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S- PLANTING - Reports  
Apache 1909 - 1915  
FRC 31756

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
APACHE NATIONAL FOREST

FOREST SERVICE  
District No. 3,  
RECEIVED  
DEC 4 1909  
Referred to  
Silviculture.  
SPRINGVILLE, ARIZONA

November 29, 1909.

SP  
Planting - Apache.

District Forester, (Through Acting Supervisor Viles.)  
Forest Service,  
Albuquerque, N.M.

Dear Sir:

I respectfully submit the following Annual Planting Report for this Forest, due December 1.

As you know, the Planting work on this Forest was inaugurated at the beginning of this year, and has so far consisted entirely of experimental sowing of Engelmann Spruce. This work has been confined to the Alpine Experiment Area, a map of which is submitted with this report.

ALPINE EXPERIMENT AREA

1. General Description:

This area was selected by Forest Assistant Kobbe about one mile south of the town of Alpine, in a large burn covering a steep north slope (10° - 25°). The burn is in the Spruce Type, about 10 years old, and now grown up to Mountain Locust and Aspen about 10-15 feet high. This forms a rather patchy, irregular thicket, furnishing every degree of shade-protection to the ground. The herbaceous ground cover is sparse. The ground is encumbered very little with down tim-

D. F.

ber. The soil is a moist deep gravelly loam, very rich in humus, and not rocky. There are no live trees to confuse the artificial with natural reproduction, except a few White Firs on Plot 1. On the whole, the area furnishes an excellent range of conditions for determining the effect of the following factors:

1. Shade
2. Slope
3. Method of Sowing
4. Season of Sowing.

A less complete set of conditions is found for determining the effect of competing Ground Cover, Moisture, and Down Timber.

The conditions on this area probably average more favorable to sowing and planting than those prevailing on the average burn on this Forest. All considered, however, the location is excellent for Experimental work.

## 2. BOUNDARIES:

The Experiment Area consists of 10 adjacent acre Plots, each 10 chains long by 1 chain wide, extending with the long side up and down hill. The plots were surveyed with chain and compass. Seasoned Aspen, Red Fir, and Spruce posts 7 feet high and averaging 6" at the top were set at the corner of each plot and marked with a timber scribe as indicated on the accompanying map. All boundaries are blazed. Due to the steep slopes, dense thorny brush, and daily interruptions by heavy rains, it required three days' work for three men to survey and mark these plots. See cost figures on page 7 of this report.

D. F.

## EXPERIMENTS

### Broad-cast Seeding

August 10

Plot X - 1

In accordance with Mr. Recknagel's letter, SP-Apache, Planting of April 21, 1909, this plot was seeded broad-cast, 4 pounds per acre.

The crew consisted of 3 men, the equipment of 3 small bags and 1-66' chain, marked with red rags into 3 equal lengths. The following method was used:

The 4 pounds of seed was divided into 3 equal parts, found to be 20 handfuls each. The chain was laid from one corner along the long side of the plot, and the territory opposite one of the three equal divisions of the chain allotted to each of the three men. Two handfuls were then sowed by each man on this area of 22 x 66 feet. The chain was then carried along another length and the same method repeated. An equal distribution of seed was thus secured, and each man came out practically even on his bag of seed.

In using this method the following rules should be brought to the attention of the sowers:

1. Before leaving the chain, each man should agree with his neighbor on the boundary of his territory.
2. During sowing, the sower should not be deceived by the position of his neighbor on his strip. Agreed boundary marks only should be observed.
3. Each man should keep the same order of position on the chain. No. 1 is rear and No. 3 head chainman.

The time required for broad-casting 1 acre by this method was 2-1/4 hours for 3 men. Three men is the best size for a

D. F.

crew, and in regular work 3 - 5 acres could probably be counted on per day. For cost figures see page 7 of this report.

The conditions under which this plot was sown were entirely favorable. The ground was kept moist by daily rains, which continued for over a month after sowing (September 12) and the soil did not really dry out until October. A light, well-decayed humus covers the soil on this plot, which, as I understand, is the desirable condition for germination of Englemann Spruce.

Seed Spot Seeding

August 10

Plot X - 2

In accordance with the letter quoted above, Seed spots were hoed 1 ft. square, spaced 5' x 5' with approximately 70 seeds per spot.

A crew of 3 men was used - 2 hoemen followed by 1 sower. The hoemen proceed across the strip opposite each other along parallel rows 5 feet apart, measuring 5-foot spaces with the hoe handle, and starting respectively from white and red rags tied at intervals of 5 ft. 2 in. along the chain. The spots in practice averaged from 9 inches to 15 inches square and 2 to 4 inches deep. The sower followed, judging 70 seeds per spot by eye (checked by frequent actual counts) and covering lightly with a handful of humus soil well crumbled in the hand.

The sower kept check on his seed by allowing 1-1/2 handfuls per chain. This figure was deducted empirically from the prescribed 1 pound per acre. It was found, however, that this particular lot of seed (from the Pecos, fall of 1908) was

D. F.

so full of sand and chaff that 70 seeds per spot amounted to at least 2-1/2 pounds per acre. 2-1/2 pounds were accordingly used on this Plot.

It was found that 1 Sower, doing careful work, could just keep pace with 2 Hoemen. I believe that 3 men is the proper crew for this work, except in very heavy brush, where an additional axeman might be necessary.

In using this method, it is important that the Sower should note some easily recognized object, such as a large stump, on each line of spots, and check up on the return line to make sure he is not seeding the same spots twice. The Hoemen must have gloves. The Sower should have seed, pocket-scales, and U.S. Army Knapsack. The interior detachable canvas pocket is just right for carrying 1 pound of seed, while the knapsack is very handy for the regular seed supply in a flour sack. A dry soil is best to work in, as both the hoeing and covering are easier and better. A rather narrow<sup>er</sup>-bitted hoe, not too heavy, and just 5 feet long, is the proper tool. An onion-hoe might be preferable for rocky ground.

It took just 9 hours' steady work for 3 men to seed-spot Plot X - 2. In regular work 1 acre per day might be counted on for each crew. For cost figures, see page 8 of this report.

#### RESULTS OF SOWING PLOTS X - 1 and X - 2.

Due to my detail on Reconnaissance work since September 1, I have been unable to visit the Experiment Area since

D. F.

this Seed was planted. Unless prevented by snowfall, I shall try and do so before winter sets in, and submit a supplementary report on the same.

#### PLANS FOR SOWING

There remains about 8 pounds of Spruce seed from the lot used on the Plots herein described. This will be sowed on the snow this winter. There is also on hand 25 pounds of Spruce seed received on October 4 from Supervisor Stewart, with letter of transmittal of September 30 from Mr. Woolsey. This letter gives directions for sowing, prescribing the time of sowing as last September. Mr. Guthrie assigned the work of sowing this seed to Ranger Chapin, but it was impossible for Mr. Chapin to attend to the matter without neglecting important grazing work on his District. Accordingly, nothing has been done so far.

By reference to Mr. Woolsey's letter of September 30, it is evident that the object of this sowing shall be to determine the most profitable amount of seed per acre for broad casting during the dry season. This entire lot must therefore be planted simultaneously, and I should judge that since it has been impossible to do so this fall, that next spring would be the proper time. If this is agreeable to your office, I shall plan accordingly.

By that time I shall also be able to size up the planting situation in general, and submit the 5-year Planting Plan for this Forest. I should prefer not to submit this Plan until I have discussed the matter with Mr. Guthrie on his return from

D. F.

Albuquerque, and with Mr. Pearson during his contemplated visit to this Forest next spring. To my mind, the inauguration of silvical studies, especially of Natural Reproduction in the Various Forest Types, is of far greater and more immediate importance to this Forest than the study of Artificial Seeding and Planting, because of the apparent certainty of large Timber Sales in the near future. I appreciate, however, the general value of Studies of Artificial Reproduction, and I hope that in the future I will have time to carry on the Seeding Experiments on this Forest more strictly in accordance with Mr. Woolsey's directions.

COST FIGURES

Laying out Experiment Area:

	<u>Total Cost</u>	<u>Per Acre Plot</u>
Running Out and Blazing 10 acres, 3 men 1 day = 3 days at \$2.80 per day.....	\$8.40.....	0.84
Cutting, setting, and marking 22 posts, 3 men 2 days = 6 days at \$2.80 per day.....	16.80.....	1.68
	\$25.20	\$ 2.52

Broad Cast Seeding Plot X - 1:

	<u>PER ACRE</u>
Seeding, 1/4 day for 3 men = 3/4 day at \$2.80 per day.....	2.10
Seed, 4# at <sup>74</sup> \$.150 per lb.....	3.34
Express, 4# at \$.042 per lb.....	0.17
Additional time of Forest Officers, (Travel) about.....	1.00
" Expense " " " " .....	1.00
(Board & Lodging off District)	\$10.27
	7.63



D. F.

Seed spot Seeding - Plot X - 2:

	<u>PER ACRE</u>
2 Hoemen, 1 day = 2 days at \$2.80 per day.....	\$ 5.60
1 Sower, 1 day at \$2.80 per day.....	2.80
Seed, 2-1/2 lbs. at \$1.50 per lb.....	<del>3.75</del> 2.10
Express, 2-1/2 lbs. at \$.042 per lb.....	0.10
Additional time of Forest Officers (Travel) about.....	2.50
" Expense" " " " " .....	<u>2.50</u>
(Board & Lodging off District)	\$17.25 15.60

I am holding the regular forms for "Report on Experimental Sowing" sent with Mr. Woolsey's circular letter, SP District-Planting of September 21, 1909, for my Supplementary Report (referred to on Page 6 of this Report) pending my investigation of the results of Experiments X - 1 and X - 2.

The figures given above for cost of Spruce seed are obtained from Acting Supervisor Viles, who informs me that a contract for 1600 lbs. of seed, 2/3 Pine, was let on the Pecos this fall for \$1.00 per pound. In case these figures are incorrect, I should be glad to be informed as to this point, in order that they may be submitted correctly in the Supplementary Report referred to above. The figure quoted for express is correct from Sante Fe to Springerville via Holbrook.

I am indebted to Rangers G. B. Chapin and Wm. C. Martin for assistance in laying out the Experiment Area and seeding these Plots.

Very truly yours,

*Aldo Leopold*

Forest Assistant.

