has always received protected status with the exception of a very few taken under special permit. Most specimens in collections were obtained from road kills.

Like the Abert squirrel (Sciurus aberti aberti, Woodhouse), south of the Colorado River, the Kaibab squirrel is a species of the climax ponderosa

Procedures

On November 10 and 11, 1970, Dr. D. I. Rasmussen took time from his research on the Kaibab squirrel and accompanied Lynn Neff, U. S. Forest Service, Paul Webb, Arizona Game and Fish Department and the writer to the Mount Trumbull area. An extensive search of the area was conducted in an attempt to locate areas dominated by ponderosa pine and possessing a needle mat or grass understory over which the density and size of the trees facilitated arboreal movement by squirrels.

Findings and Discussion

Several areas were located in the vicinity of Mount Logan which appeared suitable for Kaibab squirrels. One of these was the north slopes of Mount Logan proper. Other areas were east of Mount Logan, toward the Pine Mountains, and probably subject to temperature inversions (Figure 1). Big sage, although present in much of the forested area, was absent from the better sites which were very similar to good squirrel habitat on the North Kaibab, except for being located on soils of volcanic origins (Figures 2, 3, 4 and 5). The U. S. Forest Service has type mapped 3,900 acres in the Mount Trumbull district as timber. This presumably includes areas of Gambel oak (Quercus gambeli), mountain meadow and some ponderosa pine with a big sage understory, so that the area of quality squirrel habitat is probably closer to 2,500 acres. However, most of the timber is connected by stringers of ponderosa pine with little or no understory. If Kaibab squirrels were to become established, they could readily occupy all suitable sites. All age classes of ponderosa pine were represented in the forest and pine reproduction was abundantly evident. Some of the pine forest has been logged and other areas thinned for timber stand improvement. Much of the forest should provide undisturbed good quality squirrel habitat for at least twenty years, barring a natural disaster such as fire.

Kufeld's (op. cit.) statement that the climate is drier in this area than in squirrel habitat on the Kaibab North is unsubstantiated and must be rejected. That a mature, self-sustaining, ponderosa pine forest exists with its associates Gambel oak, New Mexican locust (Robinia neomexicana) and aspen is, in itself, the best evidence of favorable climate for the community. No conclusions were drawn regarding the presence or abundance of mushrooms, since one of the more favored species is subterranean and extremely difficult to locate (Rasmussen, 1970). Mule deer and cattle may or may not have accounted for the lack of observed emergent varieties.

The consensus of opinion was that enough suitable habitat exists to accommodate a Kaibab squirrel population. Abert squirrels have been successful in occupying smaller isolated pine forests which are partly com-

