Resource Value Rating: Definition, Determination, Application, and Use

T.E. Bedell

Resource value rating is the term used in the Range Inventory Standardization Committee (RISC) report to the Society for Range Management to denote value of vegetation or other features of an ecological site for a particular use or benefit. Not only would the concept apply to ecological site, but also to the ecological status of a site. On the surface, the concept appears to be highly applicable. To some degree range managers have been using the RVR concept, but often not within the ecological site framework.

Thus, an examination of the concept and its applicability was undertaken via a panel discussion at the 1985 Pacific Northwest Range Management Short Course held in Boise, Idaho, January 25-27, 1985. Following are written forms of the four presentations made by Bob Wagner, Bureau of Land Management; Bob Kindschy, Bureau of Land Management; Wendall Hann, U.S. Forest Service; and Bill Anderson, Certified Range Management Consultant. It was my privilege to be panel moderator. I trust you will find the ideas challenging and useful.

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Resource Value Ratings in Relation to Livestock Forage Values

Bob Wagner

Resource value rating is defined as the "value of vegetation present on an ecological site for a particular use or benefit" (RISC 1983). The Bureau of Land Management (BLM) believes that resource value ratings can be a tool to aid the manager in the decison-making process. BLM emphasizes the need for standardization of terms and guidelines to acquire consistent range condition data so that reliable estimates can be made of changes (trend) in range condition and other resource values. This is required by the Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579) and the Public Rangelands Improvement Act (PRIA) of 1978 (Public Law 95-514).

FLPMA, Section 201(a), requires the Secretary to prepare and maintain an inventory of the resource values and other values on the public lands on a continuing basis. The inventory must be current, reflect changes in resource conditions, and identify new and emerging resources and other values. The PRIA Section 4(a) is more specific. This section requires the Secretary to "update, develop (where necessary), and maintain on a continuing basis an inventory of range condition and a record of trends of range conditions on the public rangelands. The record shall be kept current on a regular basis so as to reflect changes in range conditions and shall be available to the public."

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The BLM is mandated by law to manage public lands for a variety of uses. The vegetation production on these lands has a variety of uses, i.e., livestock, wildlife, watershed stability, or aesthetics. Of course, a particular constituency supports a particular use, and all these desires in the aggregate usually outdistance the public land production. Consequently, a manager must make decisions about these possible resource outputs. Some of the various constituencies are happy, while some are not happy with the decision that sliced the pie. A relative value for these resources and uses might better illustrate and explain why a decision has been made.

A resource value rating is an interpretation. If the resource changes or the use or user changes, so might the resource value rating. A common reference point or plant community needs to be used for rating the variety of values. These ratings can then assist the manager in identifying management schemes, alternatives, predicting direction of change, and monitoring accomplishments.

Utilizing value ratings of the vegetation for specific uses, the manager can better analyze and display the tradeoffs of various management alternatives to the public. The actual rating of the vegetation should be accomplished by someone knowledgeable in that specialty. There needs to be agreement on the unit and vegetation community that the rating will be applied on. This might be each seral stage of the ecological site or perhaps more than one vegetation community in a seral stage.

Managers need resource value rating interpretations of the present vegetation and the vegetation of the other seral stages. This information could improve management of public lands, improve Environmental Impact Statement (EIS) impact projections/analyses, assist Annual Management Plan (AMP) economic analyses, and possibly help develop crosswalks between earlier range condition reports and future reports of the resource status.

Most of BLM vegetational inventory methods in the past were more livestock oriented as to forage species condition and site rather than ecological site community concept. Prior to 1978, BLM inventory methods closely followed a functional livestock forage desirability classification that paid specific attention to the kind of livestock and the season of use. Quality and quantity of available vegetation determine the livestock forage value or resource value rating, but quality might be different for different kinds of livestock. This classification indicates the grazing value of each important plant species for specific kinds or mixes of livestock. It is based on palatability or preference of the animal for a plant

species in relation to other plant species, the length of time that the plant is available for grazing, and the abundance of the plant. For example, the Deming Two Phase Method was a livestock forage condition classification inventory. The method, developed by Milo H. Deming during the early 1950's, was used by the Bureau during the 1950's, 1960's, and 1970's, (BLM 1955 and 1960).

