

New Rangeland Research Areas in Oregon

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The Bureau of Land Management, U.S. Department of the Interior, recently established 13 Research Natural Areas (RNA's) east of the Cascade Range in Oregon. These areas provide outstanding opportunities for rangeland research and education. They will give land managers and researchers baseline knowledge of environmental and biological features of the various rangeland communities represented, an important prerequisite to basic and applied research. The Research Natural Areas are generally larger than 200 acres—big enough to reduce the effects of outside influences such as roads, grazing, and herbicide spraying, and to provide an adequate area for research sampling.

jointly supported by the Forest Service; Bureau of Land Management, Fish and Wildlife Service, and National Park Service; U.S. Department of Energy; and U.S. Department of Defense. The above agencies, along with the two states' natural area programs and privately funded Nature Conservancy, are cooperating in establishing a comprehensive system of natural areas representative of the diverse ecological environment in the Pacific Northwest. This ecological diversity is described as cell or element needs—specific plant communities or aquatic systems.

As of January 1984 there are 96 Federal Research Natural Areas in Oregon and Washington.¹ Research Natural Areas, as the name suggests, are areas set aside and maintained in their natural condition (ecological condition that has deve-

¹A partial list and a location map of established RNA's in Oregon, Washington, and Idaho can be found in "Atlas of the Pacific Northwest," by Richard M. Highsmith, Jr., and A. Jon Kimerling, 1979, Oregon State University Press, Corvallis, Oregon. "Federal Research Natural Areas in Oregon and Washington," by Jerry F. Franklin et al., 1972, USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon, describes vegetation, soils geology, and animals on 47 RNA's; supplements to this guidebook describing 15 more RNA's are available from Sarah Greene, Research Natural Area Scientist, 3200 Jefferson Way, Corvallis, Oregon.



Extensive Typha marshes at North Lake, Jordan Crater Research Natural Area, Vale District, BLM

The USDA Forest Service established the first RNA in 1927, the Santa Catalina Research Natural Area, near Tucson, Ariz. In Oregon and Washington, the RNA program is



Dense stand of mountain mahogany in Mountain Research Natural Area, Vale District, BLM, Photos taken by R. Kindschy, wildlife biologist, Vale District, BLM.

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loped without significant interference by humans or by their use of natural resources).

Specifically there are three program objectives for RNA's:

1. They are examples of important and/or unique undisturbed terrestrial and aquatic ecosystems, which provide baselines against which the changes caused by people on similar communities can be measured.

2. They serve as gene pool reservoirs for rare, threatened, or endangered plants and animals and also provide an unaltered gene pool for common organisms.

3. They provide natural, undisturbed areas for research and educational use.

The 13 new RNA's range in size from 227 acres to 11,930 acres, and include a variety of ecosystem communities (cells or elements). Ten of the RNA's are on the Burns BLM district, three on the Vale BLM district, and one is an enlargement of an already existing RNA, Jordan Crater. A wide array of terrestrial and aquatic features are represented. Aquatic cells include vernal ponds; a high elevation lake; a large, relatively undisturbed stream drainage; and a low elevation pond. Many high elevation plant communities are also represented: alpine plant communities on Steens Mountain; aspen groves, an extensive mountain mahogany stand, and black sagebrush/fescue grasslands. The lower elevation plant communities include a winterfat stand; narrowleaf cottonwood; big sagebrush/Indian ricegrass-needlegrass; big sagebrush/bunchgrass communities; western juniper/big sagebrush/bunchgrass communities; and a small silver sage community.

The RNA's will serve as benchmarks for monitoring the recovery of nearby disturbed areas; for example, overgrazed plant communities, disturbed riparian zones and wildlife habitats, unhealthy aquatic habitats. Monitoring the various

successional stages of range plant communities, studies on forage production, nutrient cycling and availability, wildlife behavior and habitat characteristics, and fire history can be carried out under natural conditions on Research Natural Areas. Evaluation of the natural distribution, population dynamics, and habitat requirements of many sensitive plant and animal species can be done without interference for other management activities. The new RNA's will protect important seed sources for native grasses and shrubs. Finally, RNA's are sites where long-term research may progress undisturbed by roads, vegetation management, or other human activities. Permanent sample plots safe from other management activities can be established. Research can be concentrated and easily coordinated in designated RNA's.

Each Research Natural Area not only provides opportunities for research but also can be used as an outdoor classroom and research laboratory for secondary and higher education classes. The only restrictions state that destructive sampling must not occur, and use must not impair the naturalness of the area.

The Pacific Northwest Region Research Natural Area scientist, along with land managers and other scientists, continues to locate and evaluate suitable lands needed to complete the full array of undisturbed ecosystems to serve as ecological benchmarks.

More information for these 13 Research Natural Areas can be obtained by writing to the District Managers of the various Bureau of Land Management districts or to Sarah Greene, Research Natural Area Scientist, 3200 Jefferson Way, Corvallis, Oregon 97331. ●

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