

Office Memorandum • UNITED STATES GOVERNMENT

4000

DATE: December 11, 1963

TO : ^{Gus Hormay} Gus Hormay, ~~R-W~~ Berkeley

FROM : Jack N. Reppert, Susanville

SUBJECT: Research, Bunchgrass Project, Harvey Valley Evaluation

Once again, Gus, I need your help. In order to complete an objective and thorough "mid-term" evaluation of rest-rotation grazing at Harvey Valley, I need livestock weight records on an individual animal basis. I would like these records in order to make tests of the significance of average weight responses. Will you please assist by sending complete individual weight records of any and all classes observed from 1954 through 1959. If you feel you must offer these records in person, I will plan on obtaining them in mid-January in Berkeley.

As you know, a publication is going out on this data in 1964. Your help in this matter will be greatly appreciated and appropriately acknowledged in the resulting article.

We are having winter up this way. Snow is 12 inches deep in Pine Creek and 2 inches deep in Poison Lake. We have established precipitation gauges in 6 allotments starting this year. So far one in Poison Lake is lowest at 4 inches while the one in Upper Pine Creek has caught over 10 inches.

Seasons Greetings.

Jack N. Reppert

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Dec 13*

Wardfolk

R. M. DeNio, Director, Division of
Range Management, W. O.

2220
December 11, 1963

John R. McGuire, Director, By

Management (Training Program in Range Management)

AIRMAIL

Reference is made to your memorandum of November 21, 1963.

Outlines for both the range management training course and the grazing systems brochure are enclosed. Any comments or suggestions you may have will be appreciated. Hormay will need all the time between now and the first range training session (Feb. 10, Ogden) to finish assembling material for the course. Further work here on the systems brochure will have to be delayed until after the range training sessions are completed April 10.

Enclosures

ALHormay:etr

CH
WR

Fred W. Bacon

WR

Dec. 5, 1963
A. Hornay

Outline of grazing systems brochures

LIVESTOCK GRAZING SYSTEMS ON THE NATIONAL FORESTS

I Introduction.

- A. General character of national forest ranges (1 paragraph, 2 photographs)
 - 1. Extent
 - 2. Vegetation
 - 3. Topography
 - 4. Time of use (seasonal, year long)
 - 5. Livestock (kind, numbers)
 - 6. Value to livestock producers
 - 7. Other wildland values
- B. Objectives of management of national forest ranges (1 paragraph, 2 or 3 photographs)
 - 1. Multiple use.
 - 2. Maximum sustained yield all values.
- C. Condition of ranges and cause (1 paragraph, 2 or 3 photographs)
 - 1. How ranges are grazed
 - 2. Plant, soil and animal requirements
- D. Specific objectives of grazing systems (1 paragraph)
 - 1. Maintain high plant vigor (yield)
 - 2. Maintain high plant reproduction rate
 - 3. Maintain adequate cover of vegetation and litter to:
 - a) Control soil erosion
 - b) Maintain soil fertility

4. Produce maximum forage for maximum grazing capacity
5. Utilization of forage when has highest grazing value
6. Graze forage efficiently with minimum disturbance to livestock
for maximum livestock production

II. Grazing systems used on the national forests (2 paragraphs)

A. Types

1. Continuous
2. Rotation
 - a) Straight rotation
 - b) Deferred-rotation
 - c) Rest-rotation

B. Principles of systems for achieving management goals

1. Continuous grazing
Proper degree of use of vegetation
2. Rotation grazing
Periodic resting of the range from grazing

C. Role of grazing factors in systems

1. Stocking
2. Season of grazing
3. Livestock distribution

D. Relative needs and costs of systems

1. Management facilities
Fences, water, etc.
2. Livestock handling

III. Descriptions of systems (Assume some season and moderate degree of forage use)

A. Continuous grazing (1 paragraph)

1. Design (description)
2. Merits and deficiencies
 - a) Low cost, practical
 - b) Maximum yearly livestock production
 - c) Does not prevent over use of key species and key areas nor decline of grazing capacity

B. Rotation systems

Main differences in systems

Amount and time of resting

1. Straight rotation grazing (1 paragraph, 1 diagram)

a) Design

- (1) Number of units
- (2) System of using units

(Diagram)

b) Merits and deficiencies

- (1) System rigid, mechanical. Amount and time of rest fixed by design and not by soil, plant, and livestock requirements. Rest usually inadequate.