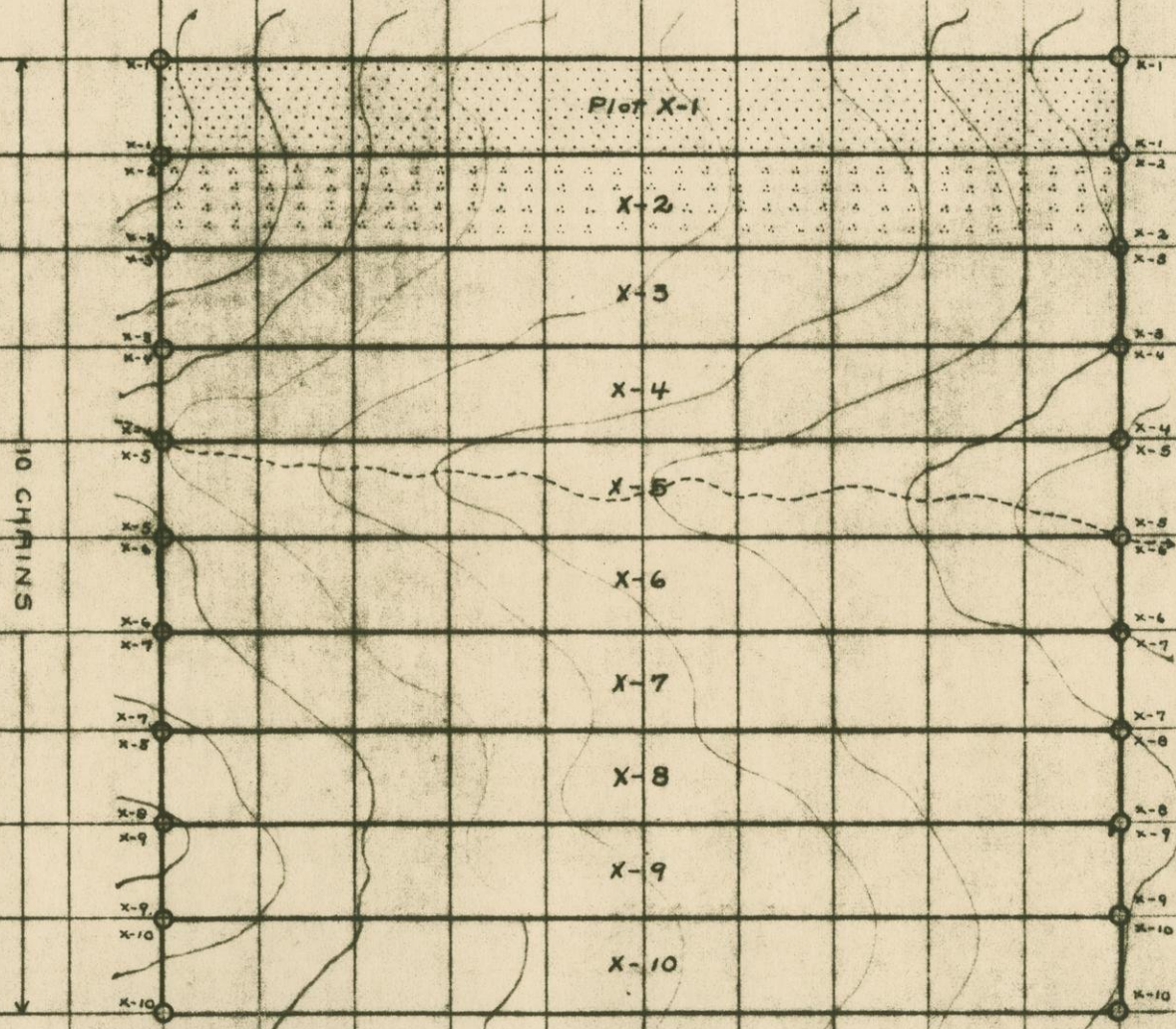
*ACV*

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE






MAP SHEET

No. \_\_\_\_\_ Apache Forest Reserve.  
Division \_\_\_\_\_ District \_\_\_\_\_, Block \_\_\_\_\_  
T. 5 N., R. 30 E., G & S R. M., Section 4, Quarter \_\_\_\_\_  
Mapped by Olda Leopold Scale: 40 inches = 1 mile.

ALPINE EXPERIMENT AREA



LEGEND

-  SOWING BROADCAST
-  SOWING SEEDSPOT
-  DASHED LINE
-  BLAZED LINE
-  POST

ALTITUDE ABOUT 9000'

25 FT. CONTOUR

Apache Lumber Co.

Timber Sale

(Name of applicant)

General Notice June 2 - July 2 Apache National Forest

(Date of application)

Springerville, Ariz.

(Office of Supervisor)

June 15, 1910

The Forester, Forest Service, Washington, D. C.

Sir: The first publication of notice of sale in this case appeared June 2, 1910,

in the St. Johns Herald

(Date)

of St. Johns, Arizona

(Name of paper)

The final publication will appear June 30,

(Place of publication)

(Date)

1910

Respectfully,

Forest Supervisor.

(Attach clipping of notice here)

(Should be forwarded in all advertised sales)

(Aspen not given)

Checked

6-22-10

MAB

S SALES - APACHE

General Notice, May 1 - June 1, 1910

FRC 228785 (Apache NF) 210430

Entire contents of file.

Sale of Timber. District No. 3, Albuquerque, New Mexico, May 14, 1910. Sealed bids marked outside, "Bid, Timber Sale, General Notice, Apache" and addressed to the District Forester, Albuquerque, New Mexico, will be received up to and including the second day of July, 1910, for all or any part of the merchantable dead timber standing or down, and all or any part of the live timber marked for cutting by the Forest Officers, located in the posted area of 372 acres, in Sections 21, 22 and 27, T. 8 N., R. 27 E., G. & S. R. M., within the Apache National Forest, Arizona; estimated to be 554,000 ft. B. M. more or less, of western yellow pine, Douglas fir, limber pine and blue spruce. No bid of less than \$2.50 per M. B. M. will be considered and a deposit of \$50 must be sent to the First National Bank, Albuquerque, New Mexico, for each bid submitted to the District Forester. Timber upon valid claims is exempted from sale. The right to reject any and all bids is reserved. For further information and regulations governing sales, address Forest Supervisor, Apache National Forest, Springerville, Arizona. Theodore S. Woolsey, Jr., Acting District Forester.

Sale of Timber, District No. 3, Albuquerque, New Mexico, May 14, 1910. Sealed bids marked outside, "Bid, Timber Sale, General Notice, Apache" and addressed to the District Forester, Albuquerque, New Mexico, will be received up to and including the \_\_\_\_\_ day of \_\_\_\_\_ 1910, for all or any part of the merchantable dead timber standing or down, and all or any part of the live timber marked for cutting by the Forest officers, located in the posted area of 372 acres, in Sections 21, 22, and 27, T. 8 N., R. 27 E., G. & S. R. M., within the Apache National Forest, Arizona; estimated to be 554,000 Bt. B.M. more or less, of western yellow pine, Douglas fir, aspen, limber pine and blue spruce. No bid of less than \$2.50 per M. B. M. will be considered and a deposit of \$50 must be sent to the First National Bank, Albuquerque, New Mexico, for each bid submitted to the District Forester. Timber upon valid claims is exempted from sale. The right to reject any and all bids is reserved. For further information and regulations governing sales, address Forest Supervisor, Apache National Forest, Springerville, Arizona.

Theodore S. Woolsey *Acting* District Forester.

April 30, 1910.

ST

Apache, Sales, General Notice,  
May 1 - Junell.

Forest Supervisor,  
Springerville, Arizona.

Dear Sir:

Mr. Leopold's letter of April 22 is received.

Since Mr. Woolsey, who is now in Santa Fe, will return to the office Monday it is thought best to leave the matter open until his return. I regret that this will necessitate a slight delay in the advertisement of the timber; however, you will be written as soon after his arrival as is possible.

Very truly yours,

*A. D. Orsha*

Acting District Forester.

*MAB*

*710*

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
APACHE NATIONAL FOREST

SPRINGVILLE, ARIZONA.

April 22, 1910.

ST  
Apache - Sales,  
General Notice Sale May 1 - June 1.

-- FOREST DESCRIPTION --

See Form 578a.

1. Description of Tract.

A surveyed area of approximately 372 acres in Sections 21, 22, and 27, T. 8 N., R. 27 E., G. & S. R. M., north east, and south of the Apache Lumber Company's Sawmill and along the Fort Apache Wagon Road, as shown on the accompanying map.

2. Private Interests.

None to interfere with cutting.

3. Old Cuttings.

The area hatched on the accompanying map, about 140 acres, has been cut over by the Apache Lumber Company since its mill was installed in 1907 and under Free Use Permit for saw timber to the Forest users of Springerville, Greer, Nutrioso, and vicinity.

All brush so far has been piled. Reproduction is

excellent except in the two forties lying along Fish Creek, northeast of the mill, but none has come up since the cuttings were made.

Past cuttings have been too light in many places, especially where good reproduction was already present. Consequently a good many trees on these cuttings will be included in this sale. | *and*

#### 4. Topography and Surface.

The elevation of the sale area ranges from about 8300 to about 8600 feet. Logging is easy except on a few rocky places which impede "snaking" logs. The formation is malpais throughout. The ground rises steadily on the south half of the area with an average grade of 10%. The north half is almost flat. About 15 acres on the east slope of Fish Creek Canyon south of the mill are rocky and precipitous. The creeks forming the northwest and southeast boundaries of the area have permanent water.

#### 5. Soil.

A black gravelly loam: deep and moist on flats and draws: very rocky on points and ridges. The danger of erosion is negligible.

#### 6. Reproduction.

Reproduction averages excellent, covering 60% of the area with a complete stand. Two points are noteworthy. |

(a) Reproduction is in groups confined to openings in the mature stand.

(b) It consists almost entirely of saplings and poles. Seedlings are scarce, and are entirely absent on the cut-over area.

The question of pine reproduction has not received enough careful study on this Forest to ascribe definite reasons to these points, but in view of the principles discussed by Mr. Pearson in his report of April 1, 1909 (Coconino) and of observations made on local conditions, it is pretty certain that the following factors control the reproduction on this sale area:

1. Brush Disposal
2. Grazing
3. Excessive moisture and drought.

It is believed that seedlings do not survive except in openings because of damping-off in shade and rapid increase of intolerance with age, and that ideal reproduction will be secured after cuttings, provided damage to seedlings by grazing and drouth be checked by scattering the brush instead of piling it, and excluding sheep from the cutting areas, for a period of several years previous to cutting, and for as long a period afterward as is necessary to secure a good stand of seedlings. Grazing by cattle and horses will keep the naturally sparse grass from being a fire menace. There is at present no possibility of the spread of fire.

✓ am  
with  
condition



In accordance with the above discussion I respectfully recommend the following changes in the administration of this area:

1. The exclusion of sheep from Sections 22, 27, <sup>28</sup> and 28, east of Fish Creek (1600 acres).
2. Scattering the brush on all future cuttings.

As a precaution against the spread of fires in the event of a year of heavy grass and insufficient grazing, present brush piles will be burned on a 100' strip on either side of the Fort Apache Road and the road branching from it in the center of Sec. 22 and running to the mill (See map). It is not probable that a grass fire unaided by sparks from burning brush piles could leap across either of these roads.

sections  
for lumber

7. Character and condition of the Forest.

A practically pure stand of Yellow Pine is found on this area. There are a few Aspens along the creeks, and a few Douglas Fir, <sup>lumber</sup> ~~White~~ Pine and Blue Spruce along Fish Creek above the mill.

The Yellow Pine is over-mature, scattering in more or less even-aged groups. Even aged groups of Black Jacks, poles and saplings occupy the intermediate openings. Sound middle-aged trees are the exception.

The young stuff is thrifty and in excellent condition.

The merchantable material varies exceedingly in

soundness. On excessively rocky or excessively wet sites the percentage of dote is very high. On one cutting in the N/2 NE/4 SW/4 Section 22 covering 15 acres, one-third of the logs cut were culled in the woods and the remainder ran at least 40% dote. (Sale of 7/26/09). Again on the last sale 1/4 mile south of the mill 60 logs scaled less than 8% dote, with no culls. Dote probably averages a total of 30%, and 15% in the logs sawed. Accurate figures on these percentages are being kept by Ranger Eaton and will be compiled as soon as the amount of data warrants. (See letter to District Forester, ST - Apache Lumber Co., Cost Data - January 6).

Dead trees do not average more than 1 per 2 acres and are almost all unmerchantable, even where they have the external appearance of soundness.

8. Accessibility.

All the timber on this area is easily accessible with the exception of 15 acres in Fish Creek Canyon (see Topography page 2) which is mixed stuff of poor size and quality. It is entirely inaccessible and was not estimated. The maximum haul is 3/4 mile. No additional roads are required.

9. Additional Information.

The Apache Lumber Company, consisting of E. W. Wiltbank, A. M. Hall, Edmond Nelson and J. C. Hall, all of Eagar, Arizona, has held a special use permit, dated September 15, 1907, for a sawmill and 2 acres of lumber yard. The personnel of the Company having recently changed to E. W. Wiltbank,

A. M. Hall, Edmond Nelson and C. S. Love, a new permit is being issued accordingly on form 400. The mill is equipped with a new circular saw (52" diameter and 1/4" kerf) and a planer. Their maximum cut is 5000' per day, but as operation is irregular and the men do their own logging the average cut is only 90,000 B. M. per year. About six sales of 5 to 30,000' B. M. each are made per year. Some free use saw logs are also sawed mostly in exchange for labor.

All sales have been made at the minimum stumpage rate of \$2.50 per M.

10. Rules for Marking Timber and Handling Sale.

This General Notice Sale is made to take the place of the usual intermittent small sales in accordance with Mr. Woolsey's letter ST - Apache Sales (Free Use) of August 9, 1909.

Advertisement under General Notice Form will be made for 30 days in the St. Johns Herald of St. Johns, Arizona, and notices posted for the same period at the two principal stores of Springerville and at the Eagar Postoffice.

The General Notice Sale form, as given in the set of typical ST forms, will be used for the newspaper advertisement, filled out as shown on the attached sample. Form 975 will be used for public posting(see attached sample).

No bond is required in this case.

In the earlier sales made to this mill some faulty marking and over-severe scaling were done, but Ranger Eaton's present administration is entirely satisfactory in every way,

being at once conservative and at the same time entirely just to the Lumber Company.

The revised District Marking Rules are applied. Dead trees, formerly felled, are now felled only when they constitute a fire menace or when they contain merchantable material. Both these cases are exceptional.

