

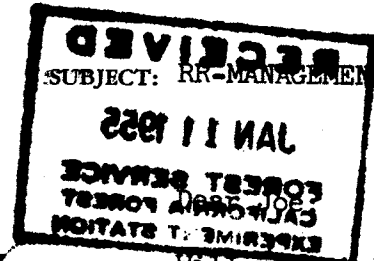
Office Memorandum • UNITED STATES GOVERNMENT

TO : DISTRICT RANGER, Bogard R. D., Lassen N. F.

DATE: January 7, 1955 ✓

FROM : A. L. HORMAY, Range Conservationist (Res.)

SUBJECT: RR-MANAGEMENT, Ponderosa Pine Ranges, Harvey Valley



Will you kindly let me have information on the acreage and species seeded on the Harvey Valley allotment this fall? Also, if you have estimated it, the acreage sprayed this spring in Little Harvey Valley. I now have a rough figure for this of 100 acres. I need these figures for the annual report and would appreciate getting them by the 14th of January. Will see you in February down here, I hope.

gr

A. L. Hormay

Gus:

Following is account of reseeding done this Fall in Pasture #3:

- 21 acres drilled only, not seeded.
- ✓ 21 acres reseeded only, not plowed,
with Bromo (B.)
- ✓ 9 acres plowed and reseeded with
Tall wheatgrass (*Agropyron elongatum*)

The estimate of 100 acres sagebrush sprayed in Pasture #4 is correct according to our records.

W.H. Lawrence

Office Memorandum • UNITED STATES GOVERNMENT

TO : A. L. Hormay, Range Research Division
Calif. F. & R. Exp. Sta.

DATE: 1/13/55

FROM : W. H. Sanderson, Bogard R. D.
Lassen N. F.

SUBJECT: G - MANAGEMENT
Harvey Valley Demonstration Allotment

Gus:



Attached is a rough draft of an historical account of the Revegetation and Range Improvement work done on the Harvey Valley Allotment from June, 1951 to date. This covers the work needed to put the 5-Pasture program into effect.

Could I get you to check it over and see if I have made any mistakes in the facts or if I have left anything out? Joe Flynn assigned this job to me and he suggested that I have you check it over. I dug out the records from our files, but may have missed on some of them, especially in regards to the original plans for reseeding and spraying projects.

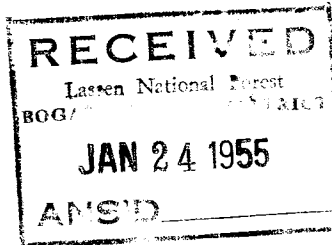
If you could review this while Phil Lord is in San Francisco, he could bring the rough draft back with him when he returns to the Lassen. Then I will make up the final draft and send a copy to you for your files. Thanks a lot for your time and trouble.

I have completed the tabulation work on the transects measured this year. Do you want the completed sheets sent to you at Berkeley? I will keep them here until I get further word from you.

Bill Sanderson
Bill Sanderson

D.R. _____
A.D.R. _____
F.C.A. _____
T.S.O. _____
CLERK _____
SUP. FOREMAN _____

FILES _____



Gus - Bill is going onto a detail at Porterville starting Feb 1. He will stop in Berkeley on Jan 31 for two hours or so - you can talk over any of these details. I will be down on Feb 14 in R.D. and any time we need on Feb 15.

Joe -

HISTORICAL ACCOUNT OF
IMPROVEMENTS & REVEGETATION

Purpose of Project

As a result of previous research work at Burgess Springs Experimental Range, it was decided in the Spring of 1951 to set up Harvey Valley Allotment as a demonstration and research area for two main purposes:

1. To try out the 5-Pasture deferred rotation grazing plan revised by A. L. Hormay of the California Forest & Range Experiment Station.
2. To try out cultural practices such as sagebrush spraying and planting of introduced grasses on a typical mountain summer range.

As this was to be a combined research and management program, the following groups were involved in the program:

Range Research Division, California Forest & Range Experiment Station
Lassen National Forest
Range Management Division, Region V
Harvey Valley Grazing Permittee

Methods and Procedures

In order to put the 5-Pasture grazing system into effect, it was necessary to construct fences around each pasture. This job was assigned to Lassen National Forest. It was estimated that 34.5 miles of fence would be needed. Bogard District was to build the fences and put in needed gates and cattle-guards. The livestock permittee also contributed some help to the fencing program.

Several new water developments were needed, in addition to those on the allotment in Spring, 1951. It was planned to have water developments well distributed over the range, several in each pasture. It was estimated that the following would be needed:

16 Water Pits or Reservoirs

3 Wells

5 Spring Developments

Part of these were already in existence in June, 1951.

In order to carry out the research program, it was decided that several Range Condition and Trend transects should be established in Harvey Valley Allotment, as well as some in Poison Lake Allotment as a control. Also, 8 exclusion plots in representative vegetation and soil areas were planned. Two sets of corrals with cattle scales were needed to weigh cattle. One corral with scales and a small holding pasture were already present at Sqaw Valley in the northeast corner of the allotment.

