

San Francisco, CA.
December 29, 1985

Dear Joe:

Enclosed are 42 slides and descriptions for the range meeting at Roundup January 16 & 17, 1986. Also, enclosed are a few photos of "Egan in action" in 1985.

For the present purpose the slides are numbered 1 through 42 in the upper right corner of the face of the slides. The year the photo was taken is shown in parenthesis below the slide number in most cases.

Keep rest-rotation grazing management basics in mind as you present the slides.

1. Rest-rotation grazing management (RR) is designed to promote and maintain maximum cover of vegetation on the ground under grazing use.
2. With RR this is accomplished through adequate and timely resting of the range from use, providing plants opportunity to recover vigor lost during grazing periods, establish reproduction and grow to full size.
3. Plant vigor is restored in about 2 years, but improvement of plant cover to site capacity may take several years depending on the condition of the range and variations in weather and growing conditions. Early signs of improvement are: establishment of reproduction and increase in size of plants.
4. Plants on preferred grazing areas are grazed as closely and damaged as much during grazing periods under RR as under continuous or any other type of grazing. However with RR the damage is nullified with resting. So plants grow normally.
5. An RR system is formulated for a specific range. It is designed to meet the particular conditions on that range. No two ranges are exactly alike, so no two RR systems are alike. The system is designed by the range manager and is as effective as he makes it.

I know you will do well and much to further the cause of RR at the meeting.

Good Luck,

ALH:be
encl.



SLIDE DESCRIPTIONS

Range Management Meeting
January 16-17, 1986
Roundup, Montana

Subject of slides: Response of riparian vegetation, woody species in particular, to rest-rotation grazing.

RESPONSE BY SPECIES AND LOCATION

A. ASPEN

- (1) Harvey Valley cattle allotment, Lassen NF, CA.
(near Susanville).

RR started in 1952 5-pasture system. Changed to 3-pasture system in 1976.

Slide 1. Location of Logan Spring area where results observed. The spring is located in the aspen patch in the upper right part of the photo. It is a main source of water for cattle (and deer) in this part of the pasture (#3).

Slide 2. Aspen reproduction at Logan Spring (1962) after 10 years of RR. The site is less than 100 feet from water.

Slide 3. Repeat of slide 2 after 32 years of (1984) RR. the stand is increasing.

- (2) Pleasant View cattle allotment, Burley District BLM Idaho, (near Malad).

RR started in 1966 3-pasture system

Slide 4. Condition of aspen reproduction on a (1967) site in Sheep Creek pasture, 1 year after RR started.

Slide 5. Repeat of slide 4 after 10 years of (1976) RR.

- (3) Matador cattle allotment, Dillon Resource Area, Butte District, BLM, Montana (near Dillon).

RR started in 1976 3-pasture system

The following slides show the effect of beaver on aspen and also mortality of aspen sprouts caused by a fungus.

(3) Matador cattle allotment, cont'd

- Slide 6. Aspen stand on the edge of Basin Creek, in pasture 2A. There are numerous aspen sprouts in the understory but are not seen because they have been stunted by past continuous grazing and are masked by the rank grass growth generated under treatment C (year-long rest) that year. The overstory aspen was "logged" by beaver in the winter of 1977. Both aspen sprouts and herbaceous vegetation were heavily grazed that year under treatment A (grazing during the green period).
- Slide 7. Condition of "logged" area in 1978. Aspen sprouts and herbaceous vegetation grew vigorously under treatment C.
- Slide 8. View across an area immediately adjacent and to the north of the "logged" site, showing the high vigor of aspen sprouts in 1979. However, leaves of the sprouts began to blacken by the end of the season because of a fungus. Many plants died by the spring of 1980.
- Slide 9. Repeat of view in slide 8 in 1980. Most sprouts were dead by the end of the season. With the heavy grazing evident, the cause of mortality of the sprouts could easily be attributed to livestock.

This fungus works on aspen throughout the west. The following slides show work in other locations.

- Slide 10 Leaves of aspen sprouts being blackened by fungus. Johnson Creek cattle allotment. BLM (near Wise River) Sept. 27, 1983.
- Slide 11 Mature aspen--trees with reddish-brown crowns, killed by fungus. Pleasant View cattle allotment, BLM Sept. 16, 1967.

The following slides show damage to aspen by big game (elk). Beartooth Game Range.

- Slide 12 Aspen highlined by elk. Tyrell Creek (1984) drainage.
- Slide 13 Aspen sprout stunted by elk use. Tyrell (1984) Creek drainage.

B. RIPARIAN TYPE

Morgan Creek cattle allotment, Salmon District BLM
Challis and Salmon NFs, Idaho Fish and Game, Stockman,
Idaho (near Challis).

RR started in 1972 3-pasture system

- Slide 14 (1982) Full cover of herbaceous and woody
vegetation maintained in Darling
Creek under 10 years of RR.
Slide 15 (1982) Heavy growth of herbaceous vegetation
and sagebrush on bench along Darling
Creek after 10 years of RR.