In 1978, BLM adopted a vegetation inventory method that related more to successional stages of a site. This methodology, Soil Vegetation Inventory Method (BLM 1979), was adapted from the Soil Conservation Service's (SCS) Range Site Methodology (SCS 1976). BLM continues to use the SCS range site concept for inventory and classification of rangelands (BLM 1984).

A major problem in the use of all of these methods has been the confusion concerning the variety of ratings and what they represent. For example, under the Deming Two Phase Method, a fair sheep range may be rated a poor cattle range when the operator switches to a cattle operation, although the vegetation community would be the same.

Over the years, BLM occasionally made reports to Congress on the status of range conditions on the public domain. Some cattle range reported in "poor condition" in relation to the soils and site potential actually could be in a fairly late ecological stage. The opposite could also occur. When the public saw this type of report, it raised the question, "Are the public lands even being managed?" The use and connotations of adjectives such as "poor" and "excellent" continue to raise such questions in the mind of the public.

Perhaps BLM's explanations were inadequate, misconstrued, or totally lacking. Reports that indicate "poor condition" may be misinterpreted by some to mean that poor management is occurring when this may not be the case. Possibly the stage must be retained to meet specified management objectives. If the report is "poor cattle forage condition" and the ecological status is late seral stage, the question is, "Can a crosswalk be established for better communicating management directions, objectives, and accomplishments?" Livestock forage values may or may not parallel the successional stages of an ecological site. In public land management, site potential and the current resource condition need to be considered in land use planning, management objectives development, and grazing management strategies. This information can be helpful in the discussion and display of impacts and trade-offs in multiple use management decisions.

To do this properly, accurate site identification is critical. I feel we need to pay more attention to the soils situation. In some areas, the soil surface layer has been changed significantly to the extent of creating a new ecological site, and consequently, a different potential from that of the previous site designation. Improper site identification will result in management decisions that are not going to accomplish resource capabilities, management objectives, or public user demands.

The Range Inventory Standardization Committee (RISC), Society for Range Management (RISC 1983) presented the following quoted discussion on the need for inventory in resource planning:

> Classification of ecological sites is background information desirable and necessary for the collection and proper interpretation of vegetation and soil data. This classification, and the accumulation of information relative to the sites so classified, come mainly from studies and research. An ecological site classification provides the basis for identification and delineation of sites on a given area of land and for predicting potential values or management needs and responses of the area. Using the ecological site survey as a means of stratification, the present character or status of vegetation and soil is characterized in such a way as to provide an estimate of present resource values and to predict the consequences of a change in management or continuation of present management. This requires collection of data on plant species present, their relative abundance, the productivity of the system, changes in vegetation and soil protection, an estimate of present resource outputs or values for particular uses, and current levels of use. Classifying present variation in ways meaningful to resource values furnishes much of the desired information thereby reducing the inventory process to one of identification and mapping of ecological sites and existing vegetation. Detailed information on species composition, vigor, stand structure, productivity, utilization, and soil protection are needed in most cases only on selected monitoring locations.
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> The final step is to interpret the field data collected in terms of range condition, present or potential resource values, trends in these values, and probable causes of trends identified. Some of these computations or interpretations should be made in the field when data are collected. There is a significant difference between data collection and interpretation which must be recognized. Data collection is objective and without built in value judgments. Interpretation depends on value judgments or state of knowledge and can vary over time or among different interests. For example, measuring 50% utilization is an objective procedure, but designating that percentage utilization as safe or moderate use is a matter of professional judgment.

The use of standard terminology and definitions is important for consistency in interpreting and communicating the status of resource conditions within any agency and between agencies. Standardization of range inventories and monitoring by government agencies will be the first step in overcoming past problems experienced in comparisons of range condition information. Once standard inventories and monitoring techniques are used, the data can be aggregated and better comparisons of trend in ecological status and resource values can be made on all rangelands. To achieve consistency, BLM adopted the report of the Range Inventory Standardization Committee, Society for Range Management, entitled "Guidelines and Terminology for Range Inventories and Monitoring," February, 1983. According to BLM, this report contains a valid concept to build on.

