

Conservation of the Western Range

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ONLY five per cent of the more than three-fourths billion acres in the eleven western states is used for crops. About 90 per cent of this extensive land area is usable mainly for grazing purposes, and livestock production is the basic industry in the 200 counties of these range states. The eleven western states contain more than half of the United States' total sheep, and more than a sixth of all the cattle and calves, including dairy cattle and calves, of the country.

Ranch units in western regions are necessarily relatively large, with a resulting sparse population and high per capita costs of schools, roads, communications, and related services. Ranching is characterized by relatively slow turnover, and the ranch directly supplies very little of the total living of the ranch family, with the result that this high degree of commercialization means ranchers are particularly affected by price fluctuations.

OWNERSHIP AND USE OF THE WESTERN RANGE

Less than half of the range land in the western states is privately owned. The Federal Government owns 54 per cent of the total land area of the eleven western states, or 406,000,000 acres. The Forest Service and the Bureau of Land Management administer more than three-fourths of this acreage, and the Indian Service an additional tenth. Federal lands in general are poorer than average, so that their physical contributions to livestock production are not proportional to their acreage. Nevertheless, they constitute the major acreage of the western states, and they furnish some very strategic and

fundamental resources such as watershed areas, recreation, and summer grazing and hence they are of great importance to the West.

Only two-fifths of the land area of the western states is in farms and ranches. There are only 317,000 operating farm and ranch units in the eleven western states, or less than a tenth of the total of the nation. These units average more than 640 acres each, compared with the national average size of farm unit of 190 acres. Much of the publicly-owned range land is leased by ranch operators for grazing purposes, so that the livestock carried by the average operating unit is considerably larger than the farm or ranch alone could support. The landlord-tenant relationships growing out of this arrangement have given rise to serious controversies in recent years, and during the past two years particularly heated controversy has arisen over the relative merits of public versus private ownership of the western range lands.

The combined sheep and cattle using public grazing lands have declined approximately a tenth in animal unit months in the last three years (from 25,169,000 animal unit months in 1944 to 22,915,000 in 1947), due in part to reductions in permitted grazing on national forests. The number of sheep grazing on federal grazing lands in the western states has declined 27.5 per cent in the past 5 years—the decline on national forests being 28.5 per cent and on grazing districts, administered by the Bureau of Land Management, 27.2 per cent. At the same time sheep numbers in the western states have declined 34.1 per cent. Thus, there is

very little difference between national forests and grazing districts in percentage decrease in sheep numbers, and in both cases the amount of drop is less than the decrease in total sheep in the eleven western states. Sheep animal unit months on national forests declined 33.5 per cent during these years, indicating a decrease in length of grazing season as well as in numbers. Cattle grazing on public range lands increased 7.6 per cent from 1942 to 1947, while cattle numbers in the eleven western states increased 4.3 per cent. The numbers on grazing district lands increased 14.8 per cent while those on national forests declined 4.1 per cent. Therefore, the reduction in total animal units of grazing on western public range lands in the last few years is due largely to reductions in numbers of cattle permitted to graze on national forests. Incidentally, approximately twice as many cattle and about two and a third times as many sheep graze on grazing district lands as on national forest lands.

During recent years the wildlife population (antelope, deer, and elk) on the western public grazing lands, particularly the national forest areas, has increased from 161,000 animal units in 1921 to 310,000 animal units in 1931, 514,000 in 1941, and 540,000 in 1946, or an increase in the 5-year period of almost 5 per cent, more than 70 per cent for the 15-year period and some 225 per cent for the 25-year period (1). Total livestock animal units grazed on national forests in the eleven western states decreased 53.2 per cent during the 30-year period 1918 to 1947.

These developments have created heated controversy over management of the western range lands, and extensive hearings have been held during the past year and a half by the Committee on Public Lands regarding further proposed cuts in numbers of livestock which would be permitted to graze the national forests.

The two major federal agencies acting as landlords for western range lands are the National Forest Service in the U. S. Department of Agriculture and the Bureau of Land Management in the Department of the Interior. Some 136,000,000 acres are included in the national forest areas of the western states, of which some 80,000,000 are usable for grazing. This compares with 169,000,000 acres of public domain land administered by the Bureau of Land Management, which includes 132,000,000 acres of grazing lands within grazing districts and 36,000,000 acres outside of grazing districts. Since the number of livestock permitted on Taylor Grazing lands has been substantially maintained in recent years, the controversies concerning our public lands in the last two or three years have centered on the Forest Service and its policies.

