



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
P. O. Box 429
Lakeview, Oregon

May 1, 1962

Mr. A. L. Hormay
Stead Building
1960 Addison Street
P. O. Box 245
Berkeley, California

Dear Gus:

We were very happy to learn that you could visit this District to discuss a rest-rotation management plan for a portion of our Little Juniper Unit. We will have as much as possible of the information you requested.

But now we must inform you that a change in our work schedule will not permit us to meet on the dates you planned, June 4-5. In fact it now appears that June will be so full that we'll have to ask you to postpone the meeting until July. Sometime during the second week should work.

We know that the Burns District is also interested in having you discuss the rest-rotation system with them for their Moon Hill - Ruby Springs demonstration allotment. Perhaps you could schedule a meeting with them either before or after one with us.

We sincerely regret our required change in plans and hope you can arrange a visit for sometime in July.

Please let us hear from you.

Sincerely yours,

George D. Lea
District Manager

HOMESTEAD ACT
100
1862-1962

LAND GRANT COLLEGES
100
1862-1962

UNITED STATES GOVERNMENT

AKH
Memorandum

Forest Service, Region 3,
Albuquerque, New Mexico

1310 (2200)

AKH
TO : Keith Arnold, Director
Pacific Southwest Forest & Range Exp. Sta.

DATE: May 15, 1962

FROM : Fred H. Kennedy, Regional Forester, By

SUBJECT: Planning

In connection with his extension program on deferred, rest and rotation grazing, we should like to have Mr. Gus Hormay visit this Region.

We feel some kind or type of deferred and rotation grazing is a necessary solution for management on many of our year-long ranges. A number of such plans for management have been formulated. On some we have had protests, particularly in Arizona. We feel, as does the Chief's office, that Mr. Hormay might be of considerable benefit to us in our management problem.

From the viewpoint of plant development it is believed September might be the best time for his visit. Will it be possible for you to schedule a visit for Mr. Hormay to Region 3 in September, 1962?

Fred H. Kennedy

AKH
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AKH

Fred H. Kennedy, Regional Forester

1310 (2200)
May 18, 1962

E. J. Woolfolk, Chief, RMEWHR

Planning

Mr. Hornay will be glad to spend some time in your Region on grazing management problems. He has tentatively scheduled the period September 11-20. Please let us know if this is satisfactory or if more time is needed. Also please let us know where you would like Gus to report.

E. J. Woolfolk

4210
May 21, 1962

Mr. George D. Lea
District Manager, B.L.M.
P. O. Box 429
Lakeview, Oregon

mmR

Dear George:

I am still somewhat uncertain of my field schedule after June but have tentatively set the period July 16-20 to go over both the Little Juniper Unit and the Ruby Springs-Moon Hill allotment. If more time is needed I think I can work it out. Please let me know if this fits your convenience.

I plan to report at Lakeview the morning of the 16th and spend two or three days with you and the remainder of the week with Kent Giles.

I would like to hold a one-day indoor session on the principles of rest-rotation grazing before we get down to specific problems because I think this background is essential for sound application of rest-rotation grazing. If this is agreeable, I suggest all interested personnel from the two districts, and anyone else you care to have in, meet at Lakeview and sit in on the session. In this way, I will not have to cover the same ground in several places and can spend more time on allotment problems. It would be nice if you could arrange for a blackboard, a 35 mm. slide projector, and a screen.

Sincerely,

A. L. Hormay
A. L. HORMAY
Range Conservationist

cc: Giles
DeNio

ALHormay:dn

UNITED STATES GOVERNMENT

Memorandum

Forest Service
Washington 25, D.C.

2220 (4210)

DATE: May 23, 1962

TO : Director
Pacific SW Forest & Range Exp. Sta.

FROM : Director
Division of Range Management

SUBJECT: Range and Wildlife Habitat Programs

Reference is made to our memorandum of March 30, 1962.

We find that it is possible to transfer \$300 to the Pacific Southwest Forest and Range Experiment Station for Hormay's travel in June. It is hoped that Hormay can meet Frank Smith in Ogden June 11, 1962. Region 4 will arrange a combination trip the week of June 11-15, which will give Hormay an opportunity to review some of the management plan suggestions made last year in that Region.

