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A Survey on Range Management Effectiveness

R.E. Banner, G. Simonds, and R.R. Hall

The range manager in the rain barrel is in a position somewhat like the range profession. The low water level limits his ability to accomplish his goal. His rain barrel can only hold so much water because the capacity is limited by a stave that is much shorter than the rest. Before he takes another bath, he'd better find the short stave and replace it with a longer one. There is also something limiting range professionals' effectiveness in managing rangelands. Only by replacing our short stave with a longer one can we improve our effectiveness.

In the barrel analogy, it's easy to recognize the short stave. However, effective range resource management is made up of many staves with complex and changing relationships that are not always obvious. In light of these complexities, the Society for Range Management (SRM) Excellence in Range Management Committee proposed a survey of the SRM membership to help identify our short staves. The SRM Board approved and agreed that a survey of SRM members would be useful for four reasons: (1) to discover who we as professionals are as we enter the decade of 1990s, (2) to develop insight on our perception of past professional effectiveness, (3) to learn what we think about current range management issues, and (4) to help guide our future professional activities.

The Survey Questionnaire

A detailed comparison of survey responses will not be included in this paper. Instead, this article focuses on the analysis of all 807 responses. Part 1 of the questionnaire surveyed the backgrounds of the respondents. It was divided into three areas: employment, selected interests, and personal data (i.e., age, gender).

Part 2 of the survey questionnaire directed respondents' attention to 24 issues selected to represent the most important staves of the range management barrel. We structured the questions so the respondents considered



sets of opposite statements. They responded to each statement twice, once by putting an X on the number on a scale of 1 to 7 where they felt performance or effectiveness in range management "currently is" and then by circling the integer representing the relative position on the scale where they thought it "should be." The following example illustrates how a respondent might record a response.

Statement 4:

Concerned citizens
are not informed
about range
management.

1 2 ~~3~~ 4 5 6 7

Concerned citizens
are informed about
range management

This structure allowed a comparison between the respondents' perception of the current situation and expectation for degree of accomplishment on each issue. The differences (if any) between the "currently is" and "should be" responses can be analyzed for a perceived "effectiveness" for each issue.

Statements were grouped into three categories. The first seven were designed to indicate a respondent's perception of past efforts in range management. The next

Authors are Associate Professor and Extension Specialist, Range Science Department, Utah State University, Logan, Utah 84322-5230; Ranch Manager, Deseret Land and Livestock, Woodruff, Utah 84086; Director, Range and Watershed Management, Region IV, U.S. Forest Service, Ogden, Utah 84401.

Table 1. Employment characteristic of survey respondents.

Employment	Respondents
USDA Forest Service	235
USDI Bureau of Land Management	100
USDA Soil Conservation Service	93
Other Federal Agencies	78
Rancher	71
Extension Agent	25
University Research/Teaching	136
State Land Management	14
State Wildlife Management	5
Student	58
Not Employed in Land Management	21
TOTAL RESPONDENTS	836^a

^aTotal respondents = 807. Some respondents indicated more than one category of employment.

Table 2. Personal interests and activities of survey respondents.

Interests	Respondents (%) ^a
Hunting or Angling	68
Member of Sporting Organization	25
Consider Self an Environmentalist	52
Contribute to Environmental Organization	26
Member of Environmental Organization	28
Officer in Environmental Organization	4

^aTotal respondents = 807.

two groups, statements 8–15 and statements 16–24, were designed to indicate the respondent's perceptions of levels of knowledge and commitment in the profession. The questions within each group progressed from the general to the specific.

In Part 3, respondents were asked to review statements 8–24 and to circle the four areas where they felt range management effectiveness would have been profoundly improved if past performance had been where it "should be." Survey respondents were instructed to rate only statements 8–24 because statements 1–7 represented the

Table 3. Age, gender and childhood environment characteristics of survey respondents.

Personal Characteristics	Respondents (%) ^a
Age Group (years):	
<30	11
31–40	39
41–50	26
51–60	17
>60	6
Non-Respondents	1
Gender:	
Male	80
Female	18
Non-Respondents	2
Childhood Environment:	
Rural - Farm or Ranch	50
Urban - Non-farm or Ranch	48
Non-Respondents	2

^aTotal respondents = 807.

product (outcomes) of the issues raised by the knowledge and commitment statements.

Survey Responses

Characteristics of Survey Respondents

Respondents who completed questionnaires are a heterogeneous group in many respects. Table 1 is a summary of respondent employment by employer, indicating that most work with rangeland resources as public servants. Table 2 summarizes respondent interests related to the outdoors, the environment, and conservation. Table 3 summarizes survey respondent age, gender, and background.

Survey Respondents' Views on Issues

In spite of differences in employment, outside interests, age, gender, and kind and place of upbringing, survey respondents clearly agreed ($P < 0.01$, Hoshmand 1988) that range management effectiveness has been lower than it should be on all issues raised in the survey. The highest level of achievement on any issue raised in the

Table 4. Mean survey ratings of professional effectiveness on 24 rangeland management issues.

