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# RANGELAND MONITORING



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## Actual Use Studies



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**UNITED STATES**

**DEPARTMENT OF THE INTERIOR**

**BUREAU OF LAND MANAGEMENT**

# **RANGELAND MONITORING**

## **ACTUAL USE STUDIES**

**TECHNICAL REFERENCE 4400-2**

**APRIL 1984**

Bureau of Land Management  
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Denver, Colorado

UNITED STATES

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RANGELAND MONITORING

ACTUAL USE STUDIES

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# RANGELAND MONITORING - ACTUAL USE STUDIES

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## RANGELAND MONITORING - ACTUAL USE STUDIES

1. ACTUAL USE DATA.

Actual livestock grazing use data are important in evaluating grazing management on specific areas of rangeland administered by the Bureau of Land Management (BLM). These data also provide the information needed to issue grazing bills based on actual grazing use. Data on wildlife, wild horse, and/or wild burro use should also be collected. In most situations, this use is estimated. The use by livestock may also be estimated where actual use data are not available. Care should be taken to distinguish between actual use and estimated use, particularly when they are used in allotment, wildlife habitat area, herd management area, watershed area, or other designated management area evaluations. Actual livestock grazing use data combined with estimated wildlife, wild horse, and wild burro use data are essential in evaluations which may result in changes in grazing management or revision of existing management plans. Knowledge and interpretation of past use provides a basis for future management decisions. Actual use figures alone have no meaning; they should be considered along with authorized use, estimated use, utilization, trend, climate, and any other data available for allotment or other management area evaluation.

2. COLLECTING ACTUAL USE DATA.

2.1 Timing of Studies. Actual use data are generally obtained annually or at the end of specified grazing periods. The authorized officer may collect actual use data and related information at any time during the year to substantiate or verify reported actual grazing use and/or to make comparisons with authorized grazing use.

2.2 Reliability of Actual Use Data. Every effort should be made to obtain complete and accurate data. Inaccurate actual use data may result in poor management decisions. Numbers of livestock and periods of use specified in grazing authorizations generally do not reflect actual use. Livestock operators often do not turn out the number of livestock for the periods of use specified in these authorizations.

2.3 Documenting Actual Use. Irrespective of how the data are collected, a record should be made of the actual grazing use. Actual use data generally consist of the name and/or number of an allotment or pasture on which livestock grazed, the number of livestock, the kind and/or class of livestock, and the period(s) of time the livestock actually grazed the allotment or pasture. These data and any other pertinent information should be filed, stored, and retained for use in evaluations.

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3. ACTUAL USE STUDY METHODS.

Study methods by which actual use data are obtained may be indirect or direct. Indirect methods involve obtaining actual use data from indirect sources such as reports submitted by livestock operators and reports from other agencies such as the Forest Service. Direct methods include personal contact, counting, marking, tagging, etc., in which the authorized officer is directly involved with the livestock operators on the allotments. The authorized officer determines priorities and selects the appropriate method for obtaining actual use data.

3.1 Indirect Methods. Indirect methods are used when it is not feasible to determine actual numbers of livestock on an allotment by use of a direct method. Use of indirect methods for gathering actual use data leave certain questions as to reliability of the data. This requires caution and mature judgment. Familiarity and knowledge of the livestock operations, coupled with spot-checks, generally should be sufficient to determine reliability of the data for evaluation purposes.

3.11 Actual Grazing Use Reports. Livestock operators may be asked to submit reports documenting actual livestock grazing use. These operators should be encouraged to keep complete and accurate records of grazing use. The authorized officer calculates the AUM's of grazing use from these records for use in evaluations. The information on these reports may also be used to issue billing notices at the end of the grazing period or year.

a. Livestock Operator Cooperation. An atmosphere of mutual trust and confidence should be developed with livestock operators. This will enhance their willingness to furnish accurate actual use data. Time and personnel limit the capability for the BLM to regulate actual use by policing action. The BLM should make every effort to inform the livestock operators concerning the importance of actual use data and how these data will benefit their operations in the long run.

b. Requesting Actual Use Data. Actual grazing use reports may be sent to the livestock operators annually prior to the beginning of their earliest authorized grazing period on the public lands. These reports may be delivered and discussed personally with the livestock operators. The livestock operators should be encouraged to keep their actual use records up-to-date. After completing their authorized grazing use, they can mail the reports directly to the local BLM Resource Area or District Office.

c. Actual Use Spot Checks. Spot checks may be made of a portion of the livestock operators each year for verification of the reported actual use.