As recommended on page 4, brush should hereafter be scattered. Exceptions should be made on cuttings immediately along the roads to be used as planned on page 4 as fire lines. Brush here should be piled and burned on a 200' strip.

Especial care should continue to be used in seeing to the proper disposal of logs and tops. In spite of the repeated reminders to the Company, the allowance of excessive trimming lengths evidently still requires attention.

11. Recommendations.

To allow for cutting under Free Use, which will continue to be made on this area, this sale will be advertised for 500,000' B. M. The minimum stumpage rate will apply as the minimum bid. The Company will be notified of the period of advertisement (30 days), in order that they may provide themselves with sufficient logs for the mill in advance.

Approved

APR 22 1910

Aldo Leopold

Acting Forest Supervisor.

Aldo Leopold

Forest Assistant.

ESTIMATE SHEET

Form 578b  
(Revised January, 1908)

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

Advertised Sale

Timber Sale. Percentage Estimated 10%

Apache - - National Forest. System Used Two 86' strips per 40.

(Designation of sale) Location of Tract Sections 21, 22, & 27, T. 8 N., R. 27 E., G. & S.R. Meridian.

See Map. Compartment

SPECIES (Check List names).	Western Yellow Pine	Douglas Fir	Aspen	<del>White</del> <sup>Limited</sup> Pine	Blue Spruce	TOTALS.
Approximate diameter limits, if any	None	(A few scattering trees)				
Merch. Length Average total height of trees	3 logs 75'					
Average diameter of trees	20"					
Average number of trees per acre	5 = 31% of total					
	Per cent of total	Per cent of total	Per cent of total	Per cent of total	Per cent of total	Per cent of total
Average stand, feet b. m., per acre	1500' = 33% total per acre					
Total stand, feet b. m.	554,000' B. M.					
Green cordwood, if any	None					
Merchantable dead timber, feet b. m.	Little Merchantable dead timber on area.					
Merchantable dead timber, cords, if any	None					
Other material, per acre	None					
Other material, total	None					
Seedlings less than 5 feet high, per acre	40 Per cent of total 100	Per cent of total	Per cent of total	Per cent of total	Per cent of total	Per cent of total
Trees between 5 ft. high and 6 in. d. b. h. per acre	10 Per cent of total 100	Per cent of total	Per cent of total	Per cent of total	Per cent of total	Per cent of total
Number trees per acre above 6 in. d. b. h. to be left	10 Per cent of total 100	Per cent of total	Per cent of total	Per cent of total	Per cent of total	Per cent of total
Total number feet b. m. per acre to be left	3000' B.M.					

TIMBER TO BE CUT.

Total acreage within tract about 372; of burns none; cut-over land about 140 A. of woodland containing nonmerchantable timber none; merchantable forest about 330 A. Estimated by H. O. Eaton & Aldo Leopold Title Forest Assistant.

Sale Area No. 1.

- ESTIMATES, TOTAL STAND & CUT -

GENERAL NOTICE SALE.

May 1 - June 1.

No.	Forty	Included area	M.B.M.	Feet per acre	No. Trees	Trees per acre	Logs per tree	Av. D.B.H.	Av. Tree	Av. Cut	Cut M.B.M.
1	S.E.N.W.27	3	25	8300	90	30	2	19"	280	35	
2	N.E.N.W.27	21	175	8300	650	31	2	19	270	160	
3	N.W.N.W.27	20	245	12200	750	35	2	20	330	150	
4	S.E.S.W.22	30	215	7500	850	28	3	17	250	255	
5	S.W.S.W.22	40	195	4800	800	20	3	17	240	320	
6	S.E.S.E.21	15	20	1300	200	13	2	14	100	10	
7	N.W.S.E.22	32	175	5500	500	16	3	19	350	200	
8	N.E.S.W.22	40	135	3400	550	13	3	18	250	220	
9	N.W.S.W.22	40	165	4100	500	12	3	19	330	200	
10	N.E.S.E.21	12	10	800	50	4	2	16	200	0	
11	S.W.N.E.22	20	55	2700	100	5	3	25	550	20	
12	S.E.N.W.22	40	100	2500	450	11	2	19	220	180	
13	S.W.N.W.22	35	80	2300	300	10	2	20	260	120	
14	N.E.N.W.22	18	0	0	0	0				0	
15	N.W.N.W.22	6	75	1200	250	41	3	18	300	100	
		<u>372 A.</u>	<u>1690 M.</u>	<u>4550'</u>	<u>6040</u>	<u>16</u>	<u>3</u>	<u>19"</u>	<u>280'</u>	<u>1970</u>	<u>554M.</u>

APR 22 1910

A. L.

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

SALE OF TIMBER.

APACHE

NATIONAL FOREST.

May 1, 1910

The following timber is advertised for sale:

Location POSTED AREA OF 372 ACRES LOCATED IN SECTIONS  
22, 21, & 27, T. 8 N., R. 27 E., G. & S. R. M.

Approximate amount 500,000 FEET B. M.

Minimum price \$2.50 PER M. B. M.

Bids must be submitted to the officer named in the advertisement not  
later than JUNE 1, 1910.

For information and regulations governing the sale, see notice of sale in  
THE ST. JOHNS HERALD

(Newspaper)

(Date)

, and address

JOHN D. GUTHRIE

(Supervisor)

SPRINGERVILLE, ARIZONA.

(Address)

~~XXXXXXXXXXXXXXXXXXXX~~

DISTRICT Forester.

Albuquerque N.M.

May 21, 1910.

ST  
Apache, Sales,  
General Notice.  
May 1 - June 1.

Forest Supervisor,  
Springerville, Ariz.

Dear Sir:

I am sending you herewith two blue prints each of the Sale Area and Estimate Sheet to the Apache Lumber Co. of Eagar, Arizona, estimated March 1910 by H. O. Eaton and Aldo Leopold. The cut-over area is shown in green since the red hatchings on the tracing showing this area would not print.

Very truly yours,

T. S. Woolsey.

Assistant District Forester.

Enclosures.

*CP*

*ass*



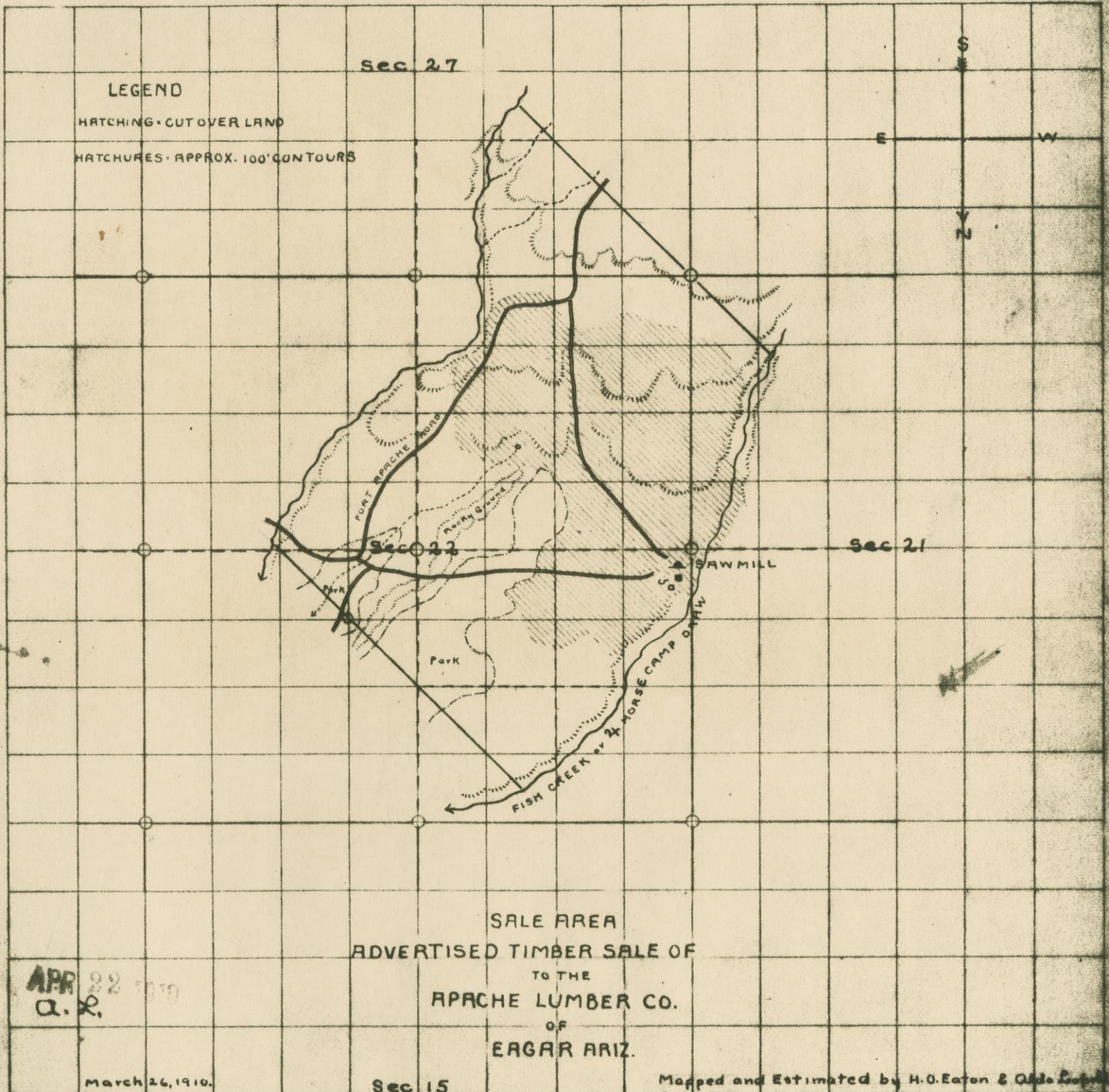
UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
MAP SHEET

No. \_\_\_\_\_ APACHE National Forest.

Division AREA = 372 acres District \_\_\_\_\_, Block \_\_\_\_\_

T. 8 N, R. 27 E, G & S R M., Section 21, 22, 27, Quarter \_\_\_\_\_

Mapped by Aldo Leopold Scale: 4 inches = 1 mile.



SALE AREA  
ADVERTISED TIMBER SALE OF  
TO THE  
APACHE LUMBER CO.  
OF  
EAGAR ARIZ.

APR 22 1910  
A.L.

March 26, 1910.

Sec 15

Mapped and Estimated by H.O. Eaton & Aldo Leopold

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

MAP SHEET

No. \_\_\_\_\_

APACHE

National Forest.

Division Area 372 acres.