APPENDIX

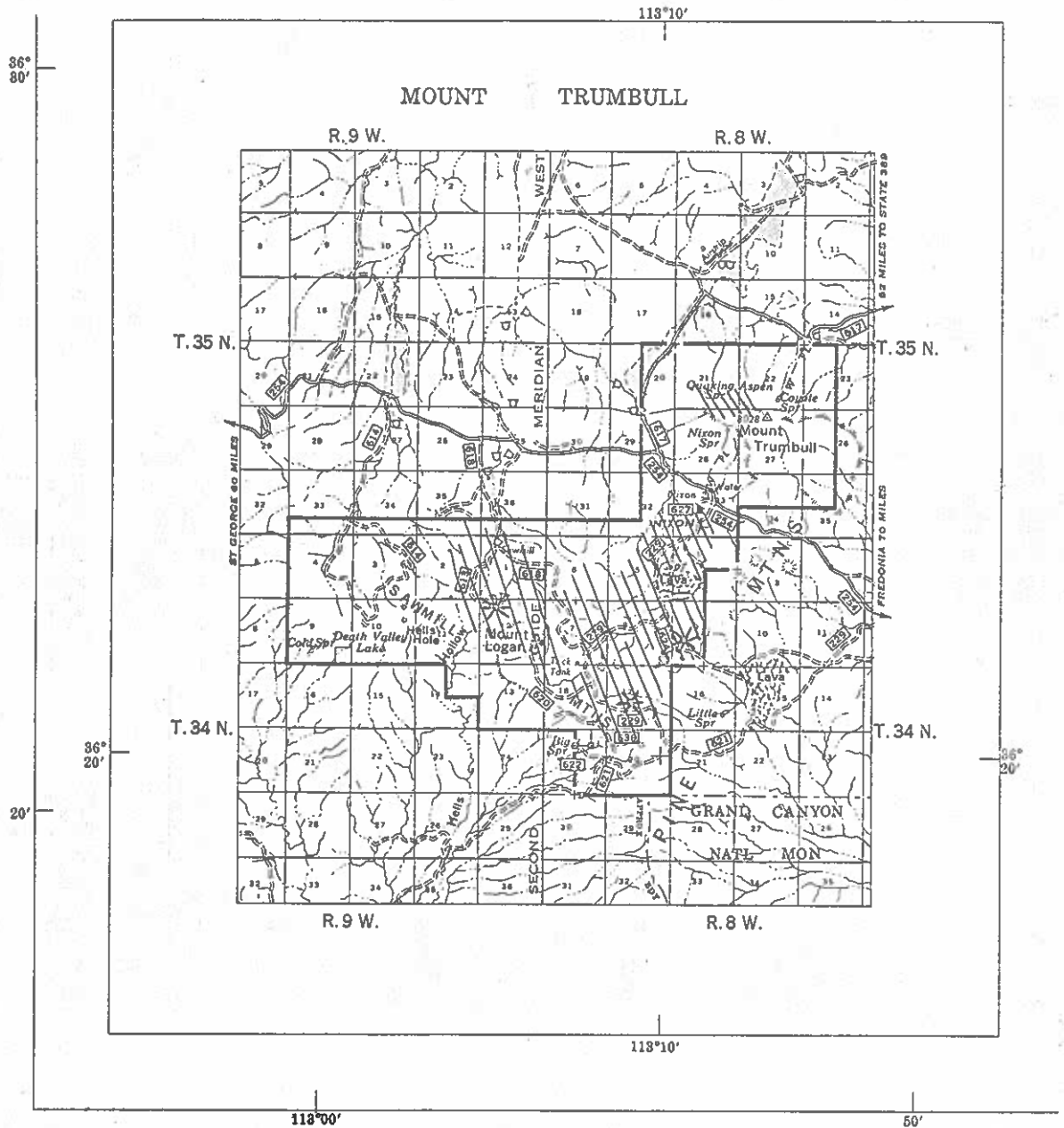


Figure 1. Areas of Mt. Trumbull Division of Kaibab National Forest Judged Suitable for the Kaibab Squirrel  Proposed release site 

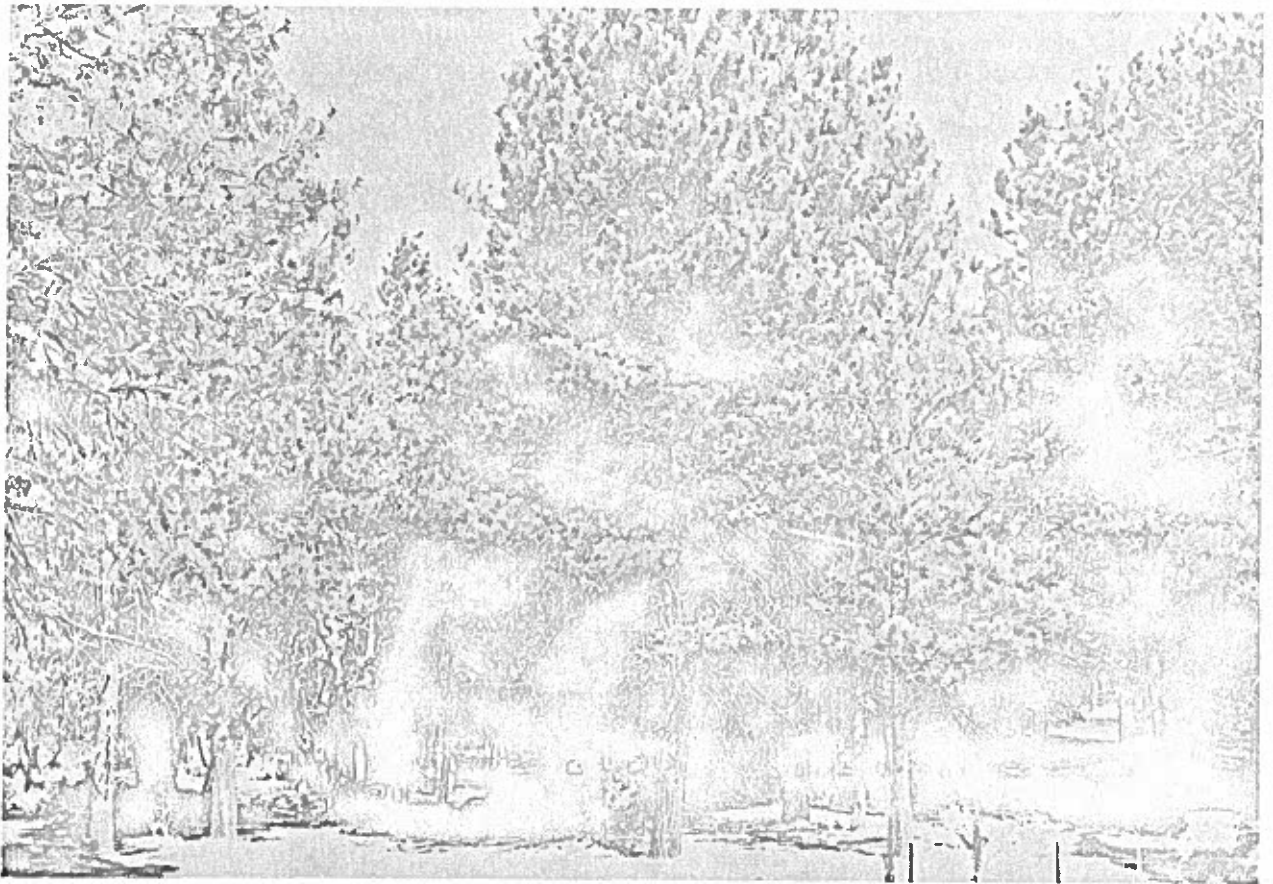


Figure 5. Ponderosa pine forest between Nixon Springs and Mount Logan.
November 1970.



Figure 3. Ponderosa pine forest on ridge of Mount Logan. Mullien (Verbascum sp.) in foreground with grass and needle mat understory. November 1970.

Rasmussen, D. I.

1970

Personal communication.

Webb, Paul M.

1969

Kaibab squirrel--rare and endangered? Unpublished paper given at New Mexico-Arizona Section meeting of the Wildlife Society.