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3.12 Forest Service Counts. The Forest Service often counts livestock, either when they are being moved directly onto the National Forest from the operators' owned or controlled land, or when being moved from BLM allotments on the public lands onto the National Forest. The authorized officer may either participate in these counts or obtain the count information from the Forest Service.

3.2 Direct Methods. The authorized officer can generally depend upon the reliability of actual use data obtained by direct methods. One of these methods is generally employed where efforts are being made to control unauthorized livestock grazing use and/or where identification of the livestock is difficult.

3.21 Counting. Counting livestock, either when they are being moved onto an allotment or moved from an allotment, is a method of obtaining actual use data. Counting animals on the allotment where they are actually grazing is another reliable source of actual use data. Livestock counts should be documented. (See Section 2.3.) All field notes concerning the counts should be maintained as back-up information. Counting may also be used for documenting use by wildlife, wild horses, and wild burros. Counting, especially aerial counts, often underestimates use by wildlife, wild horses, and wild burros.

a. Ground Counts. Counting animals on the ground can be accomplished through the use of vehicles, horses, and in some cases, on foot. These means of counting have advantages and limitations depending on terrain, absence or presence of roads, size of allotment, type of vegetation, etc. Generally the most accurate counts are obtained from ground counts.

b. Aerial Counts. In open grasslands or low-shrub range, aerial counts can be an effective tool for gathering actual use data. Aerial counts of animals grazing in tree and tall brush-covered terrain have limited value because the animals are difficult to spot. Aerial counts are often best suited for identifying problem areas. It is difficult to assess the age of animals from the air. The ownership of livestock generally cannot be determined from the air.

c. Aerial Photographs. Enlarged aerial photographs of grazing animals may be used to obtain actual use data. The reliability of these data is questionable and the cost of acquiring the photos may not be justified.

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3.22 Marking. Marking is most valuable for controlling unauthorized grazing use but can also be used to count livestock on allotments. Livestock are marked with a dye which bleaches fibers (hair or wool) or with paint. These marks can be seen from a considerable distance which permits rapid counting. Livestock are carefully marked after the period when fibers are being shed. The mark is only as permanent as the current growth of fiber. Several hundred livestock in a chute can be marked within an hour. Marking programs of this nature should be handled by qualified persons. The Government is liable for tort claims if the dye is not used cautiously and injury occurs. Pellet-marking guns which permit the paint marking of livestock from a distance of up to 50 feet, fire a breakable paint-filled pellet. This pellet gun allows for easy and rapid marking of livestock with minimal handling of the animals. The number of livestock that are marked should be documented. (See Section 2.3.)

3.23 Tagging. Tagging livestock is best adapted for controlling unauthorized grazing use, but it is also a reliable means for determining actual use on allotments. Several types of metal and plastic ear tags are available. The tagging program requires considerable handling of the livestock, but the extra time and effort is justified for problem areas and areas under intensive management. The number of livestock that are tagged should be documented. (See Section 2.3.)

## RANGELAND MONITORING - ACTUAL USE STUDIES

### GLOSSARY OF TERMS

-A-

actual use: a report of the actual livestock grazing use certified to be accurate by the permittee or lessee. Actual use may be expressed in terms of animal unit months or animal months. (See 43 CFR 4100.0-5.)

allotment: an area of land designated and managed for grazing of livestock. Such an area may include intermingled private, State, or Federal lands used for grazing in conjunction with the public lands. (See 43 CFR 4100.0-5.)

allotment management plan (AMP): a documented program which applies to livestock grazing on the public lands, prepared in consultation, cooperation, and coordination with the permittee(s), lessee(s), or other involved affected interests. (See 43 CFR 4100.0-5.)