The chief of the Forest Service, in his annual report for 1947, states that on many western ranges, one can see bunches of grass whose root crowns stand several inches above the ground surface, indicating that several inches of soil have washed or blown away within the lifetime of these individual grass plants. Ordinarily, lands at higher levels are the key watersheds. These are the lands at the headwaters of our major rivers. The higher lands ordinarily receive the most precipitation in the West, as much as 40 or 50 inches yearly, compared with as low as 15 to 20 inches of rainfall in the valley and foothill areas. Two-thirds of all the land of the southwestern, intermountain, and western plains receive actually less than 15 inches of rain annually, which is not enough for crop production without supplemental water. The high country—the mountain watersheds—must, therefore, furnish the lifeblood or water for the West.

It is extremely important, therefore, that the forest and range lands in this

area be handled with full acknowledgment of their watershed values. Watershed values in the aggregate exceed those of all the cash products the lands may yield, because water is such a limiting factor in many areas, and in addition produces hydroelectric energy, furnishes transportation, etc.

Taylor Grazing District lands, administered by the Bureau of Land Management, include extensive areas of the public domain which were never taken up by private settlers. Obviously, these lands are considerably below average in quality. In general, they are the poorest of the western grazing lands. For years and years, they were grazed excessively by all who could get their cattle or their livestock on them. At the time the Taylor Grazing Act was passed in 1934, these lands were in a serious state of deterioration. Much has been done through controlled grazing to improve grass cover on these lands, but much still needs to be done in the way of improvement, including more adequate stock water supplies, reseeded, control or reduction of the spread of aggressive and poisonous range weeds, and rodent control.

MULTIPLE AND CONFLICTING USES OF THE WESTERN RANGE

Western range lands have a wide variety of uses. In addition to providing grass for domestic livestock, they are used for recreation (winter and summer campsites, hunting, primitive areas, scenic areas), for municipal water and power sources, for water production for irrigation purposes, for watershed protection to prevent floods and silting of reservoirs, for lumber and wood products, for mining and prospecting for mineral wealth, for Indian welfare, and for other purposes. The multiplicity of uses and functions which range lands serve in our national economy is the chief source of conflict between

users of public range lands and the managing agencies.

The Forest Service administers the national forests under a system of "multiple use" which is management for coordinated maintenance and use of the forest resources and values. It aims to develop, protect, and sustain the use of natural units of land under correlated long term management plans, rather than use of a single resource in possible conflict with or at the expense of other resources on the same area. Within a management unit, one use may be dominant in one portion and another in another portion (4). In areas adjacent to streams or lakes, recreation may be the highest use, for example, while on the slopes timber cropping may be the highest use, and in the intermingled valleys and ranches, livestock grazing may be the highest use, but the area taken as a whole may be an important watershed. Under multiple use management, all these uses must be coordinated, and conflicts adjusted in the entire over-all management of the area, so that the area as a whole will be devoted to those most productive uses for the permanent good of the whole people, and not for the temporary benefit of individuals or companies. This is the guiding principle laid down when the national forests were placed under the Forest Service Administration in 1905. Where conflicting interests must be reconciled, the principle to keep in mind in multiple use management is to make decisions "from the standpoint of the greatest number in the long run."

Grazing is merely one recognized use of many western range lands. Grazing is encouraged in the National forests where land is suited for it and where it does not jeopardize other important values, but much of the grazing is on areas that are extremely important watershed areas, and also important grazing occurs on land sup-

porting commercial timber. Any effort to restrict or hamper effective administration and management of national forest lands used as range for livestock ignores the interests of irrigation farmers, residents in valley communities, recreationists, sportsmen, and others. The ultimate result would be to subject the lands to the possibility of the same kind of misuse that in the beginning caused the lands to be included in the national forests.

The Forest Service indicates that it has moved slowly in reducing permitted numbers of livestock on the western range because of the grazing permittees' dependence on the use of national forest range, and the effects drastic reductions would have upon the ranchers' incomes. Consequently reductions in livestock numbers have not offset the cumulative effects of over-grazing on many ranges. The chief of the Forest Service, in his 1947 report, indicates that about half the ranges on the national forests need further corrective action of one kind or another to check erosion, protect watersheds, and bring ranges back to fully productive condition. Efforts to relieve over-grazing of ranges are not confined to reductions in livestock numbers alone. Better distribution and management of stock on the range, improvements in the form of fences, water developments, etc., to facilitate management, reseeding of depleted ranges, reduction of rodents and poisonous plants all have a part to play in the overall objective of bringing grazing use into balance with sustained range capacity.

