

DeWITT NELSON  
Director of  
Natural Resources

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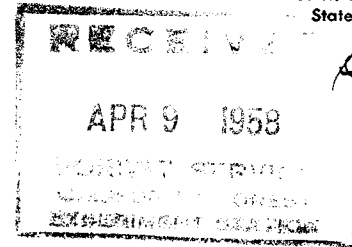
GOODWIN J. KNIGHT  
Governor

F. H. RAYMOND  
State Forester



STATE OF CALIFORNIA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF FORESTRY

SACRAMENTO 14



Address Reply to STATE FORESTER  
Refer to Number

April 7, 1958

AC-4-7

Dr. Keith Arnold, Director  
California Forest & Range Experiment Station  
P. O. Box 245  
Berkeley 1, California

Dear Keith:

Enclosed is an expendable copy of my manuscript involving the origin of the Station. You will note that it is essentially an introduction to the project, and also, of course, slanted toward State interest. Any comment or correction will be happily received. You will understand that a great deal has already been said about events leading up to this sub-chapter, principally in respect to the investigative work of the California Forestry Committee which was organized about 1920.

Very truly yours,

*Ray*  
C. R. Clar

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Encl.

The Forest Experiment Station

Forest trees as individual species and as tree communities growing in California are naturally different from those growing in other parts of America and Europe. The first exploiters of the forest in California probably did not know or care too much about this fact especially after the utilitarian values of the various local species became recognized. For instance, redwood and sugar pine were very promptly sought out as easily worked woods of many uses.

But as the specific wood uses became more intricate, and as the use of wood products increased, and as more forest land assumed personal value in private ownership, then the problems of forest use and protection likewise multiplied and expanded. Probably the relationship between the vegetation on a steep slope and the behavior of soil and water upon and below the soil surface presented the first serious questions of a so-called forestry nature in California.

It will be remembered that the first Board of Forestry was curious about planting methods and species for reforestation and afforestation. About 1904 progressive lumbermen were ready to unite with government in an attack on the problem of forest fire protection in the virgin and cut-over forest.

The cooperative spirit among interested agencies in engaging in problems of forest research has continued through the years. However, in the 1920's it became quite obvious that the increasing complexity of most technical problems required the interest of an agency which could direct the full energy of men specifically qualified to conduct proper investigations.

Small attempts had been made by the U. S. Forest Service prior to the first World War to engage in some pioneer research respecting the general nature of things out on the ground. Then curtailed budgets had eliminated the Feather River and Converse Flat Stations. Yet there was no resignation in the attitude of the few people who appreciated the great need for continued and more intensive investigations.

It has been noted that Senator Hiram Johnson had introduced a bill into Congress in January of 1922, asking Congress to appropriate \$40,000 for a forest experiment station in California. A year later the State Legislature (SJR 4) urged Congress to authorize the expenditure and make the necessary appropriation.

Now in January of 1925, State Senator A. B. Johnson of California introduced his SB 5 as a cooperative gesture on the part of the State.

Two months earlier the Board of Forestry had stated by Guttle's resolution that it intended to sponsor a bill which would provide for the appropriation of \$10,000 "for the establishment and maintenance of forest experiment stations in this state, providing the United States Government appropriates \$25,000 for the same purpose, such forest experiment stations to be under the joint supervision of the Federal Government and the State Board of Forestry of California".

Senate Bill 5 simply included the \$10,000 and provided that the State Board of Control could enter a contract with the Forest Service for establishing and operating a forest experiment station provided the Federal Government appropriated the sum of \$25,000 for the same purpose. The Legislature lived up to its implied agreement with Congress and passed the bill. But Governor Richardson allowed it to die in his pocket on May 29.

Congress was much more congenial with S 4156. Hiram Johnson's bill was passed and approved by the President on March 3, 1925 as Public Law 542.

