tint disadvantage to other workers in his field.

Lastly and perhaps most important is the need of the range research worker to be able to carry a project through to completion. Results of well-conducted research are of no use unless they are made available to other research workers, technicians and range users. Report writing is often the least interesting phase of research, and self discipline is essential to get it done. However, satisfaction derived from completed research projects and recognition by fellow workers in the field are some of the very important rewards of the research man. Recognition is not earned by merely working on an experiment but by completing research projects and publishing worthwhile results in a manner that is understandable to those who need the information for their livelihood.

As previously mentioned, most graduates in range management obtain employment in the field of range research with Federal and State agencies, and therefore are recruited through Civil Service examinations. This would seem to restrict the possibility of a graduate interested in research from obtaining employment in the field in which he is interested, particularly in the Forest Service where recruits to fill positions in the administrative branch are taken from the same rosters. However, a new employee who is particularly interested in research and shows ability in that field can often transfer to research when openings become available by making his wishes known to his superior. Training for a few years in range administration has its advantage in research because it gives the researcher a knowledge of the practical field of range management.

Usually during the first few years of employment, a range research employee will work under the direct supervision of a more experienced worker in the same field who will give him the training he needs for advancement. His assignment for the first few months will usually be as an assistant taking field data, summarizing and analyzing such data, and preparing preliminary reports on the results. However, the average researcher will have rather wide latitudes of individual initiative and can expect to soon be assigned a specific research project, the completion of which will be largely dependent upon his own ability to carry it through. Every new employee early in his career should endeavor to carry an individual study through to completion, including publication. Provision is usually made for this type of project by the employer.

Preparation For and Rewards in Rangeland Management

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College is part of the life of a land or range manager though a vast number of successful men in the field have learned the hard way. For such there have been many years of observation of relationships between plants and animals and among the members of each group. Colleges reduce the time and improve the facilities, but long study of the range is required of all.

The professions of wildland managers have developed after some other professions, as the need for the knowledge and skill arose and as adequate subject matter is gathered to give the necessary education and training. College courses have become the quick and satisfactory introduction to the profession, whether the rangeman is to specialize in animals or in the wise use of land.

The American Society of Range Management has devoted itself “to foster advancement in the sciences and art of grazing land management.” The term land manager in the current paper merely broadens the field to add the determination of the varied and multiple uses of lands which are arranged on occasion or established on a permanent basis. Two examples explain such uses: a. When the Air Force needed aerial gunnery ranges near Boise in World War II, it was arranged by land managers that winter range lands were provided for summer practice. Winter practice was similarly arranged over forested areas where the weather assisted in vacating the lands during the winter. b. Land above timber line may be valuable for grazing and an important storage area for winter precipitation.

A college course in wildland management should provide the graduate with a professional attitude toward the varied problems of wildland complexes. He should have as a basis for his profession substantial courses in the basic sciences. This is the science mentioned in the objective of the range society. The application of these sciences to land and its use is the province of
wildland management courses. The application constitutes the art or technique of land management.

In range management schools, mathematics, physics, chemistry and soils should be included in basic preparation, either in high school or at the lower division levels. A better understanding of soils is being gained. There are means to do something to correct deficiencies even in range lands. Full college courses in all these subjects appear out of the question so that adjustment of college courses to high school preparation should be arranged in the case of each student.

More emphasis could well be placed on systematic botany and botany in general. Young technicians may be employed at some distances from their colleges and may have very limited knowledge of the vegetations which they encounter in their work. Only a few can use taxonomic training to become acquainted with it. The men who know the plant families and their characteristics have means to learn and better appreciate range vegetation. It is also necessary to have full understanding of plant reproduction and growth and the general food value and deficiencies of plant production. On the other hand, grazing animals are the end product of range. Full knowledge of them starts with zoology and culminates in animal husbandry. Nutrition is more important to range management than breeds and breeding, which are a chief concern of the industry.

Language is necessary in dealings concerning the range and its people. The conservation program is a long-range affair which requires a written record. Use of English, spoken and written, is important to range men. It is easier to pick up the glossary of cow and sheep camps than to learn to write a report, make a talk to fellow range men, or adequately fill out a Form 57.

Now come the subjects which are taught by the faculties in range management. Their contribution should be governed by the need of the students. Undergraduates bring varied backgrounds to college. It is incumbent on the college to produce competent range men from students with varied training and of various talents, although there are certain limitations to the teaching of an outdoor subject in the classroom. The courses should include orientation in range management to balance men of different backgrounds, followed by emphasis on important range matters to which an introduction has already been made in the basic or introductory courses.

In certain cases the range management courses appear to students to be all that matter. Many have not been convinced that the profession of range management is a superstructure on pure science. They have thought that required sciences and English courses are necessary hurdles to be passed over with as little effort as the crack hurdler shows in covering 10 hurdles in 110 yards.