Survey Statement Number and Issue ^a	Mean "Is" Rating ^b	Mean "Should Be" Rating ^b
1 Economic Importance of World Rangelands	3.5	5.0
2 U.S. Rangelands Health	2.8	5.2
3 U.S. Rangeland Improvement	3.4	5.2
4 Concerned Citizens Informed on Management	1.6	5.2
5 Livestock Grazing and Range Management	3.3	5.0
6 Public View of Range Manager Competence	2.3	5.2
7 Livestock Grazing and Riparian Areas	2.1	4.5
8 Individual Influence on Range Management	3.2	5.0
9 Scientific Information Adequacy for Management	3.8	5.1
10 Accessibility of Range Management	4.0	5.3
11 Managers' Experience/Art in Range	3.0	5.0
12 Level of Training - Public Agency	3.1	5.3
13 Level of Training - Private Practitioner	2.4	5.2
14 Public Range Manager Experience - Livestock	2.3	4.6
15 Reliable Measures of Trend in Range Condition	3.5	5.2
16 Responsibility Clear for Range Management	3.3	5.2
17 Managers Capacity to Ensure Proper Grazing	3.0	5.2
18 Sharing of Range Management Goals by	2.5	5.2
19 Existence Range Management Goals	2.9	5.0
20 Laws and Regulations and Range Excellence	2.6	5.0
21 NEPA Effectiveness and Range Excellence	3.2	4.9
22 Range Managers' Interpersonal Skill Level	2.5	5.2
23 Range Managers' Personal Commitment	3.9	5.5
24 Reward System for Effective Range Management	2.6	5.0

^aStatement issues paraphrased from survey questionnaire.

^bActual responses made from 1 to 7 and adjusted to a 6-point scale (0–6).

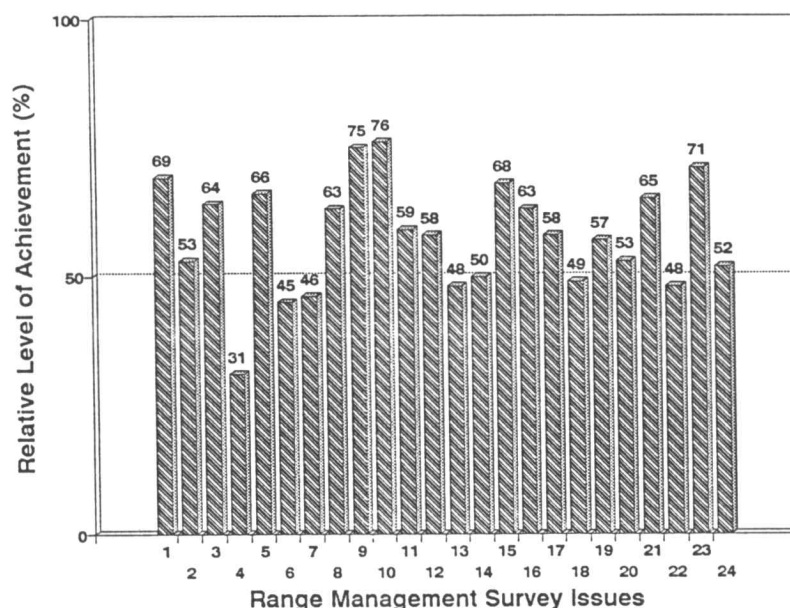


Fig. 1. Relative level (%; $P < 0.01$) of professional achievement of effectiveness on 24 range management survey issues from Table 4.

survey (Table 4) was 76% for accessibility of management information (Fig. 1). The level of achievement of range management effectiveness was rated only 58% on average across all 24 survey issues. Respondents generally expressed greater agreement (less variability in response) on where effectiveness in range management "should be" than on where effectiveness "is."

Respondents rated effectiveness on six survey issues at less than 50%: concerned citizen's level of knowledge about range management (Issue 4); the public's view of range practitioners' competence (Issue 6); livestock degradation of riparian areas (Issue 7); private sector range manager's levels of training (Issue 13); levels of range managers' interpersonal skills in communicating and interacting with people (Issue 22); and degree of range management goal sharing by interested people (Issue 18). Respondents identified seven issues as very important to the profession, four were also in this "low effectiveness rating" group: numbers 4, 7, 18 and 22. Other issues deemed important to the profession were range condition in the United States (Issue 2); public policy (Issue 20); and the low level of practical livestock management skills of agency range professionals (Issue 14).

Our analysis revealed five areas where respondents felt there has been high professional achievement (over 67% effectiveness): accessibility of range management information (Issue 10); adequacy of scientific knowledge on range management (Issue 9); personal commitment of range practitioners (Issue 23); recognition of the economic importance of world rangelands to sustain people (Issue 1); and availability of reliable measures of range trend (Issue 15).

Summary

The 1990 survey of people attending the annual meeting of the SRM revealed that survey respondents formed a

heterogeneous group. One in every five was a woman. Respondents from rural and urban backgrounds were equally represented. Most survey respondents were federal employees, and, conversely, few were ranchers. In spite of varied backgrounds, most respondents expressed an interest in hunting or fishing and considered themselves environmentalists.

Each issue raised in the survey questionnaire was identified as important for improving range management effectiveness by someone responding to the survey. However, some issues clearly stood out as important to many respondents. The "[limited] degree to which concerned citizens are informed about range management" was perceived to be the shortest stave in the effectiveness in the range management barrel. However, the degree to which respondents thought "concerned citizens are [un]informed..." may reflect somewhat defensive attitudes toward scrutiny and criticism from "outsiders." It may also reflect a lack of interpersonal skills, especially in communicating with people of different backgrounds and different interests. It might be explained by inability of range professionals to facilitate the goal-sharing process. Site-specific goals set by rangeland managers and users working together are increasingly being deferred to broad public policy (laws, regulations and court actions). These represent very impersonal kinds of human communication because problem solving decisions are imposed rather than formulated through problem identification, understanding, and agreement among people on a solution.

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