Plans were made to do revegetation work on 5,965 acres of the 32,362 acres on the allotment. 5,350 acres of sagebrush were to be sprayed and 615 acres of land were to be seeded to introduced grasses. Part of the seeding was to be done on sprayed land and part on unsprayed.

Accomplishment - Range Improvements

Fence Construction

In June, 1951, there was 7.5 miles of the planned fence system already in place. During the summer of 1951, 4.2 miles of fence around Pasture #1 were completed.

During 1952, the following fence construction was completed:

Between Pastures #2 and #32.5 miles
 Between Pastures #3 and #43.0 miles
 Along East Boundary Pasture #5.....2.5 miles
 Rest of Pasture #1.....0.8 miles

Total.....8.8 miles

During 1953, 2.5 miles of fence between Pastures #4 and #5 were completed.

During 1954, the following fence projects were completed:

Northeast Boundary Pasture #21.5 miles
 West Boundary Pasture #22.0 miles

Total.....3.5 miles

This made a total of 26.5 miles done to date.

Also constructed during 1954 was the Ashurst Drift Fence, 3/4 mile.

This is not a part of the 34.5 miles planned, but is needed as a part of the Harvey Valley fence system.

Gates and Cattle-Guards

It was estimated that 10 cattle-guards and 9 metal gates would be needed. There were 2 cattle-guards already present in June, 1951 - one at West entrance to Pasture 2 on Road 3302 and one at South entrance to Pasture 5.

During 1951, a metal gate was installed at the Southwest entrance to Pasture 1.

During 1952, the following cattle-guards were installed:

Between Pastures 2 and 1 on Road 3302
 Between Pastures 4 and 3 on Road 3302

During 1953, the following metal gates were installed:

Between Pastures 3 and 5
 Between Pastures 4 and 5

During 1954, the following cattle-guards were installed:

Between Pastures 3 and 4 on Road 3302

East entrance to Pasture 4

East entrance to Pasture 5

This made a total of 7 cattle-guards and 3 metal gates installed by January, 1955.

Water Developments

In June, 1951, the following water developments were present and in operation on the allotment:

Dixie Springs water Pit.....Pastures 2,1,&3
 White Horse Reservoir.....Pasture 1
 Harvey Valley Pit #1Pasture 1
 Harvey Valley Pit #2Pasture 3
 Little Harvey Pit #1Pasture 4
 Little Harvey Pit #2Pasture 5
 Squaw Valley WellPasture 2
 Burgess Springs TroughPasture 2

The following were present on the allotment but needed improvement before they would be fully operable:

Aspen WellPasture 2 & 1
 Burgess Cabin WellPasture 2
 Stanford SpringsPasture 2
 Shoestring Water PitPasture 4
 Cone SpringPasture 1 & 2

During 1951, one water pit (Barrel Pit,) was dug in Pasture 2

During 1953, the following water developments were completed:

Aspen Well - cattle trough was built

Shoestring Water Pit - bank was repaired

During 1954, the following water developments were completed:

Aspen Flat Water Pit was dug in Pasture 2

Lost Spring water Pit was dug in Pasture 2

Burgess Cabin Well - trough was installed

Accomplishments - Revegetation

1750 acres of sagebrush land in Pasture 1 was sprayed with 2,4-D during the period June 11-16. An airstrip was constructed in Harvey Valley and the 2,4-D was mixed at the airstrip, then loaded onto a fixed-wing Forest Service airplane (see Report of Harvey Valley Sagebrush Spraying Project for details). The airplane was flown in marked strips to cover the area. Cost was \$3.00 per acre (excluding cost of airstrip).

157 acres of this sprayed land then seeded to Brome grass (*Bromis inermis*). The land was disc plowed, rolled, and seeded at rate of 10 lbs. seed per acre. Cost was \$12.00 per acre. Another 158 acres of the sprayed area was plowed and seeded to a mixture of Brome and Crested Wheatgrass (*Agropyron cristatum*) - at same rate as above.

1952

106 acres were disc plowed and then seeded to Intermediate Wheatgrass (*Agropyron intermedium*) near Burgess Springs in Pasture 3 during the Fall of 1952. This was on unsprayed land. Planting was at rate of 6 lbs. per acre and cost was \$11.60 per acre.

1953

74 acres were seeded with Intermediate Wheatgrass in Pasture 3 near Road 3302 (main East-West road thru Harvey Valley) on previously sprayed land. This was at the same rate of seeding and cost as for the 106 acre plant. Planting was done in Spring of 1953. The area was disc plowed, and then seeded.

1954

90 acres along Road 3302 in Pasture 4 was disc plowed and seeded with Intermediate Wheatgrass. The work was started in the Fall of 1953 and completed in the Spring of 1954. Rate of seeding was 8 lbs. per acre and cost was \$12.80 per acre. This planting was done on unsprayed land.

21 acres near Burgess Springs in Pasture 3 was disc plowed only, not seeded, in the Fall of 1954.

Another 21 acres was seeded to Brome grass, without plowing, along Road 3302 in Pasture 3 during Fall, 1954. Adjacent to it, 9 acres was disc plowed and seeded to Tall Wheatgrass (*Agropyron elongatum*) at same time.