C. WILLOW

- (1) Matador cattle allotment, Dillon Resource Area,
Butte District BLM, Montana (near Dillon)

RR started in 1976 3-pasture system

- Slide 16 (1976) Condition of willow plants on plot 45
in pasture 3A at the start of RR.
Slide 17 (1981) Repeat of slide 16 in 1981 after 6
years of RR. Willows have increased in
size.
Slide 18 (1979)
Slide 19 (1981) Comparison showing increase in size of
Willow plants in 2 years. Looking
west across plot 45.

- (2) Mt. Haggin cattle allotment. Mt. Haggin WMA Montana
Department of Fish, Wildlife and Parks. (near Anaconda)

RR started in 1978 3-pasture system

- Slide 20 Mule Ranch a preferred grazing area
heavily used by cattle. Aspen sprouts
that have been held in check under
previous continuous grazing, started to
grow rapidly with RR. Observations were
made in the small ravine in the fore-
ground on an area to the right and just
off the photo.
Slide 21 (1981) Size of willow sprouts after 3 years of
RR.
Slide 22 (1984) Repeat of slide 21 after 5 years of RR.
The sprouts have grown appreciably.
Slide 23 (1984) Mike Frisina along side a taller sprout.

- (3) Sunflower Flat cattle allotment, Humboldt NF Nevada
(north of Elko).

RR started in 1960 4-pasture system

Here willow and other shrubs established in both wet and dry portion of a drainage in substantial amounts under rather harsh dry conditions over a period of 24 years with RR.

- Slide 24 Drainage in Chipman Meadow pasture, site of responses. The wetter portion of the drainage is lined with shrubs.
Slide 25 Heavy use has been and still is being (1981) made of the wet portion of the drainage.
Slide 26 However, most of the wet portion has (1981) revegetated with willow and other shrubs.
Slide 27]
slide 28] Willow has established in the drier (1981) portions of the drainage as well.

D. UPLAND SHRUBS

- (a) Snowberry (*Symphoricarpos* sp.), chokecherry (*Prunus* sp.) and sagebrush (*Artemisia tridentata*).

Pleasant View cattle allotment, Burley District BLM Idaho (near Malad).

RR started in 1966 3-pasture system

- Slide 29 Heavy use of chokecherry, snowberry (1967) and sagebrush (foreground) next to water. Jensen Pass Road.
Slide 30 Repeat of slide 29 after 9 years of RR. (1976) Chokecherry sprouts in left foreground, snowberry and sagebrush in middle and right foreground.
Slide 31 Use of snowberry and other shrubs in (1968) ravine bottom close to the water troughs shown in slide 29 at start of RR.
Slide 32 Repeat of slide 31 after 9 years of RR. (1976)
Slide 33 Looking up towards water troughs across (1976) a thrifty stand of shrubs generated with 9 years of RR.

- (b) Gooseberry (*Ribes*)

Boise Front cattle allotment. BLM, Idaho Fish and Game, Stockman, Idaho (near Boise)

RR started in 1970 4-pasture system

(b) Gooseberry (*Ribes* sp.)

Slide 34 Use and condition of gooseberry 1 year
(1969) before start of RR (near Adelman Mine).

Slide 35 Repeat of slide 34 after 3 years of RR.
(1972)

(c) Bitterbrush (*Purshia tridentata*)

Several species of shrubs, bitterbrush among them, can be made more productive for deer and other big game, as well as livestock with cattle grazing.

Slide 36 Typical use of bitterbrush by deer. The leaves and twigs are cropped back on branches throughout the crown and left in small clusters. In this open form the plant can be completely defoliated and killed. Such plants are low in vigor and produce less than normal growth.

Slide 37 Use of bitterbrush by cattle. Typically the crown of the plant is hedged into compact form. The grazed off twigs form a harsh stubble that protects underlying leaves from use. In this form the plant cannot be defoliated and killed and is maintained in high vigor. Grazing by cattle also stimulates an abundance of adventitious growth. So plants grazed by cattle produce more than normal herbage.

Slide 38 Heavy yield of twig growth on a bitterbrush plant under RR cattle grazing. Harvey Valley cattle allotment. The plant was grazed closely the year before.

Even large, decadent plants can be shaped into more productive form with cattle grazing.

Slide 39 An old low producing stand of bitterbrush near Janesville, CA. It has not been grazed by livestock for many years and only lightly by deer.

Slide 40 A portion of the stand shown in slide 39. It has been grazed continuously by cattle in winter for several years. The plants are being molded slowly into more compact form. They put out vigorous growth.

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- Slide 40 (con'd) Comparable results with bitterbrush are being obtained with RR cattle grazing on a deer winter range near Bishop, CA. The Bakersfield District of BLM set up a 4-pasture RR system on a portion of the range in 1966. Prime objectives were increase vegetation cover and more feed for deer. Browse provides most of the feed. Bitterbrush is the principal species.
- Slide 41 Bitterbrush, plants with dark stems, on a portion of the winter range grazed only by deer. The plants are low in vigor and produce limited growth. Current growth had not been grazed by the time the photo was taken, yet can hardly be seen.
- Slide 42 Bitterbrush after 7 years of RR grazing with cattle. The plants were grazed in summer by cattle and in winter by deer. They are being hedged into desirable form. They produce much more herbage than plants grazed by deer. Twigs on the plants shown here were less than half grown at the time the photo was taken.