

Remember Rangeland Reference Areas?

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The Society for Range Management has renewed its policy and strong commitment to the identification, description, and preservation of rangeland reference areas. These areas serve as a valuable educational and research resource where comparisons of rangeland ecosystems with and without grazing can be made. The rangeland reference area network is far from complete, and valuable, old reference exclosures are being torn down. It is time to re-examine our rangeland ecosystems and ensure a representative rangeland reference area network is maintained.

What are Rangelands Reference Areas?

A rangeland reference area is defined as:

An area set aside which illustrates or typifies virgin conditions of forest or range growth, as well as other (including grazed) conditions that have special or unique characteristics of scientific interest and importance from a range resource standpoint, to be retained primarily for the purpose of science, research and education (Laycock 1975).

There are 4 categories of rangeland reference areas:

1. **Research Natural Areas**—Baseline areas of large size (usually at least 300 hundred acres), which are representative of original, pristine (or climax) vegetation and which will receive nondestructive or nonconsumptive management.
2. **Exclosures**—Smaller areas set aside and protected from grazing either to preserve representative areas in excellent range condition or to allow observation of succession on depleted rangeland without grazing.
3. **Managed Range Study Areas**—Grazed areas that illustrate either excellent range condition or a specific type of livestock management. They could include part or all of federal, state, or university experimental ranges where long-term grazing management studies are carried out or other areas where the results of specific types of range management can be seen.
4. **Other Reference Areas**—Educational areas; endangered species preserves; botanical, geological, or archeological special interest areas; recreational areas, or other types of reference areas that do not readily fit into the other categories of the Rangeland Reference Area Program. These areas often have only local or regional significance.

History

The reference area program formally began with an article called "Natural Areas" by E. William Anderson in 1966. Natural areas include a variety of sites which are variously referred to as natural areas, research natural areas, ecologi-

cal reserves, ecosystem preserves, nature reserves, nature sanctuaries, and nature preserves. Over time state and federal agencies and private organizations began to include wilderness areas, primitive areas, recreational areas, scenic areas, botanical areas, geological, historical or archeological areas under the term natural areas also. The term natural area came to mean something much broader than an area set aside where natural biological and physical processes are allowed to occur unhindered.

In 1969, the SRM adopted the name reference area instead of natural area. The objective was the same: to preserve areas to serve as baselines against which the effects of management of the natural environment could be evaluated. The Society recognized reference areas as the cornerstone of the science of range management. Without them, no clear differentiation of range sites or determination of range condition and trend on grazed lands would be possible (Laycock 1975). In addition, the areas would enable researchers and managers to compare vegetational change associated with or not associated with grazing.

The Rangeland Reference Area Committee was established by the SRM Board of Directors in 1966. E. William Anderson was the first chairman from 1966-1971. William Laycock served as chairman from 1971-1975. Committee activities culminated in the SRM publication *Rangeland Reference Areas* (Laycock 1975), which provides a comprehensive overview of the policy and commitment of the parent Society and range professionals to the identification and preservation of rangeland reference areas. Range professionals, including, E.W. Anderson, A.A. Beetle, H. Cosby, F.C. Hall, D.E. Hutchison, P. Jensen, and A. Johnson contributed their time and expertise to the development of the Society's policy on rangeland reference areas.

Laycock (1975) stated that the recognition of the value of rangeland reference areas and the deficiencies of the existing system clearly pointed to the need for a reference areas program in each Section of the SRM. He developed a 7 point action plan for identifying, describing, and cataloging existing reference areas and suggested criteria for selection of new reference areas.

In 1975, the Reference Area Committee was disbanded only to be re-established in 1980 and merged with the Research Affairs Committee in 1984. Bill Laycock guided the Committee and served as the coordinator of Section activities involving reference areas during this entire period.

Why Establish Rangeland Reference Areas?

The reasons for preserving rangeland reference areas haven't changed in 20 years. Anderson (1966), Soule and Wilcox (1980), and Franklin and Trappe (1968) are just a few who have eloquently stated reasons for establishing a system of reference (natural) areas. The following reasons,

Editor's Note: The Rangelands Reference Area Committee is a subcommittee under the Research Affairs Committee. Barbara Allen is the chairman of this subcommittee. The Board of Directors, Society of Range Management, and the SRM Research Affairs Committee would like to see additional and rekindled interest in rangeland reference areas. The Rangelands Reference Area Subcommittee has been charged with the task of renewing the interest and completing the cataloging of rangeland reference areas in the United States.

though not all inclusive, have been selected because of their general acceptance of profound nature.

1). Because natural biological and physical processes can occur unhindered in rangeland reference areas, they serve as a baseline or standard against which the effects of human intervention in other parts of the natural environment can be studied and evaluated.

2). Reference areas are the cornerstones of the sciences of resource management. In range science they provide the basis for defining range sites or ecological types, determining range condition and range trend under grazing and other uses, all of which are the fundamental ecological basis for range resource management.

3). Rangeland reference areas provide representative plant communities or ecosystems which serve as outdoor laboratories for teaching and research on ecological dynamics, the specific effects of herbivores, and the impacts of ever-increasing human manipulation of the environment.

4). Rangeland reference areas are vital sanctuaries for individual species and communities. They provide essential genetic reservoirs of native fauna and flora. All domesticated crops spring from the pool of wild genes and preserving this source of wild genes is actually preserving our future supplies of food, fiber, medicines, and organic chemicals.

Work Already Done

Members from some SRM Sections have published lists of rangeland reference areas for their region. Table 1 lists those

Table 1. Existing publications of rangeland reference areas.

