

College Facilities and Enrollments in Range Management¹

DILLARD H. GATES

Range Conservationist, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, cooperating with the Department of Forestry and Range Management, Washington State University, Pullman, Washington.

The art of range management has been practiced, at least to some degree, since man first domesticated livestock. The science of range management has been practiced only a relatively short time and has yet to reach its optimum development. Some few schools of the West have offered curricula in range management for several years. Other schools have only recently added such courses to their curriculum.

Range training at the college level is restricted primarily to western United States. The institutions offering this training have only limited facilities, even though range technicians need at least a B.S. degree. It logically follows that facilities for training technicians may become critical as demands for technicians increase.

Graduates and Enrollments

In the fall of 1958 a questionnaire was sent to all colleges and universities west of the Mississippi River known to offer training in range management. The purpose was to investigate the possibilities of training more technicians and to assay the facilities available for training them. Results of the survey suggest that the number of range-

trained students is increasing, especially at the undergraduate level. The total fall 1958 enrollment of range students in the 15 institutions was 279 (Table 1). A total of 214 students graduated in the years 1956 through 1958 (Table 2). In 1956, 43 received the B.S. degree. Thus there has been a strong percentage increase to the 82 expected to graduate in 1959 (Tables 1 and 2).

If it can be assumed that half of the M.S. students enrolled in 1958 were graduated in the spring of 1959 then the increase at this level is even more spectacular than at the B.S. level. In 1956, 13 students graduated with the M.S. If the assumption made is valid, 33 graduated with that degree in the spring of 1959.

According to the survey, 26 students were working toward the Ph.D. degree in range management in 1958. It may be assumed that many of these students were studying on an intermittent basis. The time required to complete requirements for a Ph.D. is also longer than that required for an M.S. degree. Thus, it may be reasonably assumed that only one-fourth of those en-

Table 1. Student enrollment in 15 college departments offering training in range management, academic year 1958-59.¹

Classification	Enrolled 1958-59
Juniors	104
Seniors	82
M. S.	67
Ph.D.	26
Total	279

¹ Training to qualify as Range Conservationists with the Civil Service Commission.

rolled for Ph.D. work completed their requirements by spring 1959. If this assumption is correct, about six Ph.D. degrees were earned in 1959. Reference to Table 2 will show that though this is a notable increase over 1958, it is only one more than graduated with the Ph.D. in 1956 or 1957.

Factors Affecting Enrollments

It is impossible to list or even be aware of all factors affecting student enrollment in range management. However, it does seem plausible to discuss some of the more obvious.

Most students tend to be mercenary in their choice of a career. Frequently when discussing career opportunities with students, the first question and main interest concern the beginning salary. Certainly beginning salaries in range management have not held up to those in many other fields, such as engineering and physical sciences. The war and defense industries with their supersonic aircraft missiles, space probes, and high appropriations have captured

Table 2. Recent graduates of 15 schools offering training in range management.¹

Academic year	B.S.	M.S.	Ph.D.	Total
1957-58	71	11	1	83
1956-57	51	14	5	70
1955-56	43	13	5	61
Total	165	38	11	214

¹ Training to qualify as Range Conservationists with the Civil Service Commission.

¹Presented to the Pacific Northwest Section of the American Society of Range Management, December 1-2, 1958, Spokane, Washington, as part of a panel discussion concerning professional needs in the field of Range Management.

²Colleges and Universities listed at end of paper.

the interest and mercenary mind of a lion's share of science students.

Apparently relatively few high school students are aware of range management as a career. Many first get acquainted with the field through contact with other students and faculty members after reaching college.

Some students seeking outdoor careers choose range management as a field of study. Certainly those seeking adventure as "professional cowboys" are drawn to the field. There is small justification, however, for emphasizing this phase. The complex job of managing our range resources calls for sound basic training and the ability to observe closely and make logical interpretations.

Range management as a career has been recognized in only relatively recent years. The inception of the American Society of Range Management in 1948 laid the foundation for this recognition and undoubtedly added considerable prestige to the career. Even so, our Society is not well known and recognized even among stockmen. As Society activities increase it is assumed that more students will be attracted to range management.

After entering the field of range management, some of the more serious students recognize the necessity for and see the opportunities offered by an advanced degree. Certainly if the student anticipates a career in research or education, an advanced degree is required. Basic research is receiving more emphasis even in the field of range management. To prepare adequately for the research job, a student must have training beyond the B.S. and M.S. degrees. In education, the additional training for a Ph.D. is also highly desirable. Most schools, especially those now attempting to strengthen their range departments, give high priority to

Ph.D. training. Present trends indicate that in the not too distant future a Ph.D. will be a minimum requirement for anyone anticipating a career of research or college education.