District \_\_\_\_\_

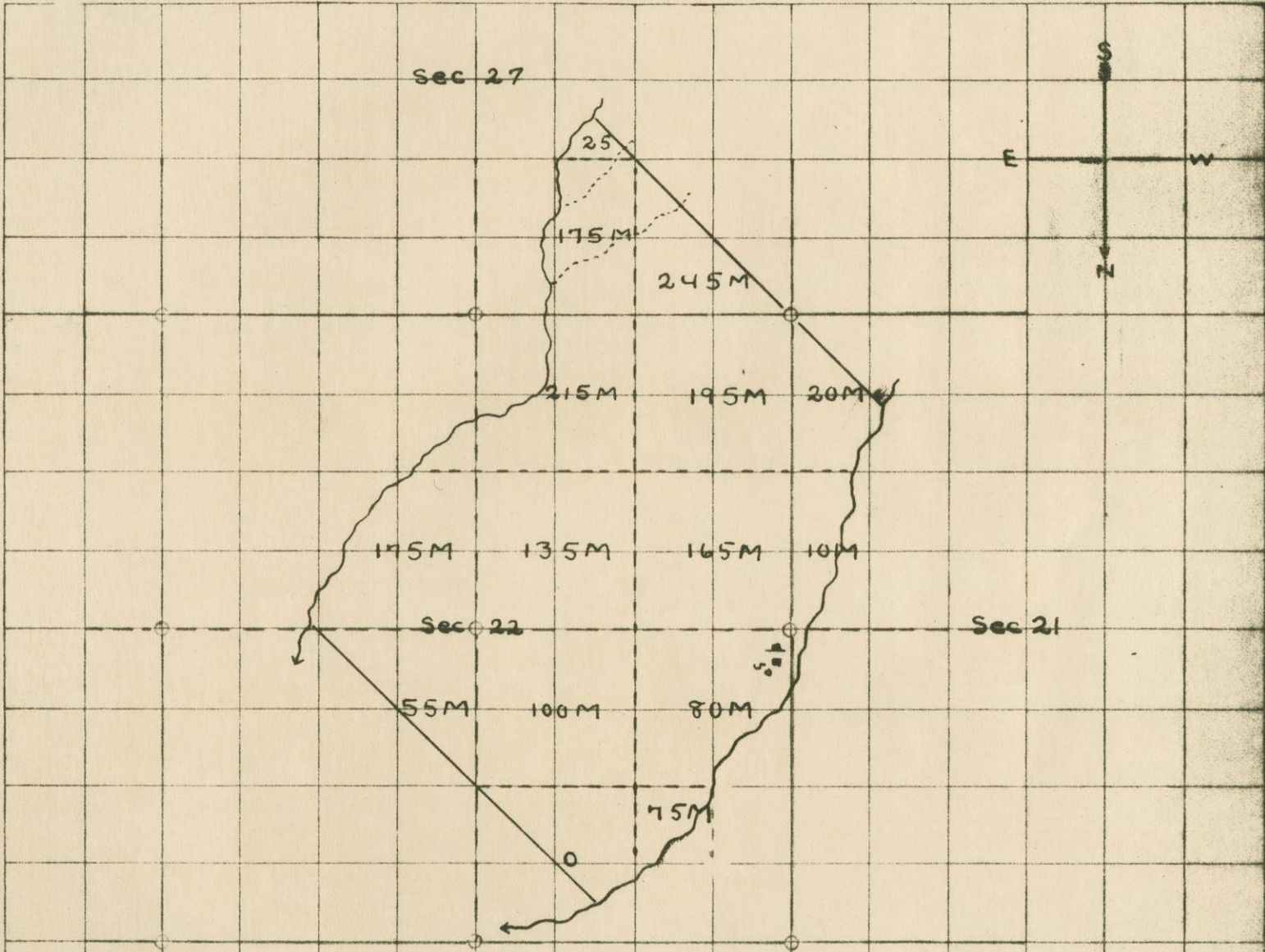
Block \_\_\_\_\_

T. 8N , R. 27E , G & SR M., Section 21, 22, 27, Quarter \_\_\_\_\_

Mapped by

Aldo Leopold

Scale: 4 inches = 1 mile.



General Notice Sale of

ESTIMATE SHEET  
to the Apache Lbr. Co. of Eagar Arizona.

APR 22 1910

Total Estimate 1,690,000' B.M. W.Y. Pine  
Advertised for Sale 500,000' B.M.

A.L.

Estimated March 1910 H.O. Eaton & Aldo Leopold

Sec 15

Files

UNITED STATES DEPARTMENT OF AGRICULTURE  
MAY 3, 1916.  
FOREST SERVICE

Z

Apache - News Letter,  
May.

Forest Officers,

Apache National Forest.

Improvement. The telephone line between Springerville and Luna is now in daily use, and construction work under way on the line from Luna to Blue. This line is being built under contract by Mr. Omer Dean of Springerville.

The Nutrioso and Patterson Spring Sheep Counting Corrals have been completed during the month by Rangers Pritchard and Eaton. The Nutrioso Corral is located on the Nutrioso Sheep Driveway on Riggs Creek and is built of 45" woven wire. Two bands of sheep have already been counted and the corral has proved to be an entire success. It is a 200' Triangle ~~feet in diameter~~, covers  $\frac{1}{2}$  of an acre, and holds 4500 sheep. Two sheep are let out abreast and after a band of 2000 has been corralled they may be counted in about 7 minutes.

The Patterson Spring Corral, located on the Iris Ranger Station, is an old pole shearing corral which has been repaired. It is 150' square, contains  $\frac{5}{8}$  of an acre and holds 5000 sheep. The sheep pass singly through the counting chute.

Ranger Rudd reports good progress on the log cabin which he is building on the Rock Creek Station, southeast of Whiteriver. Guard Rogers is now at Whiteriver and helping in the work.

Grazing. On April 10 the local stockmen held a meeting in Springerville to make the necessary plans for the spring work. Ranger Eaton represented the Forest Service. It was decided to work with two wagons, covering the country from St. Johns to Blain's Lake. The work has been in progress since April 19 and it is reported that due to the weak condition of the stock it has been necessary to throw toward the mountain at the end of each day. The two wagons are expected to meet on Coyote Creek about May 3 and Ranger Eaton will join them there at that time. His chances of getting any complete counts are of course largely handicapped by the unusual method of work.

F. O.

Ranger J. C. Wheatley is on cow work on the Blue and Ranger Sizer is about to start with the work up Eagle.

The sheepmen, and the Rangers in charge of Sheep Districts, have had plenty to do during the past month. Several sheepmen objected to the prospect of having to use the Nutrioso Driveway in coming off the mountain to shear. Accordingly they arranged for a crossing of the Little Colorado at the Wahl Ranch, 4 miles up the river from Springerville, and Rangers Eaton and D. C. Martin have been engaged in posting a driveway from the crossing southwest into South Fork and thence south to the top of the mountain between Wahl and Rudd Knolls:

As there is no counting corral on this driveway it will be used this year only for the purpose of coming off to shear, and for going back after shearing.

Word has been received from the District Forester that grazing on range included within the proposed elimination will continue to be under Forest Service Administration up to the time that the elimination is actually proclaimed by the president, and that such range may be used without permit and free of charge, but only by such numbers of stock as have regularly occupied the range in the past.

Accordingly a number of sheepmen receiving heavy cuts this year have been granted additional allotments on the Elimination under Regulation 54, to accommodate the amount of their cut. These additional allotments are effective only pending the elimination, after its proclamation they are public range open to all.

Due to Ranger Eaton's absence from his District on cow work it has been necessary for Ranger Pritchard to take charge of the sheep counting at Patterson Spring, and for Ranger W. C. Martin to take charge of the counting on the Nutrioso Driveway.

So far the rush of work on sheep driveways and corrals and counting has prevented the necessary posting of allment lines. It is hoped, however, to begin running out these lines as soon as the counting is over.

A very important point in connection with sheep supervision is calling upon all herders for their identification cards. In the past this has not always been done, and as a

F. O.

result herders have come to regard the cards as more or less unnecessary, and often fail to have them on hand when called for. To overcome this tendency all herders should be called on for cards.

The enforcement of the new salting requirements will necessarily be up to the field officer on each District. It would be a good idea to enter in ink on the notebook permit record (form 874-12) the number of pounds required of each permittee as determined by reference to the duplicate grazing permit, and then to enter in pencil the amounts put out from time to time with date, as determined by inquiry and observation. Then at the end of the season the sum of the pencil entries ought to approximately balance the ink entry, and all the data will be in convenient form for compilation when called for from this office. Space for these entries can in most cases be found in the spaces for brands and earmarks, or if necessary a blank page could be inserted for the purpose, alternating with each page of 874-12. Any man not provided with 874-12 should requisition them from this office.

Timber Sales. The Apache is to have another Reconnaissance Party this season. The Party will consist of 8 men, and have an allotment of \$4000. It is not yet known who will be in charge or what areas are to be cruised.

Land Examiner H. B. Waha is now on the Apache and together with Supervisor Guthrie is investigating the Eagle Creek Road Route to Springerville. If a feasible road route is found Mr. Waha will run the preliminary survey during the coming season. Mr. Waha has looked over the Malay Gap route but does not consider it feasible; he thinks it possible, however, that a feasible route may be found leaving Eagle by the old Circles road into Freezeout Creek on the Addition, crossing Black River near the Burned Corral. This route is about to be looked over.

Mr. Herman Rath, a representative of a private lumber company, has recently been on the Apache looking over the timber and driving possibilities of the Blue and Frisco Rivers. No official report of his opinions has as yet been received but it is reported that his impressions were unfavorable to the driving possibilities.

F. O.

Those men who have been on the south end will remember the groves of Cypress trees found there. The question of their identification has been finally settled by sending specimens of cones, foliage and bark to Mr. Sudworth, the Dendrologist of the Service in Washington. Mr. Sudworth pronounces the species to be *Cupressus Arizona* or Arizona Cypress, and not *Cupressus glabra*, which is a rarer tree. It is possible, however, that on further investigation both species will be found to occur.

Boundaries. The location and posting of the South Boundary was completed by Land Examiner H. B. Waha and Guards Bush and Read on March 30. The line was run entirely by triangulation, as chaining was made impracticable by the roughness of the country. Several ranches, formerly supposed to be outside the old Forest line, were found to be inside even the new line, and vice versa. Chase Creek Ranger Station was found to be just outside the new line, but an effort is being made to retain parts of sections 16 and 17 in order to hold the Station inside the Forest.

The proclamation of the eliminations has not yet been made by the President but may be expected at any time.

Many of the landed interests of Springerville and vicinity are keeping a watchful eye on the two sections to be eliminated just southeast of town, with a view to making Desert Entries.

Settlement - The number of unexamined June 11 Claims which jumped from 11 to 27 during March has reached 29 to date. Ranger D. C. Martin has been prevented from starting out on the examination of these claims by Sheep Driveway and Trespass work, but expects to start out by May 10.

A direct inquiry from an intending applicant in Eagar has at last brought up squarely the question of whether or no the Service is going to recommend the listing of Forest Homesteads on top of the mountain, where the impossibility of year-around residence is just as certain as the possibility of raising certain valuable crops. The question is still at issue, but an early and definite decision is unavoidable.

Fire. It is hardly necessary to call attention to the importance of having all necessary fire warnings posted in advance of the fire season, especially in those parts where campers, freighters and other persons liable to be unfamiliar with the Forest Regulations are passing. Present conditions indicate that the fire season will be a bad one. Mr. Waha, who is now in this office, reports that Mr. Guthrie, himself, Ranger Sizer, and W. J. Brown have just extinguished a fire that burned over about two sections on the east fork of Black River, about 4 miles above Slaughters Ranch. Ranger Chapin leaves tomorrow to patrol the ground and prevent a second outbreak as Mr. Guthrie's party have had to leave for work on Eagle Creek.

The Datil Forest inserts in all grazing permits: "And provided further that range branding shall be practiced by the permittee or his employees only when absolutely necessary and that all fires started for the purpose shall be completely extinguished by said permittee or his employees before leaving them. In no case shall fire be started near dead timber, dry grass or other inflammable material." It may be wise to consider a similar insertion in permits on the Apache.

The District Office has compiled the fire statistics of last season. The Apache is down for 13 fires, 5 of which were due to lightning, 4 to campers, 2 miscellaneous and 4 unknown. 19,000 acres were burned over of which 14,000 was timbered. Two million feet of timber was destroyed. The total cost of fire-fighting was \$235, of which \$110 was for time of Forest officers. \$630 worth of cooperation was received. Among the 21 Forests of District 3 the Apache stands first in amount of cooperation received, 6th in cost of fighting, 7th in value destroyed, 3rd in acres burned over and 10th in number of fires.

Supervision. Forest Guard D. E. Read was separated from the Forest Service on April 24 for disloyalty and dishonorable conduct.

Supervisor Guthrie left Springerville on April 19 on a field trip. Together with Land Examiner H. B. Waha he has been engaged in a preliminary reconnaissance of the Eagle Road Route, and is now in the vicinity of Clifton on general supervision work.

On and after May 1 it is requested that all requests to this office for equipment, stationery and supplies be submitted on the regular yellow requisition form 668. A small supply is enclosed herewith. When these are exhausted an additional supply should be requisitioned.

F. O.

*agreed  
revised  
letter  
May 3, 1910*

During the past month all men have received Letters of Authorization, Form 536, authorizing them to incur expenses for certain purposes. This was in accordance with orders received from the Secretary, and it should be understood that no such expenses should be incurred without special directions from the Supervisor as usual.

So far only three men have responded to the directions in Circular No. 20 of October 19, 1909, for submitting plans for signboards for roads and trails on each District. It is believed that these signboards are both useful to travelers and valuable to the Service in their effect on public estimation of Forest Administration, and it is requested that the men who have not responded, do so as soon as possible.

A good deal of carelessness is evident among the Forest officers in the matter of securing transfer slips, Form 874-18 for all transfers of property. Failure to record transfers results in a great deal of unnecessary work in this office, and in the future this point should be remembered.

Instructions have recently been received from the District Forester to the effect that in future Forest Guards will not be allowed to purchase uniforms previous to their appointment as Assistant Forest Rangers.

Several new pamphlets have been received as additions to the Library Reading Courses.

Grazing - Directions for use of Blackleg Vaccine.  
Anthrox in Cattle, Horses and Man.