This act authorized the Secretary of Agriculture to establish and maintain a forest experiment station "in California and the surrounding States". It could be located at any place or places deemed suitable, and could be conducted independently or in cooperation with practically all agencies of government, schools, or private parties. Studies were to be made leading to the best methods of protection and conservative management of timber and other forest products. Authorization was included for the appropriation of \$50,000 for immediate expenditure.

It was not, however, until the fiscal year 1926-27 that the federal sum of \$32,412 was made available for the California Forest Experiment Station as it was called. About five years later the words "and Range" were inserted in the title after Forest, because intensive mountain range studies were added to the growing list of experimental projects.

Edward I. Kotok, who had been liaison officer (commonly called Clarke-McNary Inspector) working with the State Forester in respect to federal aid expenditures, was made Director of the experiment station. He set about vigorously <sup>build</sup> to the new institution. At first, four rooms were secured at the University in Hilgard Hall, and then the upper floor of the new <sup>S</sup>Giannini Hall.

Four more experienced field men of the Forest Service elected to transfer into the station along with two clerks.\* This work <sup>START</sup> force was increased

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\*Duncan Dunning, A. E. Wieslander, H. W. Siggins, Roscoe B. Weaver (former State Ranger) assigned to Devil's Canyon Nursery, Miss D. H. Vinther and Miss L. O. Baxter. State Forest Ranger C. R. Clar was attached to the station for type map work from August, 1927 until the spring of 1931. From time to time, especially during non-fire season, State Rangers assisted in this project by providing transportation for mappers.

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substantially as time and work projects accumulated.

Los Angeles County contributed \$1,500 and the State \$3,500 toward the development of Devil's Canyon Nursery. From unrecorded sources the State contributed an additional sum of between \$3,000 and \$5,000 prior to July, 1927.

In this first period the Feather River Station was again activated. Here and elsewhere throughout the forested region the job of locating permanent substations and sample plots for silvicultural and ecological studies was given high priority. In the summer of 1926 began the making of a statewide inventory of vegetation through the cover type mapping project. This latter job had last been seriously undertaken more than twenty years earlier during the joint federal - State forest survey. Then it was recorded on State Forester Haman's generalized type map of 1911.

In the general support budget made available for the Board of Forestry for the biennium beginning <sup>spring</sup> July, 1927, there was included the sum of \$20,000 specifically earmarked for allotment to the California Forest Experiment Station. The specialized business of research into forestry problems in California was at last established upon a sound and permanent basis. It has thus continued and expanded.

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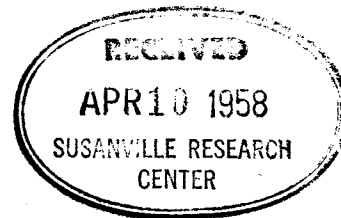
# Office Memorandum • UNITED STATES GOVERNMENT

TO : A. L. HORMAY, Susanville Research Center

DATE: April 8, 1958

FROM : KEITH ARNOLD, Director

SUBJECT: R-CAL PUBLICATIONS, Production



Clyde Walker and I have gone over your proposed brochure on the Susanville Research Center. It looks like it is a good start. I am sending it back to you with Clyde's editorial changes. You don't need to rewrite it, or even retype it. It is in good enough form so that he can work from this copy. We would like, though, to have some pictures to put in here. ~~A~~ pictures of Blacks Mountain, such as logging, pruning, thinning and planting. <sup>file to be used as discussed</sup> You can pick out the pictures that might be appropriate. My guess is that 7 or 8 would not be too many. Please send suggested photos down as soon as possible so that Clyde can work up an appropriate format.

For the cover we would like a good scenic shot of northeastern California country with Mt. Lassen in the background if possible. Probably the Lassen Forest has one which would do.

I am enclosing a copy of a photo story of research in Florida so that you and the staff there might be thinking in terms of collecting photos this summer to use in such a publication in a year or so. Please return it after you have had a chance to look at it.