Section	Author	Year	Scope
Arizona	Turner et al.	1980	380 exclosures and remote areas
Kansas/ Oklahoma	Section Newsletter	1973	166 natural areas with location, map
Montana	Ross et al.	1973	Soil, vegetation inventory, nearly pristine areas
Nebraska	Section Newsletter	1973	20 areas, location, description
Pacific Northwest	Section	1969	Reference area location, veg type, agency
Utah	Laycock	1969	Exclosures and reference areas
Wyoming	Williams	1963	Exclosures
Saskatchewan	NRC	1972	Natural areas described, policy included

publications. Other efforts are underway, but the job is far from done.

Other state and federal agencies and private foundations are establishing research natural areas (FS, BLM, NPS, F&WL), nature reserves (University of California, The Nature Conservancy), and significant natural areas (California Dept. of Forestry). The federal effort in the identification, description and preservation of research natural areas produced directories of these areas in 1968 and 1977. Other organizations such as the Society of American Foresters and Soil Conservation Society of America also have large natural area programs. The American Association for the Advancement of Science (1963) published a comprehensive bibliography of natural areas. The SRM Rangeland Reference

Area (Laycock 1975) publication provides additional valuable literature citations.

What Needs to be Done

Sections that have not compiled a list of reference areas need to do so now, before the areas are gone, exclosures are dismantled, and no suitable areas are left to designate as rangeland reference areas. A form for recording information on potential reference areas is available (Table 2—see next page). The suggested criteria for establishment are found in Laycock (1975).

Sections with existing lists need to evaluate their list and suggest additions as appropriate. More importantly, all Sections need to stay in touch with public and private groups to be notified that a reference area and/or exclosure is going to be removed. Be part of that decision making process and fight to keep valuable reference areas.

Each major vegetation type should be well represented to ensure that we can meet future needs. Make an assessment of rangeland types in your Section. Check statewide data bases for their lists of natural areas. Which rangeland types are not included in existing natural area reserve systems? Evaluate and work through state and federal planning groups to promote the establishment and/or maintenance of areas and exclosures. Publicize the location, ownership, vegetation type and other pertinent information so that researchers and educators can make use of the areas.

Finally, think about the potential reference areas in your Section and report these areas to your Section. Resource conservation district personnel, extension agents, farm advisors, ranchers, and others can catalog and report old exclosures to their SRM Sections. Sections should designate a person-in-charge who can maintain contact with the Rangeland Reference Area subcommittee. Now you have a way to contribute by preserving valuable exclosures and areas of specific rangeland types that once destroyed are gone forever—that's that bottom line.

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Table 2.

SOCIETY FOR RANGE MANAGEMENT

SECTION RANGELAND REFERENCE AREAS COMMITTEE

INVENTORY OF EXISTING AND POSSIBLE RANGELAND REFERENCE AREAS

NAME OF AREA (or proposed name): _____

Location: Quarter section _____ Section _____ Township _____
Range _____ County _____ Township _____
Ownership of land (National Park, National Forest, BLM, State, Province, private, etc.): _____

SIZE AND DIMENSIONS: _____

VEGETATION COMMUNITY, TYPE, OR ASSOC.: _____

SAF FOREST TYPE NUMBER AND NAME (if applicable): _____

KÜCHLER TYPE NUMBER AND NAME (if applicable): _____

SCS RANGE SITE NAME: _____

OTHER CLASSIFICATION: _____

MAJOR SPECIES

(3 most abundant—Use SCS National List of Scientific Plant Names): _____

OTHER SPECIES PRESENT (List as many as possible): _____

MANAGEMENT OR USE DURING PAST 50 YEARS (if known): _____

CATEGORY DESIGNATION: (Check one)

_____ Research Natural Area

_____ Managed Range Study Area

Kind of livestock managed: _____

_____ Enclosure

Kind of livestock or animals excluded: _____

_____ Other Reference Area—Important features: _____

GENERAL COMMENTS: (Evidence of rodents, insects, disease, or other influences): _____

ALTITUDE: _____ EXPOSURE: _____ SLOPE (%): _____

GENERAL DESCRIPTION OF AREA: _____

DATE ESTABLISHED: _____

Subsequent alterations: _____

NO. OF PARTS (IF ENCLOSURE): _____

TYPE AND HEIGHT OF FENCE (EACH PART): CONDITION OF FENCE:

_____ In good condition _____

_____ Needs minor repairs _____

_____ Needs extensive repairs _____

VEGETATION TREATMENTS (seeding, spraying, etc.) if any: _____

VEGETATION SAMPLING:

Has vegetation in enclosure been sampled? _____ When and by what methods? _____

Has range outside enclosure been sampled? _____ When and by what methods? _____

Where are records retained? _____

Is the outside plot marked? _____ How? _____

PHOTOGRAPHS:

Have photographs been taken of the enclosure? _____

Grazed area? _____ If so, when? _____

Black and white _____ Color transparency _____

Where and photos and/or negatives filed? _____

GEOLOGICAL FORMATION: _____

SOIL TYPES: _____

Soil depth: _____

Has profile been described? _____

(If soil survey has been made of the area, attach a copy)

BUFFER AREA:

Is one officially designated? _____

Size: _____

Is it marked? _____

REPORTED BY: _____ TITLE _____ DATE _____

Send completed forms and requests for more forms to: _____

PLEASE FILL IN AS MANY BLANKS AS POSSIBLE ON BOTH SIDES OF THIS FORM AND INCLUDE A MAP SHOW LOCATION OF AREA