There have also been received as regular library books a pamphlet entitled "Some Features of Forest Working Plans in India, and of Forest Regulation in the Coniferous Forests of the Himalayas."

Several men have requested the Grazing and Law Reading Courses, and the books have not been sent them. This is because only one set of each course is available, and the above mentioned courses are in great demand. Courses will be sent out in the order in which requests for them are received.

During the past month several circular letters from the District Office have been sent out with an attached slip "For general information of Field Officers, no direct bearing on your official duties." The object of sending out these circulars to all the men, as explained by the District



F. O.

Forester, is to give every man the opportunity to keep in touch with the general work of the Service outside his own immediate duties. This is sound policy provided that the number of such "general interest" letters does not become so great as to detract from the effectiveness of other circulars containing specific instructions having a direct bearing on the field officers' duties. It is hoped that by attaching the "general information" slips to letters of the first class, that the two classes will be clearly differentiated.

The results of last fall's Ranger Examination have reached this office, and the Guards on the Apache are certainly to be congratulated on their excellent showing. This Forest is at present decidedly short-handed and at least two additional men will be secured during the coming month if possible, but it is hoped that the entire present force will remain with us and that those who did not pass the Examination this time, will try again.

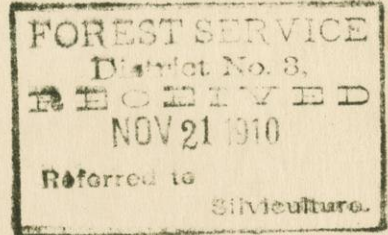
Very sincerely yours,

*Aldo Leopold*

Acting Forest Supervisor.

ADDRESS REPLY TO  
"FOREST SUPERVISOR"

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
APACHE NATIONAL FOREST



SPRINGERVILLE, ARIZONA

November 17, 1910

*MAB*

SP  
Apache - Planting

District Forester (Through Forest Supervisor)  
Forest Service,  
Albuquerque, N. M.

Dear Sir:

Enclosed are reports on revised form of field sowing done on this Forest. These are submitted in accordance with circular SP-District, Planting, of September 20. A diagram of the Alpine Sowing Area, and a summary of all sowing on the area, are also enclosed.

The circular of September 20 calls for these reports in triplicate but the supply of forms sent is not sufficient for more than single copies. Since these reports are already overdue the originals are being forwarded to avoid further delay. The necessary copies can be made in your office, or if time permits, the originals may be returned with a supply of blank forms and the copies made here. In either case it is requested that a set be returned for the files of this office.

In the reports for Plots X-4 to X-9 the figures for cost of seed (Engelman Spruce) are not filled in. All the other seed received, except the Spruce, was tagged, giving the place collected and cost, but the tag of the Spruce seed was missing. It is re-

S-PLANTING - Reports  
Apache 1909-1915

FRC 31756

\$1.00  
I think  
at 3/2

requested that these figures be filled in from the records of your office.

None of the reports are filled in under "Germination per cent". These tests I presume were made in Washington, but no record covering these particular lots has been received here. It is requested that these also be filled in from the records of your office.

in  
SP files

Very truly yours,

Aldo Leopold

Forest Assistant.

A. F. G.  
Acting Forest Supervisor.

SP  
Apache - Planting  
Alpine Experiment Area

----- SUMMARY -----

Location: SE 1/4 SE 1/4 Section 9, T.5 N., R.30 E., G. & S.R.M.  
(Corrected)

Acreage: 6 acres

Stock: Seed

Total Pounds Seed Used to Date: 41# Englemann Spruce  
1 1/2# Douglas Fir

Method: 4 1/2 acres broadcast, 1 1/2 acres seedspot.

Features: Excellent site and good seed favorable factors.  
Season of planting unfavorable on some of the plots.

Ground Cover: Sparse herbs. Full stand Aspen 10' - 12' high  
mixed with considerable Locust brush.

Former Stand: Douglas and White Fir Poles, dense stand. Burned  
in 1904, killing entire stand.

Altitude and Topography: 9200', steep north slope.

Soil: Deep, dark, loose, fresh, stony loam; malpais  
formation.

Chances for Natural Reproduction: Poor. Some White Fir seed  
trees near Plot X-1 (west end) are slowly restocking Plots X-1,  
X-2, and X-3.

Date of Planting: See attached diagram.

Results: So far, satisfactory for all plots not sown during  
the rainy season. Summer sowing results in complete destruction  
by frost. Fall, winter and spring sowing have the best chance  
of success, and of these, winter sowing on snow seems the best.  
None of the seedlings are as yet old enough to be sure of sur-  
vival.

W. A. Leopold

F. A.

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

MAP SHEET

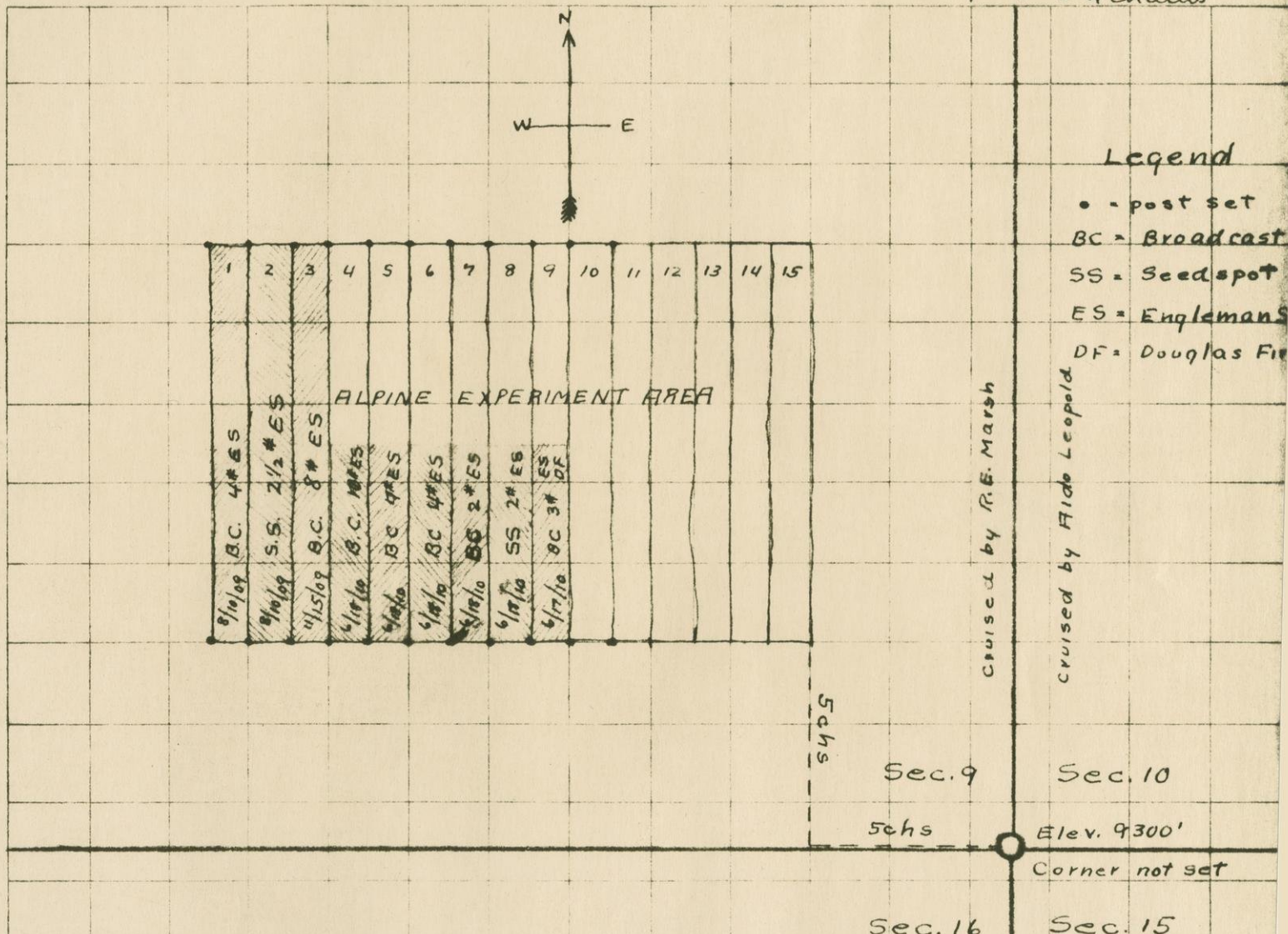
No. \_\_\_\_\_ *Apache* National Forest.

Division \_\_\_\_\_ District *Alpine Ranger*, Block \_\_\_\_\_

T. *5 N*, R. *30 E*, G & SR M., Section *9*, Quarter *SE 4 SE 4*

Mapped by *Aldo Leopold*

Scale: *20* inches = 1 mile.  
1 " = 4 chains



Corrected Location Alpine Exp. Area

As Determined by the  
Apache Reconnaissance - Sept. 30, 1910

Showing also areas sown to date

Nov. 16 - 1910

*Aldo Leopold*  
Forest Assistant

*N.D.C.*  
Acting Forest Supervisor.

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT OF EXPERIMENTAL SOWING... *Spring*..... OF *1910*.....  
(Season) (Year)

..... *Apache*..... National Forest

..... *Alpine*..... Sowing area. Plot. *X-4*..... *South half*.....  
(Name) (Number)

Species. *Pinus engelmannii*. Date of sowing. *June 18*..... 1910..  
(check list name)

Source. *Pecos 1909*..... Germination per cent.....  
(Name of Forest or dealer) (give no. of days test)

Area..... *12.5*..... acres. Amount seed sown per acre.. *70*.. lbs

Total amount.. *1.0*... lbs. Location.. *SE 1/4 SE 1/4 Sec 9 T 5 N 30E*  
(Natural landmarks, legal subdivisions)

Marked.. *Post marked X-4 facing plot*.....

Character of site:

Features... *Cover and soil conditions excellent, season good.*  
(why success could be expected)

Ground cover. *Sparsely herbs; Aspens 12' high*.....  
(grass, shrubs, etc.)

Present or former stand. *Douglas L. White Fir... Burned 1904*.....  
(species now grazed, fire, etc.)

Altitude, exposure, topography..... *9200' S. steep slope, N.E. exposure.*

Soil. *loose deep dark stony loams, malpais formation*  
(give physical qualities as well as composition)

Chances for natural reproduction. *Low... no live seed trees within 500*

Protection. *Moderately grazed by cattle... no fire danger.*  
(how fire and grazing guarded against)

Sowing:

Method. *Broadcast*.....  
(Broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site... *None*.....  
(Harrowed, raked, etc.)

**COSTS**

Seed	Trans- portation	Sowing*		Additional Expenses		Total	Cost per acre
		Cash labor	Time of For- est Officers	Amt.	Charac- ter		
	0.42	x	4.00	x	x		

\*\* Estimate number of seedlings per acre: Date.. *Oct. 29, 1940*. Number.. *1200*.....

\*\*\*

" ..... " .....  
 " ..... " .....  
 " ..... " .....  
 " ..... " .....

Causes of success or failure... *Favorable site... and cover... large amount of seeds...*  
 (careless planting, unfavorable site, drought, poor stock, heavy grazing, trampling, etc.)

Remarks.....  
 ...ive conclusions you can deduct as a result of the

.....  
 — experimental sowing with particular reference to future sowing

... *Seedlings not yet exposed to any heavy frost... 20%...*  
 ... *the one by frost on date of examination, not included in count*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... :..... *Forest Assistant*.....  
 Title of Forest officer

- \* Cost of implements should not be included.
- \*\* Estimate based on sample counts of areas representing average conditions.
- \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT OF EXPERIMENTAL SOWING..... Spring..... OF... 1910.....  
(Season) (Year)

..... Apache..... National Forest

..... Alpine..... Sowing area. Plot. X-5, south. half.  
(Name) (Number)

Species.. Picea engelmanni. Date of sowing.. June 15..... 1910..  
(check list name)

Source.. Pecos 1909..... Germination per cent.....  
(Name of Forest or dealer) (give no. of days test)

Area..... 1/2..... acres. Amount seed sown per acre.. 14.. lbs

Total amount... 7... lbs. Location. SE 1/4. S 24. Sec. 9. T. 5 N. R. 30 E  
(Natural landmarks, legal subdivisions)

Marked.. Posts marked. X-5 facing plot.....

Character of site:

Features.. Cover and soil condition excellent, season good  
(why success could be expected)

Ground cover.. Sparse herbs. Aspen. high.....  
(grass, shrubs, etc.)