I am asking Russ and Joe to go over your list of candidates for the Advisory Committee. My guess is that it will be difficult for you to have a meeting before mid-summer with busy people like these. I think too you would find that they would get better acquainted if they were in the field than if you have them in the office. I will have more suggestions along this line when I answer the part of your letter about the Advisory Committee.

Keith Arnold

Enclosure

DIRECTOR

APRIL 18, 1958

A. L. HORMAY, Center Leader

R-CAL-PUBLICATIONS, Production

I am returning the draft of the Susanville Research Center writeup with a selection of photographs (prints and negatives) that might be included. Our photo file is quite skimpy yet and we're not too well pleased with the photos we're sending you. Don tells me that Bill Hallin took several photos of forest management activities that probably would serve. These can be found in the Division files in Berkeley. Range too, may have some usable photos in Berkeley files. We do not have a suitable cover photo. One probably can be found in Hallin's collection. Please return negatives of our photos as soon as you are finished with them.

Encls.

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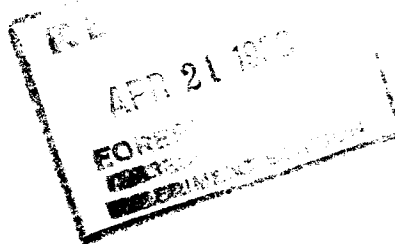
## Office Memorandum • UNITED STATES GOVERNMENT

TO : E. J. WOOLFOLK

DATE: APRIL 18, 1958

FROM : A. L. HORMAY

SUBJECT: RR-CAL-RESEARCH PROGRAM, Harvey Valley



The meeting with Roneys was held in the Lassen Forest Supervisor's office on April 9. You and I can look over Roney's home ranch sometime later this year when convenient to all.

#### Kind of Cattle

The Roney operation will permit putting a representation of three classes of cattle on the Harvey Valley allotment each year - cows and calves, yearling steers, and breeding or bred heifers. At the start only cows and calves will be represented in sufficient numbers to provide a measure of the reaction of this class of cattle to the three-pasture management treatments used on the allotment - namely, 1. cattle held in one pasture (A)  $\frac{1}{3}$  season-long, 2. cattle moved from pasture A to C and 3. cattle moved from pasture B to C.

From inspection of cattle weight data collected at Burgess Spring and Harvey Valley it appears that about 50 animals are needed in a particular class for sound weight determination - that is within about 10 pounds.

This summer we will make a statistical analysis of all data in our files to answer the one question - How many cattle (by classes) are needed in a group to measure weight reactions to given degrees of accuracy. I've started Bill O'Regan thinking about the problem

Assuming 50 head is the minimum needed in a group a theoretical distribution of 500 animals into three classes and 3 treatments to fit the Harvey Valley test could be as follows:

	Class	Treatment			Total
		A	B	C	
1.	Cows	50	58	59	167
	Calves	50	58	59	167
2.	Steers	50	58	59	167
3.	Heifers	-	84	82	166
	Total AUs	100	200	200	500

1/ Assume A, B, C to be the three pastures used in any one year.



2-E.J. Woolfolk - 4/18/58

As livestock numbers are increased above 500 sufficient animals will become available to fill A, 3 and provide a complete picture.

The Roneys will furnish cattle for Harvey Valley out of one herd, which will be managed separately from the rest of their cattle. The experimental cattle will be handled in the same way each year, both at the home ranch and at Harvey Valley. The herd is not in proper balance yet with respect to representation of classes and breeds. The foundation stock consist of Herefords but young heifers will be bred to Angus bulls for first calving. Thereafter they will be bred by Hereford bulls. Some crossbred calves and crossbred yearling steers will be placed on Harvey Valley each year but probably not in sufficient numbers to permit a reliable measure of their weight responses.

Our basic records therefore will be on Herefords.