The field training at most colleges offers an opportunity to give young men the necessary training in observation and techniques which are not possible on the campus. The camp life tests the student on whether he will enjoy the rigors of an outdoor life and the isolation of far away places. In a field camp, time is so precious that there is small chance for its loss on the hobbies of professors and the subject matter of the theses of the range management instructors. The student should learn to observe, choose and take part in operations for the good of the range. He should learn simple surveying and mapping. If he does that, when he takes any position he will be ready to contribute immediately rather than require a long apprentice period.

Range management is becoming more complex all the time. Formerly a little knowledge gave a good head start. Time was spent in adjusting viewpoints to that of the rancher. Now the stockman is apt to speak of range plants by their scientific names, guide his breeding program according to the latest bulletin and calculate AUMs by the ages of his animals.

It has not been determined after many years consideration, that any certain physical traits are required of range managers. The short and tall, the lean and well-fed, seem to be equally qualified to excel in the profession.

It is more important that the new range man should ride a horse as well as he drives an automobile, that he should be able to walk and take care of himself in the country. More important still are attributes of mind and spirit. He should be alert, friendly, inquiring, industrious and fair in dealings with Mother Nature and his fellowmen.

If, then, the educational requirement of a candidate for range management work is so high, his training must be strenuous and his personal attributes so exacting, what has the profession to offer the exceptional young man who may gain admittance to the field in any of its ramifications: public employment, education, business or ranching?

The following numbered arrangement of rewards is not supposed to show relative importance:

1. Further experience in making the dollar stretch further. The opening salary will not be high, perhaps similar to that of teachers, preachers and graduates in business administration. It will be below the average beginning pay of lawyers, doctors and engineers. There is a considerable waiting period for promotion. The "art" mentioned by the Society cannot all be learned in college though it may have been taught. The gradual introduction to higher pay and higher responsibility allows a seasoning period which is rewarding. The values dealt in by range men are great and reasonable experience will help even the best.

2. There is an ever-widening field
for range men. In the days when United States and world lands seemed measureless, no one cared much what happened to land. Now in the days of the Neo-Malthusians there is constant reminder that only by good land usage can current living standards be maintained and future population increases be sustained. The prominence of the work is growing constantly.

3. The great outdoors beckons.

No other calling gives greater opportunity to live in the country where one may enjoy sun and dust, rain and mud, heat and cold. The rangerman is out where hunting and fishing are at their best.

4. There is more liberty on the range than elsewhere. There is room to move about. There is a minimum of people and duty is often the only boss.

5. There are horses, cattle, sheep, wildlife and fellow range men to maintain interest.

6. There are hard work and technical problems to tire the body and inspire the mind.

The record of the range people is a substantiation of the rewards. They rarely have left the range for other forms of endeavor. They are generally rewarded adequately, early or late, with local esteem and some worldly goods.

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**Developing Effective Rancher and Range Technician Working Relationships**

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Many range management graduates employed by governmental land-use agencies during the 1930 period were initially assigned to range survey crews or to positions concerned principally with the application of various range improvement practices such as range reseeding. Such employees generally were not required to work directly with ranchers on the strictly management phases of their operations.

More recently, an increasing number of range graduates are being employed in positions that require them to work closely with ranchers in developing technically sound and practical range management and improvement plans geared to the needs of individual ranching units. Experience indicates that such plans, to be effective, must be well grounded in basic range management principles and practices and in range ecology. He should have a good working knowledge of range livestock management practices and of ranch organization and operation methods.

It is only natural that some range technicians, newly employed in this type of work, are concerned about their ability to contact and establish satisfactory working relationships with individual ranchers. Some feel that the average rancher will think of them as too young and inexperienced for this type of work. Others feel that unless they can convincingly talk, dress and act like bona fide cowboys, they won’t “fit in” with ranchers. To truly act and feel at home in ranching circles is certainly a desirable attribute, but, in itself, is not the only or final criterion of a successful range technician.

It is not possible to draw up exacting specifications for a range technician who is to work directly with ranchers. Because of wide variations in individual personalities, what may be an attribute in one individual could conceivably be a detriment in another. However, field experience indicates certain qualifications that are desirable.

The ability to win friends and influence people is not equally inherent in all individuals. Regardless of the individual technician’s ability along these lines, it is essential that he has a genuine sincerity of purpose, professional integrity, keen interest and tolerance. Ranchers do not automatically agree with all of the concepts proposed by range technicians. However, they are more inclined to respect the opinion of the man who is sincere and steadfast in what he believes to be true. Controlled but enthusiastic interest in range management is essential to continued professional self-improvement. Interest and increased knowledge go hand-in-hand. The range technician should continuously observe and interpret range problems. He should develop a sense of feeling at home on various kinds of rangeland and various range conditions. Such an understanding and feeling is essential if the range technician