During Spring, 1954, 100 acres of sagebrush land along Road 3302 in Pasture 4 was sprayed with 2,4-D. Method of spraying was by use of a Buffalo turbine sprayer. Cost of application was \$1.40 per acre and total cost, including materials, was \$4.05 per acre.

Accomplishment - Research AidsTransects and Exclusion Plots

Installation of the Range Condition and Trend Plots was assigned to the Experiment Station. This work was done in 1954 (see below). Bogard Ranger District agreed to fence in the exclusion plots on areas selected by A. L. Hornay of the Experiment Station.

During the Summer of 1954, the following R. C. & T. transects were installed:

- 12 in Poison Lake Allotment
- 20 in exclusion plots in Harvey Valley Allotment
- 29 in Pasture 1 in Harvey Valley Allotment
- 15 in Pasture 2 in Harvey Valley Allotment
- 16 in Pasture 3 in Harvey Valley Allotment
- 13 in Pasture 4 in Harvey Valley Allotment
- 15 in Pasture 5 in Harvey Valley Allotment

A total of 120 have been installed. More may be put in on Poison Lake Allotment.

Fencing of 7 exclusion plots was completed during 1954, as follows:

- 3 in Pasture 1 - 2 in Section 27 and 1 in Section 34
- 3 in Pasture 3 - 2 in Section 26 and 1 in Section 35
- 1 in Pasture 4 - in Section 31

1 more was originally planned, in Little Harvey Valley. Cost of fencing and materials was \$1279.47 .

Corrals, Scales, and Holding Pastures

In order to measure weight gains of livestock, year by year, it was decided that two corral setups with cattle scales and holding pastures would be needed. One corral setup was already present in 1951 at Squaw Valley. Another one is still needed.

Present Status of Program

5 - Pasture Grazing Plan

The pasture fences were sufficiently completed in Spring of 1953 so that the planned grazing program could be inaugurated. All pastures have been used according to plan during the 1953 and 1954 seasons (see Management and Study Plan, Harvey Valley Allotment for planned rotation program).

While it is still early for full results in increased forage yield to show up, ocular observations show an increase in litter and in established seedlings. The Range Condition and Trend transects in Pasture 1, in the exclusion plots, and in Poison Lake Allotment were measured for the first time during 1954.

A representative sample of the cattle, ~~about~~ 35 head, were weighed on and off the allotment in 1954. Average weight gains of 1.4 lbs. per day were recorded.

Revegetation Results

A good kill on the 1780 acre sagebrush spraying project is evident and native grasses are coming back. The 157 acre area seeded to Bromegrass had an estimated yield of 1500 lbs. per acre in 1953. The plant catch on the 158 acre area was poor but native grasses are showing good growth. The soil is thinner and rockier here.

Grass plants on the 106 acre area at Burgess Springs are well established. It is still too early to get adequate yield estimates. The area was heavily grazed in 1954. Cattle weights held up despite this heavy use.

Grass plants on the 40 acre plot in Pasture 4 are well established. It is too early to estimate yield - seeding was done Fall, 1953 and Spring, 1954.

A good kill on the 1954 area of sprayed sagebrush in Pasture 4 was evident this past summer. Of course, the Fall, 1954 seeding work cannot be judged as to degree of success as yet.

Examination of the cost figures for the different spraying projects shows that it takes about \$3.00 an acre to spray sagebrush by airplane and \$4.00 an acre using turbine sprayer. Cost of cultivation and seeding of introduced grasses averages about \$12.00 an acre. From these figures, it is evident that areas to be worked must be carefully chosen in order to get an adequate return on your investment.

Work Still To Be Done

Range Improvements

Of the 34.5 miles of fence planned in 1951, 26.5 miles have been done. This leaves 8.0 miles still to be built - most of this is on the outside boundary of Pasture 2.

3 of the planned metal gates are in, leaving 5 still to be installed (see map in G-IMPROVEMENTS - Harvey Valley Fences folder for locations).

2 more cattle-guards are needed - ~~1 between Pastures 2 and 1, on road going south to Crater Mtn.~~, 1 on road going into Blacks Mtn. Experimental Forest, and 1 on main Northbound Logging road in Section 9, T.33N, R.8 E.

The following water developments are needed to complete the planned program:

6 Water Pits or Reservoirs

3 Water Trough Developments at Cone Springs

Revegetation

1850 acres, out of the 5350 acres planned, have been sprayed to kill sagebrush and release grass. This leaves 2500 acres still to be done. All of the 615 acres planned for reseeding has been worked.

Research Work

Now that the Range Condition and Trend transects have been installed, it is planned to measure them according to the schedule set up by the Experiment Station. In order to carry out the planned cattle weighing program, it will be necessary to build another corral with scales and a chute, also to fence in a small holding pasture. The plan is to put this second corral setup in Pasture 1

The Experiment Station plans to make regular reports of the results obtained from the work on the allotment (see Management and Study Plan, Harvey Valley Allotment for details).