With the cattle the Roneys now have on hand and with additional ones they plan to purchase, representation of cattle on Harvey Valley this coming season will be about as follows:

	<u>A</u> <u>(Blue)</u>	<u>B</u> <u>(Red)</u>	<u>C</u> <u>(Aluminum)</u>	<u>Total</u>
Cows	50	115	115	280
Calves	50	115	115	
Steers	-	85	-	85
Heifers	50	-	85	135
AUs	<u>100</u>	<u>200</u>	<u>200</u>	<u>500</u>

~~A copy of the grazing plan for the season is attached.~~

*omit*

The animals will be weighed individually as last year. For several reasons which I will not enumerate now the weighing will be spread out over a three-day period. I've ordered colored metal ear tags from the Salt Lake Stamp Company following your suggestion. This type of tag looks good. We'll try it.

### Shrink

We plan to get more information on shrink this year to permit calculating weights as accurately as possible. Using data collected last year we calculated the effect of shrink on weight gains. The results are shown in the following table.

Average Seasonal Weight Gains of  
Cattle, Harvey Valley, 1957

	<u>Shrink</u> <u>Considered</u> Lbs	<u>Shrink not</u> <u>Considered 1/</u> Lbs	<u>Difference</u> Lbs
Cows			
Blue (25) <sup>2/</sup>	93.5	83.3	+10.2
Tan (26)	72.9	52.7	+20.2
Calves			
Blue (25)	176.8	182.2	- 5.4
Tan (21)	170.3	165.7	+ 4.6
Steers			
Red (53)	164.7	159.8	+ 4.9
Tan (27)	133.5	104.6	+ 8.9
Heifers (breeding)			
Red (30)	151.7	145.3	+ 6.4
Blue (26)	183.7	151.9	+31.8
Tan (31)	138.9	115.4	+23.5
Heifers (spayed)			
Tan (23)	135.30	109.1	+26.20

1/ Figures calculated in Berkeley

2/ Minimum number of animals in averages.

This shrink has a very substantial effect and must be considered.

To get the needed information on shrink it will be necessary to reweigh 200 animals - 50 cows and 50 calves, 50 steers and 50 heifers. The Roneys are agreeable. The way the weighing is scheduled this year there will be no problem in getting the data.

The grazing season will probably start later than usual this year. Harvey Valley is still covered with snow and probably will be for another 10 days. It is a little early to predict the opening of the grazing season but it looks like the vegetation will be ready for grazing around the 7th of June. However, the flats will be wet and boggy and for this reason the grazing season may be delayed until June 15 or thereabouts. The Roneys need 3 or 4 weeks advance notice of the start of the season. We can give them and the Forest a fairly accurate forecast this much in advance from our previous year's phenology and weather records.

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### Compilation and Analysis

All cattle weight data obtained at Harvey Valley since 1954, when we got our first records has been compiled and summarized. This information has been helpful in directing the immediate livestock program at Harvey Valley. Some anticipated reactions to moving livestock from unit to unit are beginning to show. These have a bearing on the future program. A little later I will prepare a brief progress report on cattle weights in relation to the rest-rotation grazing system even though the data is fragmentary.

Compilation of vegetation data is progressing slowly because of the limited time that can be put on this work by our one man (Jeffries). Our temporary salary money of course is also very limited. However, we cannot get suitable additional help up here so cannot use more salary money. Jeffries will go off the payroll about June 1 when he leaves for summer school at Chico State College. I have some vegetation compilation work lined up now that could be handled in Berkeley if you have the manpower. Please let me know if you can take care of it.

OK. As things look now I'll not have any temporary help in the month of June to start the field season. However, Dick Hubbard and Lowell Adams both expressed a desire to help with the cattle weighing and later to help for a day or two in measuring plots to get training in the measurement method and identifying vegetation. If it's o.k. by you I'll use the men this way.

Looking ahead - I'd rather not take on any temporary help for the summer - if there is any chance of getting a permanent man for the mountain range work. A "good" GS-5 would be perfectly satisfactory. We could train him.