BLM is in a transition stage for standardizing the data base. The ecological site inventory method will be used to establish the data base for determining change in ecological status and success of current management practices in achieving management objectives. The goal is to have, as a minimum, an Order 3 soil survey and an ecological site inventory on all major blocks of public rangelands. This will be an ongoing long term effort.

I am not sure that an acceptable crosswalk can be established between seral stages and forage values for national reporting. However, resource value ratings (including forage values) may aid in explaining previous national reports; for example, why an early successional stage acreage is not being proposed for advancement to a later seral stage or why the percentage of acreage in a particular seral stage is meeting land use objectives through the current management scenarios.

It may be difficult to aggregate forage values to seral stage at the national level of reporting without segregating the seral stages to the sites; however, it may be possible to indicate percentages of the seral stage acreage that are in different forage value classes and meeting management objectives. Again, the main values of resource value ratings are as an aid or tool to better identify and analyze impacts, outputs, values of a variety of resources; to improve objective setting and monitoring; and also to display and communicate tradeoffs, management objectives, and accomplishments.

In 1984, BLM established a work group to consider procedures for resource value ratings as they relate to livestock grazing. BLM has since recommended to the SCS that further work on resource value ratings for livestock grazing be accomplished as part of the National Range Handbook rewrite. The intent is to strive for interagency development and adoption of the procedures.

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Rangeland Vegetative Succession—Implications to Wildlife

Robert R. Kindschy

In 1928, Frederic Clements, in his epoch work "Plant Succession and Indicators" stated: "The nature of the climax as the final condition of the vegetation of a climatic region—through a climatic period—makes unavoidable its use as the primary basis for the classification of existing seres."

Oosting, in 1950, further observed: "Plant communities are never completely stable. They are characterized by constant change, sometimes radical and abrupt, sometimes so slow as to be scarcely discernible over a period of years. These changes are not haphazard, for within a climatic area, they are predictable for a given community in a particular habitat. This means, of course, that similar habitats within a climatic area support a sequence of dominants that tend to succeed each other in the same order. Contrasting habitats do not support the same sequence of communities. As a result, any region with several types of habitats will have an equal number of possible successional trends".

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Pronghorn of the tall sagebrush-dominated Great Basin often benefit from reduction in brush overstory.

Forest succession has been observed for a long period of time. Implications to wildlife are well known to Idaho ecologists due to the well documented relationship of elk to the early successional seres following the extensive forest fires in north-central Idaho during the early part of this century. The more subtle changes in rangeland vegetation were less apparent. Surely wildfire played a major role in the successional disturbance of our intermountain rangeland ecosystems. Dr. Peter Mehringer of Washington State University (in press) has examined sediment deposition in several small, permanent, lakes in southeastern Oregon. It is apparent, based upon the abundance of pollen, that the grasses dominated for periods of time—followed by a dominance of the sagebrush species. The pattern was cyclic and probably indicative of periodic climatic changes as well as the occurrence of wildfires after which natural successional advancement enabled the establishment—and perhaps dominance of the climax shrub—sagebrush.

Recent investigations (Heady and Bartolome 1977) and research on relic sites in the intermountain West leave no doubt that sagebrush is one of the so-called "climax" species within these communities. It is probable—depending on the specific site—that sagebrush provided an average of <25% ground cover under pristine conditions.

These facts are important because our native wildlife species evolved within these environments. Normally we are dealing with between 200 and 300 species of vertabrate animals when the "non-game" species are considered. Each species, or more accurately groups or "guilds" of these varied species, have habitat preferences. Some are obligatory to certain habitat conditions—without which they disappear from the local fauna. Perhaps the sage grouse is the most cited example although Brewer's sparrow, sage thrasher, and other species of birds, mammals, and reptiles are equally obligatory to the presence of sagebrush.