analysis: (1) a detailed examination of anything complex in order to understand its nature or determine its essential features; or (2) a separating or breaking up of any whole into its component parts for the purpose of examining their nature, function, relationship, etc. (A rangeland analysis includes an examination of both biotic (plants, animals, etc.) and abiotic (soils, topography, etc.) attributes of the rangeland.)

animal month: a month's tenure upon the rangeland by one animal. Animal month is not synonymous with animal unit month.

animal unit month (AUM): the amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month. (See 43 CFR 4100.0-5.)

authorized officer: any person authorized by the Secretary of the Interior to administer the BLM's rangeland management program. (See 43 CFR 4100.0-5.)

-C-

class of livestock: the age and/or sex groups of a kind of livestock.

-E-

ecological status: the present state of vegetation of a range site in relation to the potential natural community for the site. Ecological status is use independent. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble that of the potential natural community. The four ecological status classes correspond to 0-25, 26-50, 51-75, or 76-100 percent similarity to the potential natural community and are called early seral, mid seral, late seral, and potential natural community, respectively.

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-E- (cont.)

estimated use: the use made of forage on an area by wildlife, wild horses, wild burros, and/or livestock where actual use data are not available. Estimated use may be expressed in terms of animal unit months or animal months.

evaluation: (1) an examination and judgment concerning the worth, quality, significance, amount, degree, or condition of something; or (2) the systematic process for determining the effectiveness of on-the-ground management actions and assessing progress toward meeting management objectives.

-G-

goal: the desired state or condition that a resource management policy or program is designed to achieve. A goal is usually not quantifiable and may not have a specific date by which it is to be completed. Goals are the base from which objectives are developed. (See objective.)

-I-

interpretation: explaining or telling the meaning of something and presenting it in understandable terms.

-K-

kind of livestock: species of domestic livestock--cattle, sheep, horses, burros, and goats.

-M-

monitoring: the orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives.

-O-

objective: planned results to be achieved within a stated time period. Objectives are subordinate to goals, are narrower and shorter in range, and have increased possibility of attainment. Time periods for completion and outputs or achievements that are measurable and quantifiable are specified. (See goal.)

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-P-

pasture: grazing area enclosed and separated from other areas by fence or natural barrier.

potential natural community (PNC): the biotic community that would become established if all successional sequences were completed without interferences by man under the present environmental conditions. Natural disturbances are inherent in development. Includes naturalized non-native species.

public lands: any land and interest in land outside of Alaska owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management. (See 43 CFR 4100.0-5.)

-R-

rangeland: a kind of land which supports vegetation useful for grazing on which routine management of that vegetation is through manipulation of grazing rather than cultural practices. (Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, riparian zones, and wet meadows. Rangeland includes lands revegetated naturally or artificially to provide a plant cover which is managed like native vegetation.)

resource value rating (RVR): the value of vegetation present on a range site for a particular use or benefit. Resource value ratings may be established for each plant community capable of being produced on a range site, including exotic or cultivated species. On a given range site, each use (or potential use) has a separate resource value rating because that rating is based on classification of plants according to their value for a specific use. Some examples: A resource value rating for forage useful for cows and calves during the spring grazing season could be based on proper use factors (PUF's) or a more general assigning of plant species to good, moderate, or poor categories of forage value. Resource value ratings could then be based on production, cover, density, or frequency of plants in the different categories. A resource value rating for cover useful for a pronghorn fawning area might be based on density or cover of plants of a certain height or size class, without regard to plant species. A resource value rating related to scenic beauty might be based on abundance of flowering species, species with fall color, evergreens, diversity of growth forms, etc.

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-T-

trend: the direction of change in ecological status or in resource value ratings observed over time. Trend in ecological status is described as "toward" or "away from" the potential natural community or as "not apparent." Appropriate terms are used to describe trend in resource value ratings. Trends in resource value ratings for several uses on the same site at a given time may be in different directions, and there is no necessary correlation between trends in resource value ratings and trend in ecological status.

-U-

use: (See utilization.)

utilization: the proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). May refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with use.

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