THE PUBLIC VERSUS PRIVATE OWNERSHIP CONTROVERSY

Two of the most heatedly debated topics in the western states today are (1) federal ownership of privately used lands and (2) the policies followed by federal agencies in the management of these lands.

The argument has been advanced that the federal range lands in the western states should be returned to private ownership as soon as feasible, and that under private ownership, utilization would be more efficient. The United States has followed a policy of private ownership of agricultural lands through the years, and where there is good evidence to show that private ownership would make most efficient use of land resources, such ownership should be permitted and encouraged.

Poor grades of western grazing lands are more over-assessed relative to capitalized net earning value than the better grades. For example, in a study by the author of the assessment of Montana range lands, it was found that on the first and second grades of grazing land, the ratio of assessed value to productive value was less than two and a half times, while for third grade grazing land the ratio of assessed value to productive value was more than four times, fourth grade five times, and fifth grade nearly eight times (3). The grazing lands were graded on the basis of the number of acres required per 1000-pound steer or one animal unit for a ten-month grazing period. Eighteen acres of first grade grazing land are required to graze one animal unit for a ten-month period, 19 to 27 of second grade land, 28 to 37 of third grade land, 38 to 55 of fourth grade land, and 56 acres and over of fifth grade.

The net capital value of grazing lands in the western areas falls to about zero when the physical productivity is 24 animal units of grazing per section. This would be the equivalent of two cows or ten sheep per year per section. In some areas in the west, average carrying capacity approximates this and it is hard to believe local assessors would assess such lands at practically no value. Under existing tax assessment procedures and institutional arrangements, many stockmen

prefer public ownership and leasing from federal agencies to paying excessive taxes on such lands. Until there is decided improvement in our local land assessment procedures so that lands are assessed in keeping with their carrying capacity, and until there is assurance that assessments will consistently be related closely to carrying capacity, most stockmen will find it more satisfactory to lease than to own the lands.

The multiplicity of uses of western range lands has been given as a reason for federal ownership as against private ownership. However, many lands in the Midwest and East with multiple purpose functions are privately owned. Therefore, the characteristic of multiple uses alone does not fit the western range lands as a special type of land resource peculiarly adapted to federal ownership.

The opposition to permitting western federally owned range lands to go into private ownership is based upon the feeling that much of our agricultural lands, through private ownership, have been exploited, and western range lands would be similarly exploited if privately owned and controlled. The dust storms of the thirties, extensive and serious soil erosion in many sections of our land, and related problems have led many to believe that a move to put much of the existing federally owned western range lands into private ownership would be a step backward and should encounter serious resistance.

Another factor against private ownership of most of the western public range lands is that much of the acreage is not suitable for division into units for single operator control. For this reason, competitive allocation of leasing rights is practically impossible. In the first place, the acreage is not blocked out into economic operating range units or if such acreages do occur, there are other limitations such

as inadequate water supplies, or no hay lands, or grazing adapted to only one season of the year, which make them inadequate as operating range units in themselves.

Thus, these lands can be used only in conjunction with other lands already privately owned, or with other lands controlled by other federal agencies for other purposes such as watershed protection, or with other lands owned by another public agency such as the state or county government. The only competition that can occur for these federal grazing lands is that between the owners or lessees or controllers on other adjacent lands. It cannot be between these adjacent operators and the public at large. In many cases, there is no competition even with other adjacent property holders, because frequently these federal grazing lands are so located relative to other lands that only one operator can make effective use of them. A system of competitive allocation of leases through competitive bidding would keep the pattern of operations in an impossible state of instability and insecurity.