2. Fits the needs of the individual range largely by chance.

Benefits uncertain

3. No direct consideration of livestock production. Production usually below maximum

4. Cost of management high (fencing, water, livestock handling, etc.)

C. Deferred-rotation grazing (1 paragraph, 1 diagram)

Like straight rotation grazing. However, range requirements met more fully but not necessarily adequately. No direct consideration to livestock production.

1. Design

- a) Number of units
- b) System of using units

(Diagram)

2. Merits and deficiencies

- a) Direct provision made for seed ripening and reproduction establishment
- b) Indirect provision for range maintenance
- c) Design mechanical. Does not provide enough rest to fully meet range and livestock requirements. Benefits uncertain.
 - (1) Entire range grazed each year
 - (2) Close use of key species and key area not avoided
 - (3) Deterioration key areas not arrested
- d) Livestock production below maximum
- e) Management costs high

D. Rest-rotation grazing (2 paragraphs, 1 diagram, 1 table, 2 or 3 photographs)

System based on direct consideration of plant, soil, and livestock requirements of the individual range. Rest, prescribed objectively to meet these requirements. Management formulated to insure recovery and maintenance of key species and key areas, hence the range as a whole.

1. Design

- a) Number of units
- b) System of using units

(Diagram)

2. Merits and deficiencies

- a) Insures recovery and maintenance of range
- b) Within limitation of range requirements maximizes livestock production
- c) Cost of management high because of need of management facilities

3. Other features of system (1 paragraph, 1 photograph)

- a) Forage reserves
- b) Integration cultural practices

Artificial reseeding

Spraying

E. History of use of grazing systems on national forests and present status

(1 paragraph)

Approximate size of brochure

Number of --

Paragraphs 14

Photographs 11

Diagrams & tables 4

Dec. 9, 1963
A. Horney

Outline of range management training course
for Forest Service personnel

- I. Character and scope of course
 - A. Seminar discussion type--guided by subject matter outline
 - B. Emphasis--grazing management
 - C. Coverage
 - 1. Review of basic facts--soil, plant, livestock
 - 2. Interpretation of facts
 - 3. Practice paper application interpretations
 - D. Training course atmosphere
 - 1. Status of knowledge of subject by trainees
 - 2. Receptive attitude of trainees
- II. Goals and responsibilities of Forest Service on national forest ranges
 - A. Multiple use
 - B. Maximum sustained yield and wildland values
 - C. Consideration public and private interests
- III. Importance and influence of vegetation on wildland values
 - A. Forage
 - B. Timber
 - C. Watershed
 - D. Recreation
 - E. Wildlife

IV. Importance of grazing compared with other factors on wildland values

A. Relative areas affected

B. Range deterioration

1. Extent, western ranges

2. Characteristics

a. General

b. Specific

Vegetation

Soil

c. Meaning of condition

V. Objectives of grazing management

A. General

Restoration of range concurrent with maximum sustained livestock production

B. Specific

1. Maximum forage

a. Plant composition

b. Forage plant vigor

c. Forage plant density

2. Soil fertility

a. Plant cover)

b. Litter)

Erosion control

c. Organic matter

3. Livestock

a. Weight gain per head

b. Weight gain per acre

c. Reproduction, health

VI. Forage production and maintenance of soil fertility

A. Biological facts

1. Soil

- a. Definition
- b. Formation
- c. Profile characteristics
- d. Colloidal properties
- e. Biological nature
- f. Fertility
 - (1) Mineral elements
 - (2) Nitrogen and organic matter
 - (3) Physical condition, erosion
 - (4) Water
 - (5) Acidity, alkalinity
 - (6) Plant indicators

2. Vegetation

- a. Forms (annuals, perennials, shrubs, grasses, etc.)
- b. Growth and development of forms
 - (1) Shoot (stem, leaves, flowers, seeds)
 - (2) Root
- c. Physiology
 - (1) Photosynthesis
 - (2) Food materials of plant

Kinds

Storage and use

d. Plant succession

(1) Development of climax

climate, soil

(2) Plant competition

Factors influencing

VII. Range utilization by livestock

A. Selection species and areas

B. Factors determining pattern of use

(Study utilization maps and data assembled by Region)