If it is not possible for Mr. Hormay to make this schedule, please advise.

James Rio

Copy to JWRB

202-A-051-01-58.

UNITED STATES GOVERNMENT

Memorandum

PACIFIC SOUTHWEST
FOREST AND RANGE EXPERIMENT STATION
P. O. Box 245, Berkeley 1, California

TO : FILE

4210
DATE: May 23, 1962

FROM : Ray Ratliff, Dennis Aigner, Gene Conrad

SUBJECT: Range and Wildlife Habitat Programs

A meeting was held on February 21, 1962, and continued on February 23, to discuss the use of several methods of sampling vegetation and the analysis of the data obtained from the use of these methods for grazing management studies at Harvey Valley. Ray Ratliff, Dennis Aigner, and Gene Conrad were present during all of the meetings. Ray Ratliff presented the problems and led the discussion. On April 25 Ratliff and Conrad discussed the problems further.

Ratliff initiated the discussion by describing the methods used for studying (1) range condition and trend, and (2) range utilization. Condition and trend is presently being measured by a line-interception procedure, and range utilization by a point-center-quarter procedure.

The general scheme of the line-intercept procedure is as follows: A 100-foot line (transect) is laid out in an area selected as representative of a particular site. This transect is marked at 1-foot intervals. At each interval a 50-inch subtransect line is laid out so the subtransect is bisected and is at right angles to the transect. The subtransect is divided into 10 segments, three of which are 0.41 foot long and seven are 0.42 foot long. Plants, soil, or soil surface items are measured to the nearest 0.01 foot within each segment of the subtransect.

The general scheme of the point-center-quarter procedure is as follows: A point is located within a range site using a paced grid system. This point defines the center of an imaginary plot which is divided into four quarters.

In one grazing unit, cross-diameters of the nearest plant in each quarter were measured and recorded. In another grazing unit, cross-diameters were recorded by diameter class. However, bunchgrass plants less than 0.005-foot^{1/} diameter were excluded from the measure of diameter. In all grazing units studied, the distance to the nearest plant in each quarter was measured. Also for the nearest plant, the percent of the plant crown grazed was estimated and the most common stubble height was measured. The above determinations were restricted to forage species.

The line-interception technique described has been used for range condition and trend studies at Harvey Valley since 1956. In 1954 and 1955 ocular

^{1/} Ray, is this correct? You indicated 0.05-foot but this is equal to $\frac{1}{3}$ of an inch.

estimates of area cover by plants were made on 100 two-inch-by-2-inch squares located adjacent to the 100-foot transect lines at the same 1-foot intervals now used for the 50-inch subtransect lines.

There is no exact method of making the indicated transformation. Studies on the relationship between data on 2-inch squares and 50-inch lines has borne negative results, both by subtransect and by total transect comparison. Hence, it is not possible to compare such data for different periods of measurement. If it is desirable to test the condition change between 1954 and the present, measurements using 2-inch squares should be repeated.

On any one subtransect we may have a change in cover of a species between periods of measurement; however, on another subtransect we may have an opposite and equal change. Thus, we need enough subtransects to give us a reliable estimate of the degree of change and the direction of that change for the particular transect.

Since our basic sample is the subtransect, we are interested in what these samples tell us about overall changes. We need, also, to determine how long and how many subtransects are needed to provide the most efficient use of time. In order to make a comparison of various subtransect lengths, we feel it is necessary to sample the entire area in the transect with each length. The area sampled by the 50-inch subtransect is a belt 100 feet long and 50 inches wide. This belt contains the populations sampled. If we can draw at random from the 10 segments within the 50-inch subtransects, any group from one segment to 10 segments per subtransect will sample this belt.

For each length of subtransect selected, we need to determine the variance, and from this we need to estimate the number of subtransects necessary to sample the belt. Included in the variance is the variation within subtransects and the variation between subtransects. This, taken together with the amount of time required to add on another segment, will give an estimate of the most efficient length and number of subtransects.