Another situation which complicates the matter of private ownership of existing federally owned range lands is the fact that privately owned grazing lands now carry investment and assessed values that include to a large degree the forage value supplied free or at nominal cost by associated federal lands. In other words, after lands were opened to private ownership, the individual private user who owns some land but leases federally owned range lands would be faced with the need for buying these formerly free or nominal cost forage resources, the value of which he has already incorporated into his overhead, and is already paying part or most of the costs for these resources. Obviously, the lands would go on the tax rolls, and since the lands already owned by the pri-

vate user would not be reduced in taxable value, anything that the owner had to pay for the lands beyond a nominal price would result in investment and tax costs that were already being carried on the present private lands. This is a man made situation and can be corrected by human action, but institutional reforms come slowly and in the meantime those who purchase the lands would be penalized to the economic competitive advantage of those who do not. Thus, while some of the federal range lands might justifiably be offered for private ownership, many of them would not be accepted even if offered without price.

One more characteristic of western federal range lands should be mentioned here which helps to create difficulties of moving these lands into private ownership. Many of the western federally owned range lands, even though they are usable for grazing and for nothing else, are not amenable to ownership and use by one rancher alone. Much of the winter sheep range, for example, is of such a type that sheep bands must herd over it in wide circles or must be free to move considerable distances as droughts or winter storms may dictate. Single range allotments are not practicable nor customary, and open range herding over common area with other bands is a long established pattern (2). Of course, private ownership might be worked out for such areas on a collectivist basis, grouping together several private enterprisers, but this is rather a new departure in terms of ownership procedures.

For all of the above reasons, the conclusion must be reached that private ownership of all or most of the western lands is not feasible or desirable. As a matter of fact, if the lands were opened up for private appropriation, a great deal of them would remain publicly owned. At the same time, it is just as unrealistic to in-

sist that all of the federal range lands of the West must remain in federal or public ownership. There are some parcels that need not be retained in federal or even public ownership, but these parcels would not be numerous, and the total acreage involved would not approach a major portion of the total present federally owned holdings.

The answer to the problem of securing best use and conservation of our western range lands is not private ownership, except in a few and limited instances. Public ownership, of course, does not necessarily mean federal ownership. Ownership might be shifted to the state or to the counties. Bills have already been introduced in Congress in recent sessions, proposing to transfer title of the federally owned western range lands to the states. The record of public land management by states and counties in the West does not provide encouragement for proponents of state ownership. As a matter of fact, the record of state and county public land management is not of a quality comparable with that of management by the Federal Government. There are other reasons which would indicate that of all public agencies involved, the Federal Government is in the best possible position to do the most effective job of public range land management. Some of the pressure that has been exerted to transfer federal grazing lands to state control is based on the principle that certain groups of users might more fully dominate management policy if the lands were in state or county hands. We should certainly study the matter very carefully before recommending transfer of federal grazing lands to state or county control.

IMPROVEMENT OF LANDLORD-TENANT RELATIONSHIPS

The heart of the problem of western public range land management is land-

lord-tenant relationships. The problem is seriously complicated by the fact that in this case the landlord is the government. Moreover, livestock operators (tenants) are a part of the government. In the case of our midwestern and eastern farm lands that are privately owned, landlord-tenant relationships concern two or more private individuals, the government acting as an umpire. This relationship does not occur in the case of western range lands, because the government is the landlord for a major portion of the acreage.

Much of the recent controversy over Forest Service policy in managing western range lands has arisen from the fact that the Forest Service limits the number of livestock that can be grazed on range lands in the national forests. Forest Service advisory boards at the present time deal only with the conduct of grazing, but many ranchers want these boards also to regulate stock numbers. Such action would almost certainly conflict with interests of other users of the forest and with the public interest in sound watershed management. In the case of lands managed by the state land offices or by the Bureau of Land Management, there is a tendency to identify the interests of the administering agency with those being served and regulated. Advisory boards recommend carrying capacity of the range, issuance of permits or licenses, rules for land use allotments, seasonal use, and improvements in the case of the Taylor Grazing leases. Rentals charged have been extremely low in view of recent high livestock prices, but for the most part the conflict of multiple uses in the case of Taylor Grazing lands has not been as definite or as involved as in the case of national forest lands. This should be readily apparent by the very nature of the two types of land. The Bureau of Land Management has made a sincere attempt to balance equitably the interests

of the several users of western lands, but their problem has been a much less difficult one than that of the Forest Service, which has to reconcile the interests of livestock men, lumbermen, irrigationists, recreationists, sportsmen, and others.