Present or former stand.. Douglas & white. Fir. burned. 1904...  
(species now grazed, fire, etc.)

Altitude, exposure, topography..... 9200'; very steep. N.E. slope.....

Soil.. loose deep. dark. fresh. heavy, malpais. formation  
(give physical qualities as well as composition)

Chances for natural reproduction.. Poor... no live seed trees within 100

Protection.. moderately grazed by cattle... no fire danger  
(how fire and grazing guarded against)

Sowing:

Method.. Broadcast.....  
(Broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site... none.....  
(Harrowed, raked, etc.)



**COSTS**

Seed	Trans- portation	Sowing* Cash labor	Time of For- est Officers	Additional Expenses Amt.: Charac- ter	Total	Cost per acre
	0.30	x	4.00	x	x	

\*\* Estimate number of seedlings per acre: Date.. *Oct. 29, 1960*.. Number.. *600*.....

\*\*\*

" ..... " .....  
 " ..... " .....  
 " ..... " .....  
 " ..... " .....

Causes of success or failure.. *favorable site & cover and..*  
 (careless planting, unfavorable site,  
*Reason, fair amount of and..*  
 drought, poor stock, heavy grazing, trampling, etc.)

Remarks.....  
 Give conclusions you can deduce as a result of the

.....  
 experimental sowing with particular reference to future sowing;  
 .....

*.. Seedlings not exposed to heavy frost... 20% of them..*  
*.. by frost on date of examination not included in count.*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... : *Forest Assistant*.....  
 Title of Forest officer

- \* Cost of implements should not be included.
- \*\* Estimate based on sample counts of areas representing average conditions.
- \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT OF EXPERIMENTAL SOWING... *Spring* ... OF... *1910* ...  
(Season) (Year)

..... *Apache* ..... National Forest

..... *Alpine* ..... Sowing area. Plot... *X-6* ..... *south half*  
(Name) (Number)

Species... *Pinus engelmannii* ..... Date of sowing... *June 18* ... 19*10* ..  
(check list name)

Source... *Becos 1909* ..... Germination per cent. ....  
(Name of Forest or dealer) (give no. of days test)

Area..... *1/2* ..... acres. Amount seed sown per acre... *8* ... lbs

Total amount... *4* ..... lbs. Location... *S.E. 1/4 S.E. 1/4 Sec. 9 T. 5 N. R. 30 E*  
(Natural landmarks, legal subdivisions)

Marked... *Posts marked X-6 facing plot* .....

Character of site:

Features... *Cover and soil conditions excellent, season good*  
(why success could be expected)

Ground cover... *Sparse herbs... Aspen 12' high* ..  
(grass, shrubs, etc.)

Forest or  
form... and... *Douglas & W. White Fir burned 1904* ..  
(species now grazed, fire, etc.)

Altitude, exposure,  
topography... *9200' steep N.W. slope* .....

Soil... *loose deep dark fresh loam, no air formation*  
(give physical qualities as well as composition)

Chances for  
natural reproduction... *no live seed trees within 7 chs*

Protection... *Moderately grazed by cattle... no fire danger*  
(how fire and grazing guarded against)

Sowing:

Method... *Broad cast* ..  
(Broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site... *harrow* ..  
(Harrowed, raked, etc.)

**COSTS**

Seed	Trans- portation	Sowing <sup>+</sup> Cash labor	Time of For- est Officers	Additional Expenses Amt.: Charac: ter	Total	Cost per acre
	0.16	x	4.00	x	x	

\*\* Estimate number of seedlings per acre: Date. *Oct. 29, 1910*. Number.. *500*.....

\*\*\*  
 " ..... "  
 " ..... "  
 " ..... "  
 " ..... "

Causes of success or failure.. *F. avosable site & cover & reason.*  
 (careless planting, unfavorable site,  
*Small amount of seed,*  
 drought, poor stock, heavy grazing, trampling, etc. )

Remarks.....  
 (Give conclusions you can deduct as a result of the

.....  
 experimental sowing with particular reference to future sowing,  
 .....

*Seedlings not exposed to heavy frost... 20% lost  
 by frost on date of sowing. not included in count.*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... *Forest Assistant*.....  
 Title of Forest officer

- \* Cost of implements should not be included.
- \*\* Estimate based on sample counts of areas representing average conditions.
- \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
 FOREST SERVICE  
 DISTRICT III

REPORT OF EXPERIMENTAL SOWING... *Spring* ... OF... *1910* ...  
 (Season) (Year)

..... *Apache* ..... National Forest

..... *Alpine* ..... Sowing area. Plot... *X-7* .....  
 (Name) (Number)

Species. *Pinus engelmannii*. Date of sowing... *June 18* ... 1910...  
 (check list name)

Source... *Pecos 1909* ..... Germination per cent.....  
 (Name of Forest or dealer) (give no. of days test)

Area..... *1/2* ..... acres. Amount seed sown per acre. *4* ... lbs

Total amount... *7* ... lbs. Location... *SE 1/4 SE 1/4 Sec 9 T 5 N R 30 E*  
 (Natural landmarks, legal subdivisions)

Marked. *Posts marked X-7 facing plot* .....

Character of site:

Features... *Cover and soil conditions excellent, season good.*  
 (why success could be expected)

Ground cover. *Sparse herb. Aspen 12' high* .....  
 (grass, shrubs, etc.)

Present or former stand. *Douglas & white Fir burned 1904*.  
 (species now grazed, fire, etc.)

Aspect exposure, topographic ..... *9200' steep north slope* .....

Soil... *loose, dark, stony, loam; Malpais formation*  
 (give physical qualities as well as composition)

Chances for natural reproduction. *Pos... no live seed trees within 8 ch*

Protection. *Moderately grazed by cattle. no fire danger.*  
 (how fire and grazing guarded against)

Sowing:

Method. *Broadcast* .....  
 (broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site... *none* .....  
 (Harrowed, raked, etc.)

COSTS

Seed	Trans- portation	Sowing* Cash labor	Time of For- est Officers	Additional Expenses Amt.: Charac- ter	Total	Cost per acre
	0.09	x	4.00	x	x	

\*\* Estimate number of seedlings per acre: Date... *Oct. 29, 1910*... Number... *400*.....

\*\*\*  
 " ..... "  
 " ..... "  
 " ..... "  
 " ..... "

Causes of success or failure... *Favorable site, cover, & season.*  
 (careless planting, unfavorable site,  
*Very small amount of seed.*  
 drought, poor stock, heavy grazing, trampling, etc.)

Remark.....  
 conclusions you can deduct as a result of the

.....  
 experimental sowing with particular reference to future sowing

*Seedlings not yet thosed to heavy frost.... 20% thrown by  
 frost on date of Ex. imination... not included in count*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... *Forest Assistant*.....  
 Title of Forest officer

\* Cost of implements should not be included.  
 \*\* Estimate based on sample counts of areas representing average conditions.  
 \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT ON EXPERIMENTAL SOWING... *Spring* ... OF... *1910* ...  
(Season) (Year)

..... *Apache* ..... National Forest

..... *Alpine* ..... Sowing area. Plot... *X-8* .....  
(Name) (Number)

Species... *Picea engelmannii* Date of sowing... *June 18*... 19*10*..  
(check list name)

Source... *Pecos 1909* ..... Germination per cent. ....  
(Name of Forest or dealer) (give no. of days test)

Area..... *1/2* ..... acres. Amount seed sown per acre... *4*... lbs

Total amount... *7*... lbs. Location... *SE 1/4 S.E. 1/4 Sec. 9. T. 5N. R. 30E*  
(Natural landmarks, legal subdivisions)

Marked... *Posts marked X-8 facing plot* .....

Character of site:

Features... *Cover. & soil conditions excellent, season good*  
(why success could be expected)

Ground cover... *Sparse herbs; Aspen 1.2' high* .....

Present or former stand... *Shagbark & W. lobl. Fir... burned 1904* ..  
(species now grazed, fire, etc.)

Altitude, exposure, topography... *9200' steep north slope* .....

Soil... *Loose deep dark stony loam, malpais formation*  
(give physical qualities as well as composition)

Chances for natural reproduction... *Poss... no live seed trees within 9 ch*

Protection... *Moderately grazed by cattle... no fire danger*  
(how fire and grazing guarded against)

Sowing:

Method... *Seedspat* .....

Preparation of site... *Spots 9"-15" diameters 5' x 5'* .....

**COSTS**

Seed	Trans- portation	Sowing*		Additional Expenses		Total	Cost per acre
		Cash labor	Time of For- est Officers	Amt.	Charac- ter		
	0.09	x	5.00	x	x		

\*\* Estimate number of seedlings per acre: Date.. *Oct. 29, 1910*. Number.. *400*.....

\*\*\*  
 " ..... "  
 " ..... "  
 " ..... "  
 " ..... "

Causes of success or failure... *variable, etc. and care... & season & method*.....  
 (careless planting, unfavorable site, drought, poor stock, heavy grazing, trampling, etc.)  
 Remarks.....  
 (Give conclusions you can deduce as a result of the experimental sowing with particular reference to future sowing)

*Although the spots were not hollowed out, the examination showed a tendency for the seedlings to occur near the edges indicating washing in rains and too deep covering.*  
 Approved..... Name.....  
 (Supervisor) (Name)

Date..... :... *Forest Assistant*....  
 Title of Forest officer

\* Cost of implements should not be included.  
 \*\* Estimate based on sample counts of areas representing average conditions.  
 \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT OF EXPERIMENTAL SOWING... *Spring* ..... OF... *1910* .....  
(Season) (Year)

..... *Apache* ..... National Forest

..... *Alpine* ..... Sowing area. Plot... *X-9* .....  
(Name) (Number)

Species *Picea engelmannii* <sup>1/2</sup>  
~~*Pseudotsuga taxifolia*~~ <sup>1/2</sup> Date of sowing... *June 17*... 19*10*..  
(check list name)

Source... *Pecos 1909* ..... Germination per cent. ....  
(Name of Forest or dealer) (give no. of days test)

Area... *1/2* ..... acres. Amount seed sown per acre... *6*... lbs.

Total amount... *3*... lbs. Location... *SE 1/4 S.E. 1/4 Sec. 9 T. 5 N. R. 30 E*

Marked... *Plots marked X-9 facing plot* .....  
(Natural landmarks, legal subdivisions)

Character of site:

Features... *Cover & soil conditions excellent; season good*  
(why success could be expected)

Ground cover... *5 pine limbs, ... Aspen 12' high* .....  
(grass, shrubs, etc.)

Present or former stand... *Douglas & W. white F. ...; lowland 1904*  
(species now grazed, fire, etc.)

Altitude, exposure, topography... *9200' steep north slope* .....

Soil... *low deep dark stony loam; malpais formation*  
(give physical qualities as well as composition)

Chances for natural reproduction... *Very poor... no live seed trees within 100 yds*

Protection... *Moderately grazed by cattle... no fire danger*  
(how fire and grazing guarded against)

Sowing:

Method... *Broadcast* .....  
(broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site... *None* .....  
(Harrowed, raked, etc.)



COSTS

Seed	Trans- portation	Sowing*		Additional Expenses		Total	Cost per acre
		Cash labor	Time of For- est Officers	Amt.	Charac- ter		
D.F. 61							
E.S.	0.13	x	4.00	x	x		

\*\* Estimate number of seedlings per acre: Date... *October 29* ... Number... *200* .....

\*\*\*

" ..... " .....  
 " ..... " .....  
 " ..... " .....  
 " ..... " .....

Causes of success or failure... *Favorable site, cover, reasons, and method... Small amount of seed...*  
 (careless planting, unfavorable site, drought, poor stock, heavy grazing, trampling, etc.)

Remarks.....  
 (Give conclusions you can deduct as a result of the

..... experimental sowing with particular reference to future sowing)

*See logs on 85% F. and 15% S. Spruce... The area is apparently better adapted to F. is.....*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... :..... *Forest Assistant*.....  
 Title of Forest officer

- \* Cost of implements should not be included.
- \*\* Estimate based on sample counts of areas representing average conditions.
- \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT OF EXPERIMENTAL SOWING... *Winters* ..... OF... *1909-10* ...  
(Season) (Year)

..... *Apaches* ..... National Forest

..... *Alpine* ..... Sowing area. Plot... *X-3* .....  
(Name) (Number)

Species... *Picea engelmannii*... Date of sowing... *Nov. 15* ... 1909..  
(check list name)

Source... *Pecos Forest 1908*... Germination per cent.....  
(Name of Forest or dealer) (give no. of days test)

Area... *1* ..... acres. Amount seed sown per acre... *8* lbs.

