C O P Y

G
Supervision, R-3,
Inspection

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OFFICE MEMORANDUM

Browse Problem in the Southern Forests of Region 3

The browse problem on the southern Forests of Arizona and New Mexico is considered by the local officers as the most difficult management problem in the Region. It involves the protection of watersheds of the greatest importance, and is complicated by the increasingly important deer management problem.

Cooperrider's work on the Tonto Forest indicates clearly that as far as the watershed values are concerned range management must be based upon the preservation and optimum development of the more palatable grasses and browse species. In no other way can the proper cover of vegetation be developed which is absolutely necessary to hold the soil surface.

From some quarters the question may be raised as to the necessity for maintaining favorable conditions on these watersheds, but from the standpoint of Forest Service policy there is no such question. Assuming, therefore, that our range management must be directed so as to promote the steady improvement of soil and ground cover, there could be no question as to the basis upon which these ranges should be stocked. There is entire agreement, I believe, that the range reconnaissance carrying capacity estimates are no lower, at least, than are essential to accomplish the objectives that must guide range administration. The important question, then, concerns the length of time necessary to reduce the numbers of stock to the reconnaissance estimates.

Some officers take the position that inasmuch as the unsatisfactory conditions have developed over a number of years, we should not expect to correct the bad conditions within a very short period. These officers favor making reductions slowly in order not to disrupt the stock industry in the communities affected. The objection to following this policy, as Cooperrider points out, is the fact that it does not offer any protection to those areas that are just on the verge of slipping as a result of hard grazing use but have not yet deteriorated to a glaring degree. Some areas, such as those in the vicinity of Roosevelt Reservoir, have gone downward so far that it will take a good many years to correct the damage done, but many areas that have not yet struck the rapid downward grade can be readily restored to safe condition if immediate measures are applied without delay.

Granted that Postponement of corrective measures would possibly benefit stock outfits that are having a difficult time to keep their

projects going, it is safe to say that in the long run it would not be doing the livestock business a favor or even justice to permit forage and soil, which are the bases of a permanent livestock operation, steadily to decline. It is clearly incumbent upon the Forest Service to direct range management steadily toward a safe basis of operation and to do so without sacrificing additional important resource values.

Personally I am not convinced that the reconnaissance estimates are sufficiently conservative to accomplish the watershed objectives, but I believe there is no question that they indicate the direction in which adjustments must be made. As an example of what I have in mind, Cooperrider states that he will not be surprised if it will be necessary to close the lower Tonto and Salt River watersheds entirely to grazing within a few years. This, of course, is distinctly farther than the reconnaissance recommendations have gone.

I am convinced that studies similar to those conducted by Cooperrider must determine the extent to which grazing use can be allowed with safety. This means essentially that we must determine what sort of vegetative cover is necessary in order to protect the watersheds. According to Cooperrider's findings, it will be necessary to re-establish as complete a grass cover as the climatic conditions will support. Originally there was a very fine balance between the vegetative cover and the physical conditions of growth. That balance was greatly upset by grazing, and the vegetation that held the soil was destroyed sufficiently to allow erosion to carry away soil built up through many ages. This in turn created constantly less favorable conditions of growth and a corresponding decline in herbaceous vegetation and an increase in shrubs. The shrubs were unable to hold the soil against erosion, and the soil has continued to wash away. To stop this process and restore the original type of vegetation must be the objective in any plan for protecting the watersheds. The same objective is essential from a range management point of view, because it is the palatable grasses that have been and are being destroyed through overgrazing and erosion.

It seems to me, therefore, that the basis of range management in the grass-browse association on these southern Forests is clearly defined. In application the basis of management will vary somewhat, depending upon what is the best combination of vegetation that can be expected to grow on the areas under management. In some localities the normal association should be grasses with a mixture of a minor amount of browse. In other localities the browse will predominate for at least a good many years. Cooperrider agrees that in either case, in order to maintain favorable conditions for general improvement, the palatable browse species and grass species must be maintained in vigorous condition. An important economic reason for maintaining the browse on these yearlong ranges is the fact that unless a considerable amount of browse id available the range will have low value from a profitable livestock production standpoint.

In my judgment it is very important that the range management objectives be clearly defined for each type of range under administration, and that the sort of use permissible in the administration of each type be clearly defined. In setting up the standards of utilization, it is, of course, necessary to consider watershed and plant requirements as well as the needs of livestock and game animals. When the objectives have been determined, the

grazing use that can be made and at the same time accomplish the management objectives must be clearly defined.

In discussing this phase of the problem with Mr. Shoemaker and the local officers, it was decided that standards of utilization could be expressed in terms of the number of flower stalks left ungrazed in the case of grama and similar turf-forming grasses; in inches of forage left ungrazed in the case of bunch grasses; and in the number of twigs left ungrazed in the case of palatable shrubs. Such a definition of utilization would form a key that could be used uniformly and accurately by all administrative officers and could be applied uniformly regardless of the amount of growth produced by plants in different seasons and by plants previously subjected to different degrees of grazing. Such a method of expressing utilization would be a vast improvement over the present practice of defining utilization in terms of percentage of forage consumed, and would supply a very definite basis for estimating actual utilization -- a need which is very evident and widely felt.

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