What is wanted in good landlord-tenant relationships? In the first place, the tenant or user of western public range lands wants security of expectations or what might be called stability of tenure so he can operate efficiently over a period of years. If any change in allotment is to be made, he wants to be informed well in advance so he can make his plans accordingly. If there are difficulties between him and the government (the landlord) he wants an impartial arbitration of such differences. He also wants reasonable payment of damages, by either party, and compensation for unexhausted improvements to be included in the leasing arrangements. For his part, the landlord wants protection against damage to his resources. Both the tenant and the landlord want a level of charges commensurate with productivity and a policy which is satisfactory to both regarding whom among several possible beneficiaries shall be granted the privileges to use the lands.

Some students recommend creation of a new kind of public body for administering the western public range lands as a solution to this very difficult and complicated problem. They suggest that on this new administering board should be represented both the user and the administering federal agency. For example, an administrative board of five members could be set up for a given area, comprising one sheepman, elected by sheepmen in the area; one cattlemen, elected by the cattlemen in the area; two designated by the Secretary of the Interior or by the Forest Service, depending upon the agency which had jurisdiction of the grazing lands

in question; and one selected by a vote of at least three of the four members. If such a board were to meet regularly, say at least quarterly, and render prompt decisions that would be binding on both parties, a means would be provided for more effective and fair administration of western public range lands (2).

Probably state boards should be set up on the same basis. A national forest advisory board was recommended by the Committee on Public Lands to the Secretary of Agriculture, in its preliminary report on forest service policy. A National Forest Board of Review consisting of three individuals has been appointed by the Secretary of Agriculture to serve in an advisory capacity with him for the administration of Forest Service lands.

Unless both users and the administering federal agency are represented effectively on the administrative body or board, misunderstandings, confusion, and dissatisfaction are likely to be continuous. Obviously, there are problems associated with making such administrative bodies work effectively, but moving in this direction gives promise of more satisfactory use in handling of our western public range lands.

An important means of improving relations between administering federal agencies and the public in western states is an adequate program of payments to the states by the federal government in lieu of taxes for the federal lands. Some \$200,000,000 yearly would probably be required for this program for the nation as a whole, but more than four-fifths of total federal land holdings are in the western states.

OTHER IMPROVEMENTS NEEDED

The condition of most of our public range lands is better today than it was a decade or two ago. However, continued droughts in some areas and earlier serious deterioration of others has resulted in a

considerable portion of our western range being in unsatisfactory condition. Improvements needed include: additional stock water reservoirs in many areas, fencing, and related improvements, reseeding, and rodent and poisonous weed control. In some cases purchase and management of additional lands by federal, state, or community agencies is becoming increasingly desirable for critical flood source areas and for upstream lands most important as water supply sources where individual owners cannot afford to undertake necessary measures for watershed protection. On the more important national forest watershed lands, there is need for more intensive management on many national forest timberlands and ranges, but good management must also be applied on watershed lands in private ownership, and this will require an extensive educational program and additional research.

On depleted range lands in private ownership, reseeding programs should be stepped up through conservation payments by federal action agencies such as the Agricultural Adjustment Administration, to improve watershed condition and restore wasted lands to maximum productivity. Continued and additional research by agricultural experiment stations, the Forest Service, and other federal agencies on watershed management problems and range control and use should have a prominent place in the over-all program to conserve the western range. There is still much to learn about the effects of various types and densities of vegetation on water run-offs; there is still much to learn about the relative nutritive value and carrying capacity of various types of grasses and how grass and native vegetation can best be utilized without adverse effects on watersheds. It is entirely possible that ways may be discovered to graze livestock which will increase water yields over those of virgin or non-grazed areas.

Much needs to be done on a more intensive educational program to acquaint ranchmen with the means by which they can determine the condition of their own range lands and the potentialities for improvement. Ability to recognize a few of the more important forage plants of the locality, some skill in judging relative abundance, an approximate idea of the kind of vegetation the area once supported and a knowledge of which plants increase and which ones decrease under heavy and light grazing, and related information are essential if there is to be widespread adoption of conservation measures on range lands. Placing a range management specialist on the agricultural extension service staffs in states with large acreages of range lands would undoubtedly help to get this educational job done. Federal and state action and development agencies concerned with range lands can do much to assist this educational program by close cooperation with the agricultural extension service and in joint discussion and development of programs and plans.

Only by a combined program of further research, intensive educational and development programs, and the establishment of improved landlord-tenant relationships can we expect marked improvement in the condition of our western range lands and have assurance that best use and sound conservation of this important resource will be followed in the years ahead.

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