### Other Needs

It has become necessary to revise the original Harvey Valley type map because of changes in the location of the allotment boundary, interior fences, occurrence of the Harvey Mt. burn, etc. The revised map is essential to our compilation work. The drafting job and necessary prints will cost about \$155.00. The Lassen has agreed to do the drafting. The need here is for \$120.00 of permanent salary money and \$35.00 for materials and supplies.

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I am writing Fred Bacon to call his attention to some of our furniture needs. This reminds me that we need about \$660.00 to improve the "greenhouse" building at the Lassen Forest Nursery site. There has been substantial need for this building by all projects and divisions up here, including our University of California cooperator. This is more than a range matter, but I'd like to call it to your attention. Please mention it to Russ.

I think this is more than enough in one memo.

*A. L. Normay*

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A. L. HORMAY

*EJW*  
April 23, 1958

E. J. WOOLFOLK

RR-CAL, RESEARCH PROGRAM, Harvey Valley

I was glad to have your memorandum of April 18 concerning your trip to the Roney Ranch and other items relative to the conduct of the Harvey Valley project this year. Also, I have just now talked to Bill O'Regan and I believe we are all three together on the overall purpose of taking a closer look at cattle weights and how to obtain them. As we talked earlier, live weight shrink of cattle is rather academic and of little research interest to us. Our real problems concern the variation in individual weights that occurs due to handling and time spent in the corral and with the number of weights necessary for a reliable estimate of ~~feed~~ <sup>feed</sup>. I believe the effort you have planned with O'Regan to investigate some of these things is well worthwhile. Also, the balance and distribution of cattle which you are working toward with the Roneys seem all right to me. I would like to have an opportunity to consider with you and Bill the results of your analyses of cattle data and the interpretations that might be drawn from them before any release even in-Service is made.

Now for some of the other items which you covered. I can handle for you here in Berkeley some of the compilation of vegetation data which you now have on hand. With this information you should send brief written instructions as to the form and other items which should have attention. I cannot state definitely how soon the job might be finished, but if you will send the material in here I can put a man on it.

I think it is good to use all of your men on jobs other than those to which they are assigned. Therefore I think it is entirely in order for Hubbard and Adams to help you out with the cattle weighing this year. It might even help some of the timber beasts to do so, too, but doubt if you will be able to get them out there. At this writing I don't know what the prospects are of getting a permanent man to handle the Harvey Valley setup. Since I last talked to you, however, I have prospected the possibility with Lynn Rader but have learned that it will be at least 1 year from this July before he will be available. Even then he may have his sights too high to take on the kind of job which you have. Later on this month Ken Parker will

2-A. L. Hormay-4/23/58

be out here for 2 or 3 days and I will have an opportunity to discuss this thing with him. As you know, I too have wanted a permanent man for about 2 years now so will support your position as strongly as possible with Parker. One point in this, however, remains unclear to me. When you were down before the Asilomar meeting, we spoke of suspending all field work in Harvey Valley this summer and decided to concentrate on the compilation and analysis of data. If you do not have any temporary help this summer, as indicated by your letter, how do you expect to get this office job done?

At this writing I cannot give you a definite answer on the amounts of money which you need for the map and for improvement of the greenhouse in Susanville. However, there may be some funds available a little later on, and if there is, these things will receive attention.

I was glad to have your memorandum, Gus, and the clear thinking which you have done on the future handling of the Harvey Valley project. Keep me informed.




Dictated by Mr. Woolfolk.  
Typed and signed in his  
absence to avoid delay.

EJWoolfolk:ehe

*Office Memorandum* • UNITED STATES GOVERNMENT

TO : E. J. WOOLFOLK

DATE: APRIL 24, 1958 

FROM : A. L. HORMAY

SUBJECT: RR-CAL-RESEARCH PROGRAM, Harvey Valley

I received your memo of April 23 on the Harvey Valley program. Am enclosing the vegetation compilation work you said you could probably handle in Berkeley.