VIII. Grazing management systems

(Refer to management objectives section V)

A. Continuous grazing

1. Underlying principle--proper degree of use

2. Definition proper use

3. Proper use standards

a. How determined

b. Purpose

c. How used

Role of stocking, season

Livestock distribution

4. Results of application

B. Rotation grazing

1. Underlying principle--periodic rest from grazing

2. Types of rotation systems

a. Straight rotation (alternate)

b. Deferred rotation

c. Rest-rotation

3. Use standard -- amount rest to meet plant, soil requirements. Role of stocking, season, livestock distribution
 4. Design, merits, and deficiencies of systems
 5. Results of application
- C. Integration cultural practices in grazing systems
1. Artificial reseeding
 2. Spraying
- D. Grazing capacity under systems
- Significance and determination
- E. Appraisal management results
1. Range trend (productivity)
 2. Grazing capacity
- IX. Preparation grazing plans for selected Region allotments
- (Information for planning assembled by Region)
- Trainee practice
- X. Livestock production
- A. Biological facts
1. Nutritional requirements
 - a. Minerals
 - b. Carbohydrates, fats, oils
 - c. Protein
 - d. Vitamins
 2. Seasonal trend in forage values
 - a. Chemical analyses
 - b. Livestock weights

3. Effect plant growth stage use on vegetation (and livestock) production

(See clipping results VI A2 C)

4. Effect moving and handling livestock during grazing season on weight gains

B. Significance of facts

1. Season of grazing
2. Stocking
3. Livestock distribution, handling
4. Pasture layout

XI. Integration livestock information in grazing plans developed in IX
Trainee practice

XII. Considerations and steps in planning grazing management

- A. Multiple use
- B. Grazing area
- C. Range inventory

Character and potential of range

- D. Objectives of management
- E. Grazing plan and cultural treatment program
- F. Cooperation permittee

Trainee practice -- Review allotment plans in light of above

XIII. Other subjects for possible discussion

- A. Wildlife management
 1. Big game
 2. Other fish, birds, fur bearers, etc.

- B. Watershed values
 - 1. Erosion
 - 2. Water yield
- C. Timber production--grazing conflict
- D. Recreation--camp sites
- E. Sharing costs of grazing controls with other range interests
- F. Status of use of grazing systems in Region
- G. Questions on training courses

Approximate time schedule for range training course

Subjects by Roman number	Time of day
First day	
I, to V inclusive	8 - 10
VI A	10 - 5
Second day	
VI B	8 - 12
VII	1 - 5
Third day	
VIII	8 - 3
IX	3 - 5
Fourth day	
IX	8 - 10
X	10 - 5
Fifth day	
XI, XII	8 - 12
XIII	1 - 5

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December 11, 1963

Gus Hormay, R-W Berkeley

Jack N. Reppert, Susanville

Research, Bunchgrass Project, Harvey Valley Evaluation

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Seasons Greetings.

SPEED-MEMO

Dec. 13, 1963

1

TO

A.L. Hormay R.W. Berkeley

SUBJECT

Publication

FROM

R.D. Ratliff R.W. Susanville

MESSAGE (Write concise message. Sign and forward parts 1 and 2 to addressee. Retain part 3)

Gus:

If you have an extra copy of the following publication please send it to me.

Hormay, A.L. 1955. The Harvey Valley
Demonstration allotment.

Calif. Forest and Range Exp. Sta. 12p.

No number was given in the citation, and we can't find a copy of it here.

I thank you.

SIGNATURE

Raymond D. Ratliff

REPLY (Use this space for reply sign and date. Return part 1 to sender. Retain part two)

Please return. This is the only copy I have.

Att

SIGNATURE

DATE

4000

Jack N. Reppert, Susanville

12/18/63

A. L. Hormay, Berkeley

Research, Bunchgrass Project, Harvey Valley Evaluation.

Reference is made to your memorandum of December 11, 1963.

As you know I have been working for the past three years rounding up results of my studies on range management and rest-rotation grazing in northeastern California for publication. I'm striving to publish these results, including the cattle data you request, at the earliest possible date.

Ray Ratliff requested the cattle data several months ago. I wrote him of my publication plans at that time. It disturbs me that you request these data again now and feel it proper to interpret and publish results of someone else's research.

ALHormay/gl