Total amount... *8* ..... lbs. Location... *S.E. 1/4 S.E. 1/4 Sec. 9, T. 5 N. R. 30 E*  
(Natural landmarks, legal subdivisions)

Marked... *Posts marked X-3 facing plot* .....

Character of site:

Features... *Cover, season... soil conditions... excellent* ..  
(why success could be expected)

Ground cover... *Sparse herbs, Aspen & Juniper, 12' high* ..  
(grass, shrubs, etc.)

Present or former stand... *Douglas & White Fir* ..... *Burned 1904*  
(species now grazed, fire, etc.)

Altitude, exposure, topography... *9200'* ..... *Steep slopes... N.E. exposure*

Soil... *loose, dark, stony, loam; malpais formation* ..  
(give physical qualities as well as composition)

Chances for natural reproduction... *scattering White Fir from trees 4' or 5'*

Protection... *Moderately grazed by cattle... No fire danger* ..  
(how fire and grazing guarded against)

Sowing:

Method... *Broadcast on 14" snow* ..  
(Broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site... *none* ..  
(Harrowed, raked, etc.)

COSTS

Seed	Trans- portation	Sowing*		Additional Expenses		Total	Cost per acre
		Cash labor	Time of For- est Officers	Amt.	Charac- ter		
6.72	0.34	x	9.15	x	x	16.21	16.21

\*\* Estimate number of seedlings per acre: Date. *Oct. 29, 1910.* Number. *3500.*

\*\*\*

" ..... "

" ..... "

" ..... "

" ..... "

Causes of success or failure... *reasons are quite favorable* .....  
 (careless planting, unfavorable site,  
 drought, poor stock, heavy grazing, trampling, etc.)

Remarks... *Seedlings on Oct. 29. were only 12% and looked*  
 the conclusions you can deduct as a result of the

experimental sowing with particular reference to future sowing

*strong and best. Winter sowing probably best.*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... : *Forest Assistant*.....  
 Title of Forest officer

- \* Cost of implements should not be included.
- \*\* Estimate based on sample counts of areas representing average conditions.
- \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREIGN SERVICE  
DISTRICT III

REPORT ON EXPERIMENTAL SOWING... *Summer* ..... OF... *1909* .....  
(Season) (Year)

..... *Apache* ..... National Forest

..... *Alpine* ..... Sowing area. Plot... *X-1* .....  
(Name) (Number)

Species. *Pinus engelmannii*.. Date of sowing. *Aug. 10*..... 19*09*..  
(check list name)

Source.. *P. Forest*.. *1908*.. Germination per cent.....  
(Name of Forest or dealer) (give no. of days test)

Area.. ..... acres. Amount seed sown per acre.. *4*.. lbs

Total amount... *4*... lbs. Location. *S.E. 1/4 Sec. 9. T. 5. N. R. 3. E*  
(Natural landmarks, legal subdivisions)

Marked. *Posts marked. X-1 facing plot*.....

Character of site:

Features... *Aspens cover; excellent; good conditions*.....  
(why success could be expected)

Ground cover. *Sparse herbs. Full stand Aspen 12' high.*  
(grass, shrubs, etc.)

Present or former stand. *Douglas and White Fir. Burned 1904.*  
(species now grazed, fire, etc.)

Altitude, exposure, topography..... *9200'... Steep slope north exposure.*

Soil. *Loose deep dark. fresh layer. alpine formation*  
(give physical qualities as well as composition)

Chances for natural reproduction. *from red trees on w. edge plot. White Fir seedlings coming in fairly well.*

Protection. *Moderate grazed by cattle. no fire danger*  
(how fire and grazing guarded against)

Sowing:

Method.. *Broadcast*.....  
(Broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site.. *none*.....  
(Harrowed, raked, etc.)

**COSTS**

Seed	Trans- portation	Sowing* Cash labor	Time of For- est Officers	Additional Expenses Amt.: Charac: ter	Total	Cost per acre
3.36	0.17	x	3.10	1.00 Board lodging	7.63	7.63

\*\* Estimate number of seedlings per acre: Date... *June 8, 1910*... Number... *0*.....

\*\*\*  
 " ... *Oct. 29, 1910* ... " ... *0*.....  
 " ..... " .....  
 " ..... " .....  
 " ..... " .....

Causes of success or failure... *Probably frost killed fall of 1909.*  
 (careless planting, unfavorable site)

drought, poor stock, heavy grazing, trampling, etc.)

Remarks... *Planted too late in the sowing season. Seeds probably  
 sprouted before the same seeds on Sept. 9 and were caught  
 by the frost as a very tender condition and killed  
 before a protecting snow fell on Nov. 4.....  
 Summer sowing is probably inadvisable.....*

Approved..... Name.....  
 (Supervisor) (Name)

Date..... :... *Forest Assistant*.....  
 Title of Forest officer

\* Cost of implements should not be included.  
 \*\* Estimate based on sample counts of areas representing average condition.  
 \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
DISTRICT III

REPORT ON EXPERIMENTAL SOWING. *Summer*.....OF. *1909*.....  
(Season) (Year)

.....*Apache*.....National Forest

.....*Alpine*.....Sowing area: Plot. *X-2*.....  
(Name) (Number)

Species. *Picea engelmanni*. Date of sowing... *Aug. 10. 1909*..  
(check list name)

Source. *Pecos Forest. 1908*... Germination per cent.....  
(Name of Forest or dealer) (give no. of days test)

Area. *1*.....acres. Amount seed sown per acre. *2 1/2* lbs

Total amount. *7 1/2* lbs. Location. *SW 1/4 Sec 9 T. 5 N. R. 30 E*  
(Natural landmarks, legal subdivisions)

Marked. *Posts marked X-2 facing plot*.....

Character of site:

Features. *Cover & soil conditions excellent, careful planting*  
(why success could be expected)

Ground cover. *Sparse herbs, Aspen & Decid. 10' high*..  
(grass, shrubs, etc.)

Present or former stand. *Douglas & W. White Fir*..... *Burned 1904*  
(species now grazed, fire, etc.)

Altitude, exposure, topography..... *9200*..... *Steep slope north exposure*

Soil. *some deep dark fresh loam malpais formation*  
(give physical qualities as well as composition)

Chances for natural reproduction. *seed trees 3 chs west*  
*White Fir common in slopes from*

Protection. *Moderately grazed by cattle. No fire danger.*  
(how fire and grazing guarded against)

Sowing:

Method. *Seed spot*.....  
(Broadcast, seed spot, on snow, covered by brush, etc.)

Preparation of site. *Spots 9"-15" diameter 5' x 5'*.....  
(Harrowed, raked, etc.)

**COSTS**

Seed	Trans- portation	Sowing* Cash labor	Time of For- est Officers	Additional Expenses Amt.: Charac- ter	Total	Cost per acre
2.10	0.10	X	10.90	2.50 Board lodging	15.60	15.60

\*\* Estimate number of seedlings per acre: Date.. *June 18, 1910*.. Number. *2*.....  
\*\*\*

" .. *Oct. 29, 1910*.. " *0*.....  
" ..... " .....  
" ..... " .....  
" ..... " .....

Causes of success or failure.. *Probably frost killed and also possibly too deeply covered by wash from heavy snow.*  
(careless planting, unfavorable site, drought, poor stock, heavy grazing, trampling, etc.)  
Remarks. *Planted too late on this rainy season... Seeds probably sprouted before the snow ended on Sept 9... and were caught by the fall frosts in a very tender condition and killed before or protecting snow fell on Nov 11... Also possibly washed over by snow... See Plot 8, 5 1/2.....*  
(Give conclusions you can deduct as a result of the experimental sowing with particular reference to future sowing)

Approved..... Name.....  
(Supervisor) (Name)

Date..... :... *Forest Assistant*...  
Title of Forest officer

- \* Cost of implements should not be included.
- \*\* Estimate based on sample counts of areas representing average conditions.
- \*\*\* Subsequent reports should be in the form of a letter referring specifically to plot described and should cover completely the data called for on Page 2 after "Costs".

ADDRESS REPLY TO  
"FOREST SUPERVISOR"

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
APACHE NATIONAL FOREST



Adm. by [Signature] 11  
SPRINGERVILLE, ARIZONA

March 6, 1911.

LP-BOUNDARIES - Apache  
Additions and Eliminations  
1905-1911, etc.

FRC 110126

LP  
Apache - Boundaries  
Elimination

District Forester,  
Through Supervisor Guthrie  
Albuquerque, N. M.

Dear Sir:

The following is a report on an elimination, requested by Mr. Adolph Goesling, of Salt Lake, N. M., from the north-eastern part of the Apache National Forest. The question of a more comprehensive elimination from, and also of a possible addition to, the northeastern part of the Apache is also treated in this report, because of their bearing on the elimination requested by Mr. Goesling.

THE REQUESTED ELIMINATION

Location and Area

The elimination as requested by Mr. Adolph Goesling in his letter to the District Forester of August 7, 1910, consists of the following surveyed subdivisions:-

T. 8 N., R. 31 E., G. & S. R. M.

Sections 15, 16, 21, 22, 27, 28, 33, 34-----5120

Fractional Sections 14, 23, 26, 35-----1280

6400 acres

The requested elimination is outlined in red dash lines on the accompanying maps Nos. 1, 2, and 3.

The status of lands within the requested elimination,



as shown on accompanying map No. 2, is as follows:-

Patented lands owned by Goesling Brothers and marked "G" on map No. 2. . . . .	720 acres
School Section 16. . . . .	<u>640</u> "
Total Alienated.. . . . .	1360 acres
National Forest . . . . .	4880 acres
Administrative Site . . . . .	<u>160</u> "
Total National Forest.....	5040 acres
<hr/>	
Total area requested elimination.....	6400 acres

Description of Requested Elimination

The requested elimination consists of open agricultural flats along Coyote Creek and an adjacent partially wooded undulating slope which rises westward to a high open mesa surrounded by malpais rimrock. The following tabular classification of the area is based on the joint letter of the Secretaries of Agriculture and Interior to the President, dated February 7, 1910.

Classification of Lands

<u>Requested Elimination</u>			<u>T. 8 N., R. 31 E.</u>	
<u>Description</u>	<u>Area</u>	<u>Class</u>	<u>Alienated</u>	<u>Forest</u>
Cultivated	160 )	)-----#4	90	70
Cultivable	1000 )		470	530
Grassland	3040 )	)-----#2	730	2310
Woodland	2200 )		70	2130
	<hr/>		<hr/>	<hr/>
	6400		1360	5040

District Forester

3/6/11

	<u>Acres</u>	<u>Per Ct.</u>
Total Agricultural land (cultivated and cultivable)	1160	19%
-----		
Total open land (cultivated, cultivable, & grassland)	4200	64%
-----		
Total classifying as National Forest, Class #2	5240	81%
Total not classifying as National Forest, Class #4	1160	19%

The 160 acres of cultivated land are fenced and farmed by Goesling Brothers, who have filed on and use the entire natural flow of Coyote Creek for irrigating the same. This land is of exceptional quality and will raise alfalfa or any kind of grain.

The 1000 acres of cultivable land include 500 acres of the same quality as the area now cultivated, and 500 acres slightly alkaline and suitable only for oats and wild hay. Four hundred acres of the better quality were, in 1909-10, included under Forest Homestead applications 75, 77, 78, and 81 (and recommended for listing), but all four applications were withdrawn because all the available water for irrigation was controlled by the Goesling brothers. It was, and still is, entirely possible, however, for June 11 applicants to cooperate and store sufficient water in one of the many suitable reservoir sites on upper Coyote Creek, to irrigate the entire area of cultivable land.

The 3040 acres of grassland are covered with a good sod of gramma grass, furnishing good range for yearlong use.

The 2200 acres of woodland bear a light stand of Juniper and Pinon running 1.3 cords per acre. There are a few pines in

Sections 33 and 34. The following table gives the acreage and volume of the stand on the Requested Elimination, as determined by the Reconnaissance of this area in November 1910. Since almost all the alienated land is open, the timber is practically all unalienated.

T. 8 N., R. 31 E.

<u>Section</u>	<u>Cordwood Cords</u>	<u>Sawtimber M.B.M.</u>	<u>Acres Wooded</u>
14	75		40
15	280		300
16	---		----
21	145		160
22	215		240
23	145		160
26	18		30
27	80		80
28	420		300
33	805		500
34	520	15	320
<u>35</u>	<u>50</u>	<u>—</u>	<u>40</u>
12 Sections	2753 Cords	15 M.B.M.	2170 Acres

Total area 6400 acres. Stand per wood<sup>ed</sup> acre 1.3 cords.