In my memo of April 18, I guess I did not make it clear that when I referred to cattle weight shrink I meant of course weight loss due to handling and elapse of time during weighing, just as you expressed it. The figures I sent you show the influence of this factor.

I did not discuss the problem of getting supplemental measurements for adjusting weights for the "shrink" factor with Bill O'Regan. I only brought his attention to one problem - developing a statistical procedure for calculating the number of animals needed to give a given accuracy of mean. As I posed the problem I assumed the effect of shrink would be taken care of one way or another, and that only animal variation would be involved. We have several years of data on hand (both Burgess Spring and Harvey Valley) that we could run through the mill when the time is right. Bill is simply thinking about the problem now.

Bill has not been involved in any analyses of cattle weight data to date. In fact, neither have I. We have simply compiled the data collected in the past at Harvey Valley. I was thinking of preparing a brief progress report for you, setting forth the data and indicating their bearing on the Harvey Valley grazing system. This would be an office report useful primarily for planning. I did not visualize any publications or releases at this time. However, there may be something in the data worth mentioning. We'll discuss this further when you come up.

It is true, Joe, that the barest minimum of field work will be attempted this year essentially, cattle weights, vegetation utilization at the end of the season, and photographs. The big job will be compilation and analyses. I did not mean to say that I would not take on temporary help if permanent help did not materialize. There would be no choice. But I'd like to press for permanent help so I won't have to train a man again and then see him leave just when he becomes productive. Having a permanent man on compilation and analysis is far more critical than having him on field work. If I get a

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permanent man he'll be put on the main compilation job. Good luck with Ken.

I rather doubt that we could coax a non-local temporary to take a summer job in Susanville. Living costs would be too high. He could make it at Blacks Mountain where a room is roughly \$5.00 per month and meals 0.75¢ each. However, Blacks Mountain is out of reach of effective supervision of compilation work. However if absolutely necessary, we could handle it there. We do not have any prospective candidates for either the permanent or temporary positions.

Thanks for the help on the Harvey Valley map job. Please let me know when you are coming up.

ENCLS.

A. L. Stormay

P.S. If you can, please bring up the Toledo pan-beam scale sitting on top of a cabinet in Earwood's room. Need it up here badly.



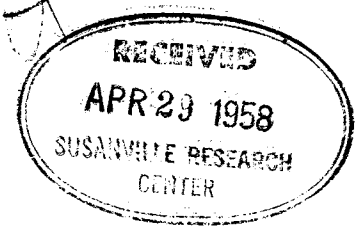
*Please see photos of FM & WSIT activities  
This coming trip, - May 1-2?*  
**Office Memorandum • UNITED STATES GOVERNMENT**

TO : A. L. HORMAY, Susanville Research Center

DATE: April 28, 1958

FROM : C. M. Walker, Publications Officer

SUBJECT: R-CAL PUBLICATIONS Production (Photographs)



I am trying to find photos for your handout on the Susanville Research Center and I must admit to poor luck. The Region is going to see what they can do about getting a scenic picture suitable for a cover and so I will assume they will supply us with something.

The photos you sent for Blacks Mountain are as good as those available here in Berkeley and so I will probably settle for what you have sent down. We do not have a good photo of Swain Mountain. I am trying to dredge up the photo we used in the 1956 annual report, but as you will remember, that was a very fuzzy shot made from a kodachrome transparency. If we have to, and if we can find the photo, we will use that. Meanwhile I think it would pay for you to alert the Swain Mountain gang to the need for new photos. If they plan a snow measuring trip soon, they ought to try to get a picture on that trip. In fact, snow on the ground may improve the picture by giving us more contrast and if there is snow hanging on the trees we won't mind at all. I am sure you will agree with me that something on Swain Mountain is highly desirable for your handout and it might even be worthwhile for someone to trudge up there just to get the photo.

Clyde W.