Trends generally begin at the bottom. Thus, an increase in number of Ph.D. candidates should normally follow rather than precede an increase in students at the undergraduate level. If present upward trends in undergraduate enrollment continue it is reasonable to believe that there will be a proportionate increase in candidates for the Ph.D. degree.

Institutional Facilities

Answers to the portion of the survey dealing with institutional facilities and curricula were not so clear as those concerning enrollment (Table 3). The majority of schools reported adequate classrooms but over half indicated deficiencies in laboratory space.

Half of the schools reported adequate teaching staffs. The other half, with inadequate teaching staffs, indicated a need for a total of 13 more teachers on a half-time basis. The majority of the schools indicated the need

for a larger research staff. A need for 18 more range researchers was indicated. Thirteen of these would be used half-time to account for the other half time indicated for the teaching positions. In indicating a need for increased faculty the schools did not necessarily mean that these positions are now open, but that the increased personnel would be required to do the job considered necessary for their institutions.

The relative needs for trained personnel and job opportunities may be reflected in the fact that nearly two-thirds of the schools emphasize institutional or government employment in their curricula (Table 3). It is encouraging to note that over half of the range schools have college-operated experimental ranges at their disposal and two-thirds require annual field trips by range majors. Although few schools require an agricultural background for their students, nearly half of them require summer camp or summer field experience for graduation (Table 3).

Apparently most of the schools included in the survey could train at least a few more stu-

Table 3. Response of 15 schools offering range management training to the questions concerning facilities and curriculum.¹

Question	Response	
	Yes	No
Adequate classrooms?	11	4
Adequate laboratory space?	6	7
College operated experimental range?	8	7
Adequate teaching staff?	7	8 (13) ²
Adequate research staff?	2	12 (18)
In your range management program do you emphasize or tend to prepare your students for government and college employment?	9	6
Do you require an annual special field trip for range students?	10	4
Do you require an agricultural background for your range students?	3	11
Do you require a summer camp or special summer employment for your students?	6	8

¹ Training to qualify the student as a Range Conservationist with the Civil Service Commission.

² Figures in parentheses refer to numbers of additional staff members required.

Table 4. Response of 15 schools offering training in range management to question concerning increased facilities and student placement.¹

Question	Response—Number of Schools					
	0%	10%	25%	50%	100%	Over 100%
How many more students could you handle with your present facilities?	1	2	3	2	0	6
How many more students than you graduate could you place?	0	2	1	7	1	2

¹ Training to qualify the student as Range Conservationist with the Civil Service Commission.

dents with their present facilities. Only one school indicated that its capacity was filled, but six indicated they could accommodate more than twice the present enrollment.

The job outlook for students of range management is very good. All schools included in the survey could place more trained men than they are now graduating (Table 4). Seven of these schools reported that they could place 50 percent more and two that they could place over 100 percent more trained people than they are graduating.

Thus graduates in range management occupy a very favorable position in the employment field, at least insofar as number of positions is concerned. Certainly the large number of positions available in relation to the number of graduates had much to do with the recent upgrading of starting salaries by the Civil Service Commission.

Conclusions

On the basis of a survey of 15 schools offering instruction in range management it appears that college facilities are generally adequate to accommodate present enrollments. There is, however, an upward trend developing which may overcrowd present college facilities if it continues. Research and teaching facilities in the range schools need strengthening by an estimated 13 additional half-time instructors and 18 half-time research technicians. At present there are more positions than range trained men, with the Federal Government being the primary employer, especially at the undergraduate level. Students with advanced degrees usually find ample opportunities for employment in research and teaching positions with state institutions or government agencies.

College enrollment in range management has increased

greatly during the past three years. This trend has been more evident at the B.S. and M.S. levels than at the Ph.D. level. It seems logical to assume that an increase in Ph.D. candidates will follow the trend in undergraduate enrollment.

Colleges and Universities Responding

1. A. and M. College of Texas, College Station, Texas
2. Brigham Young University, Provo, Utah
3. Colorado State University, Fort Collins, Colorado
4. Fort Hays Kansas State College, Hays Kansas
5. New Mexico College of A. and M.A., State College, New Mexico
6. North Dakota Agricultural College, Fargo, North Dakota
7. Oklahoma State University, Stillwater, Oklahoma
8. Oregon State College, Corvallis, Oregon
9. South Dakota State College, Brookings, South Dakota
10. Washington State University, Pullman, Washington
11. University of Arizona, Tucson, Arizona
12. University of Idaho, Moscow, Idaho
13. University of Nevada, Reno, Nevada
14. University of Wyoming, Laramie, Wyoming
14. Utah State University, Logan, Utah

Notice To Sections

I have been requested by the Board of Directors to solicit, from the sections, popular or rancher type articles for the Journal. I'm ready! Let's have them, but make them good! One per issue is the goal.

—The Editor