Using the data from each of the various lengths of subtransects, we will determine the frequency of each species, the number of times each species is measured, the number of species encountered. This should permit us to develop a curve to show the subtransect length that will provide the optimum of information.

Analysis of the point-center-quarter data obtained, as described above, involves several problems. As pointed out below, measurements of characteristics on individual species are limited to sampling points where the same species is measured in each of four quarters.

The data in our possession now will not be of use in estimating species density or species cover per 9.6 square foot. Since the plots are taken without regard to a specific species, the only density measure which will be

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see
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page

adequate statistically is plant density (overall species). Otherwise, if species density is computed, a large bias will result if contagion exists in the sample area. To correct for this inadequacy, we propose that each species be sampled individually, i.e., pick an area in which the species is dominant and take PCQ plots for that species only. This would relieve the contagion problem. It will also allow us to estimate sample size required for the species sampled; this is not possible for species density using the present sampling scheme. If a production prediction is wanted, for each plant observed, record also diameter and ungrazed height. For utilization purposes, the grazed plants should have stubble height recorded. Understanding that in effect we are dealing with two separate problems, the optimum sample size for estimating production will be different than that for density estimation. Hence, we will have to take the largest optimum sample size of the two for our working size. (It may be that these will be so different--if the sample size required for density estimation is relatively big--that independent sampling will be called for.

In order to utilize the data which are available, we propose to select plots which record one species in all four quarters. Separating all such plots into species samples, we can then estimate species density and compute sample size for this estimate. For the remaining items for all species or for diameter and stubble height, computing the data in toto will be used. For each estimate considered, we can compute an optimum sample size and compare them to get an idea of the variables which require the most intensive sampling. Then a decision must be made on this basis regarding the most important variables to be considered at a desired level of accuracy.

We hope by the proposed procedure for estimating density that the problem of infinite distance will be circumvented. There should be no limits set to the distances which will be considered. All plots will be sampled without a distance limit.

*Analysis of variance, etc. Center
quant. data worth while
only to test distribution
of plants in range type +
applicability of technique unless
acceptably useful here will
not again be used as method
due to extra material to correct
for contagion distribution.*

James [unclear]

UNIVERSITY OF CALIFORNIA
SCHOOL OF FORESTRY
AGRICULTURAL EXPERIMENT STATION

BERKELEY 4, CALIFORNIA

May 28, 1962

Mr. A. L. Hormay
Pacific Southwest Forest & Range Expt. Station
care of Dean's Office
1 Giannini Hall
Campus

Dear Gus:

This is to express warm thanks for your good effort in preparing a key for species discussed in the browse paper.

After carefully reviewing the key, which I felt showed a good deal of originality, I forwarded it to coauthor Beryl Jespersen. Her feeling was that it would be distinctly undesirable to separate the species of a family in different growth forms. True, such segregations are not made by professional taxonomists so far as I know. Anyhow Beryl is responsible for the keys in the browse paper. Personally I felt your idea of growth form segregations showed considerable originality. The idea interested me to the point that I tried out your key on a few species and found it worked rather well.

Again many thanks for your effort.

Incidentally if you can spare a copy of the "Rest-
Rotation Grazing" paper I'd be pleased to have one.

Sincerely yours,



A. W. Sampson
Professor of Forestry Emeritus

AWS:pba
cc: E. J. Woolfolk



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
P. O. Box 429
Lakeview, Oregon

May 31, 1962

Mr. A. L. Hormay
1960 Addison Street
P. O. Box 245
Berkeley 1, California

Dear Gus:

We have put July 16 - 18 down as reserved for Rest-Rotation Management Planning. We will try to have as many field personnel as possible present for the indoor session on the 16th. We presume Mr. Giles will have his delegation here for that day too.

We will reserve the 17th and 18th for field days but with fewer personnel in attendance.

Sincerely yours,

George C. Amrhein
George C. Amrhein
Acting District Manager.



*Thermofax sent A.L.H.
@ Susanville 6/1/62*