The distribution of the four types of land included within the requested elimination is shown on map No. 1. In considering their suitability for National Forest purposes, they fall, as shown by the preceding tabular classification, into two classes:-

81% of Class No. 2, Grassland and Woodland,

--- "In part covered with timber", and, "more valuable for the production of trees than for agricultural crops", and therefore properly retained as National Forest.

19% of Class #4, Agricultural land, not suitable for Forest purposes.

The above classification will be further referred to under "Situation", page (13).

#### Industries on the Requested Elimination

Grazing is at present the only industry of consequence. The area is part of the winter range of the Goesling cattle, and of other outfits which summer on the mountains to the south and west. Beside cattle, the Goesling Brothers also own large numbers of sheep which range partly on the Datil Forest and partly on public range in New Mexico. The Goesling ranch located within the requested elimination is not used as a sheep headquarters because that part of the Apache is an excluded area. Goesling Brothers made application to graze 4000 sheep around their ranch and on the Escudilla Mountain (southward) during the coming season, but their application was rejected because the area was considered better adopted to cattle than to sheep and was already fully stocked with cattle owned mostly by class A permittees.

Goesling Brothers own a reservoir on patented forty, NE/4 SE/4 Section 34, which is the only permanent water in a considerable area and which they wish to use for watering sheep which range in New Mexico. Since it is in violation of the territorial live stock laws to bring sheep across the

3/6/11

territorial line without dipping and paying a fee of 5¢ per head, the Goesling brothers hesitate to use the reservoir for watering New Mexico sheep for fear of intervention on the part of Forest officers. It seems probable that they applied for a permit on the Apache in order to have sheep bearing their brand on the Arizona side of the line as well as the New Mexico, so that the risk of detection in crossing the line with New Mexico sheep would not be great even though the area in question was not eliminated and continued to be patrolled by Forest officers. At any rate, when they were offered an allotment on the White Mountains to southward, it was refused.

In this connection, attention is called to Mr. Peck's O-Apache-Boundaries letter of December 12, 1910, to Supervisor Guthrie, in which is stated the following opinion in regard to this matter:- "As for the matter of Mr. Goesling crossing the sheep back and forth across the territorial line, Mr. Campbell tells me that he believes permission could easily be secured by Mr. Goesling from the Territorial authorities allowing him to do this, since the intent of the law is to prevent sheep from being trailed for some considerable distance across the line without being dipped."

It seems, therefore, that Mr. Goesling's apparent attempts to evade the law are probably unnecessary.

Farming on the requested elimination is at present on a small scale. The oats and hay raised by the Goesling Brothers on the 160 acres cultivated by them are used entirely on their ranch. Farming on a large scale will be possible only by

developing additional water in Coyote Creek. As already explained on page 3, this water could easily be developed by cooperation of Homestead applicants. It is believed, however, that Mr. Goesling wishes to scrip the remainder of the cultivated land, develop the water himself, and then sell out to homeseekers at high prices. Consequently, in order that he may scrip the land, he is requesting an elimination. He has admitted when questioned that he wishes to scrip the land, and since he is by experience a sheepman and not a farmer, his intention to acquire the land for speculative purposes may be inferred with considerable certainty.

#### Additional Considerations

##### Bearing on the Requested Elimination.

In addition to the matters which have already been discussed, namely - the character and status of the land included within the Requested Elimination, and Mr. Goesling's probable motives in making the request, the following additional considerations also have a bearing on the question:-

1. A possible more comprehensive Elimination.
2. A possible Addition.
3. The position of the Datil line.
4. The position of the Coyote Ranger Station.

These points in detail are as follows:

##### A more Comprehensive Elimination

Township 8 N., Ranges 30 and 31 E. (outlined in dotted red on map No. 3), adjacent to and including the elimination requested by Mr. Goesling, were formerly outside the Forest and have been

considered as a possible elimination by local officers and by Messrs. Clapp and Campbell during their inspection of November, 1910. T. 8 N., R. 30 E. is similar to T. 8 N., R. 31 E. (see map No. 1), the proportion of open land being large. There is practically no unpatented agricultural land, however, except that included within the requested elimination, and it is therefore considered that the two townships as a whole fall into class #2, namely, "lands....in part covered with timber" and "more valuable for the production of trees than for agricultural crops." The open areas are irregularly distributed and fall under class #3, namely, "limited areas which are necessarily included for a proper administrative boundary line". Falling into classes #2 and #3, it is believed that Townships 8 N., R. 30 and 31 E. should be retained. The question of their retention is mentioned in this report because of its bearing on the elimination requested by Mr. Goesling, the connection being that if Mr. Goesling's request is granted and part of the area thrown out, the remainder can probably not be consistently retained. The consideration of boundaries around Mr. Goesling's ranch, therefore, involves similar consideration of a much more comprehensive area, and no action should be taken on his request until the general question of boundaries on the northeast part of the Apache has been reconsidered and definitely decided upon. This subject is further mentioned under "Situation" and "Recommendations" pages 13 and 14.

A Possible Addition.

Beginning along and contiguous with the present boundary

of the northeastern part of the Apache (north line of T. 8 N., R. 30 E. and 31 E.) and extending about 50 miles northward to the Zuni River, 40 miles northeastward to Salt Lake, N. M., and fifteen miles northwestward along Coyote Creek, lies a comparatively continuous body of woodland. A rough examination 8 miles northeast to Cottonwood Spring, made by Ranger J. L. Pritchard and myself, indicated that the stand which is composed of Juniper and Pinon, averages heavier than the average woodland now included within the Forest. There are a few large pines on the north exposures. The openings are small. The extent of the area is shown in part on Map No. 3. It seems probable that this area is suitable for National Forest purposes.

Both cattle and sheep are grazed on the area; the two interests often conflicting on account of the scarcity of water and the fact that most of the springs are patented. The following sheepmen are interested in the range and own ranches:- Louis Huning of Los Lunas, N.M., Goesling Brothers of Salt Lake, N.M., Benj. Brown of Eagar, Ariz. The following outfits run cattle on this range:- F. T. Colter, Harris Miller and Gustav Becker of Springerville, Ariz., B. B. Crosby of Eagar, Ariz., Geo. Henderson and Goesling Brothers of Salt Lake, N. M. The sentiment of sheepmen would probably oppose the inclusion of this range within the National Forest, and the sentiment of most of the cattlemen would favor its inclusion.

The southern part of this area is on the headwaters of Coyote Creek which joins the Little Colorado above the large



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dam now being constructed by the Lyman Reservoir Co. at St. Johns, Ariz. This Reservoir will place about 15,000 acres of land under ditch. The principal danger affecting the success of the project is sedimentation of the reservoir by floods. A considerable part of this sediment comes from Coyote Creek, since the Colorado itself originates in the heavy timber of the Apache Forest and does not carry sediment until it enters the lower country. In view of these facts it is considered very important that the Coyote watershed be protected from possible overgrazing and consequent erosion, both of which become more and more a probability with the development of additional watering places and the consequent increased number of stock on the range.

There is at present no cutting on this area except for local use, but it is located directly on the route of the proposed Durango-Globe Railway. Although prospects for the beginning of construction work on this line are indefinite, its ultimate construction is almost a certainty. It will create a market for cordwood and fenceposts, and unless the area in question is included within the Forest, illegal cutting on a large scale will probably occur.

It appears, therefore, that the area bears a good stand of woodland which is in need of protection, and includes the headwaters of a stream, the protection of which is very important to a large irrigation project, and that local sentiment is probably not seriously opposed to its inclusion within the National Forest. Its withdrawal for this purpose, therefore,

ought unquestionably be considered.

This question of a possible addition to the National Forest is included in this report because of its bearing on the advisability of making the elimination requested by Mr. Goesling, the connection being that in the event of the proclamation of the former as National Forest, the elimination of the latter would leave an undesirable jog in the Forest Boundary which would seriously complicate administration. This subject is further mentioned under "Situation" and "Recommendations" pages 13 and 14.

#### The Datil Line.

Besides the possibilities of a more comprehensive elimination and a possible addition, a third consideration bearing on the requested elimination is the question of having the north line of the Apache coincide, if possible, with the north line of the Datil. The present relation of the two lines is shown on maps, 1, 2 and 3.

An examination on the ground shows that the territory in New Mexico lying east of T. 8 N., R. 31 E., and north of the present Datil line, consists of a high open mesa, beginning in about section 8, T. 3 S., R. 21 W., N.M.P.M., and extending northward about ten miles. The present Datil line, therefore, is in its logical place. The requested elimination on the Apache is, as will appear under "Recommendations", considered inadvisable, but, in the event of its approval, it should not extend further south than the north line of Sec. 35, at which point it would coincide with the Datil line.

In the event of the creation of the possible addition northward of the present Apache line, the lines of the two Forests

cannot, of course, coincide.

The Coyote Ranger Station.

A fourth consideration bearing on the requested elimination is the position of the Coyote Ranger Station (160 acres in the center of Section 34, T. 8 N., R. 31 E). It is considered very desirable that this station be retained within the Forest, since it includes thirty acres of excellent agricultural land, and water can be easily developed. In the event of the creation of an Addition northward, it will be especially valuable as a district headquarters, since good crops can be raised and its location is advantageous, being comparatively near a postoffice (Springerville 13 miles), easily accessible by wagon, and adjacent to agricultural lands which will doubtless in the near future be occupied by Forest Users.

In view of the completion of the St. Johns irrigation project (mentioned on page 10), the probability of an extensive settlement below the Coyote Station is especially strong, since an overflow of settlers from this project to neighboring irrigable tracts will doubtless occur.

It appears therefore, that both the position of the Datil line and of the Coyote Ranger Station make it advisable that Sections 33, 34, and 35 should at all events be retained within the Forest.

Summary of the Situation

In accordance with the foregoing description of the requested elimination and statement of the facts and conditions pertinent

to the same, the points bearing on the question of its retention as National Forest may be summarized as follows:-

1. Character of the Area. 81% classifies as National Forest land, and the remainder is so distributed as to be necessarily included for a proper administrative boundary line.

2. Mr. Goesling's Motives. Mr. Goesling's argument in urging the elimination is that the area is open and agricultural, which is partly true. His real motives, however, are known to be wholly or in part as follows:-

First, to water his New Mexico sheep at his reservoir in Arizona, crossing the territorial line in violation of the territorial live stock laws, without fear of intervention by Forest Officers.

Second, to scrip the remainder of the agricultural land along Coyote Creek, for speculative purposes.

3. A more Comprehensive Elimination. The consideration of Mr. Goesling's requested elimination involves the consideration of entire townships 8 N., R. 30 and 31 E. for the same purpose. It is believed that these townships are properly National Forest land. Their elimination however has been discussed, and should be definitely decided upon before the requested elimination is considered.

4. A Possible Addition. North of the present boundary lies a large body of woodland suitable for Forest purposes and including a watershed whose protection affects a large irrigation project. The possible addition of this area also affects the

requested elimination.

5. The Datil Line. The Apache line does not logically coincide with the Datil line, and in the event of favorable action either on the requested elimination (in unmodified form), or a more comprehensive elimination, or a possible addition, the two lines would still fail to coincide.

6. The Coyote Ranger Station. Very desirable for retention because of fine land and water and strategic location, especially in the event of favorable action on the possible addition.

#### Conclusions and Recommendations

In view of the foregoing points bearing on the requested elimination, it is considered that the character of the area is compatible with its retention as National Forest; that the position of the Coyote Ranger Station and the Datil Line render the elimination (in unmodified form) very undesirable; that the possibility of more comprehensive eliminations or additions, or both, render the elimination inadvisable; and that Mr. Goesling's motives in urging the same are opposed to Forest Service policy.

It is therefore recommended that his request for the elimination of Sections 14, 15, 16, 21, 22, 23, 26, 27, 28, 33, 34, 35, T. 8 N., R. 31 E., be denied; Sections 33, 35, and 35 should at all events be retained within the Forest.

It is further recommended that an examination be made of Townships 8 N., R. 30 and 31 E., to decide definitely on the question of their retention or elimination, and that the body of woodland lying northward from the same, be examined to deter-

District Forester

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mine its suitability for National Forest purposes.

Yours very truly,

Cledo Loafald

Forest Assistant.

Approved.....March 7, 1911

John B. Schriebe

Forest Supervisor.

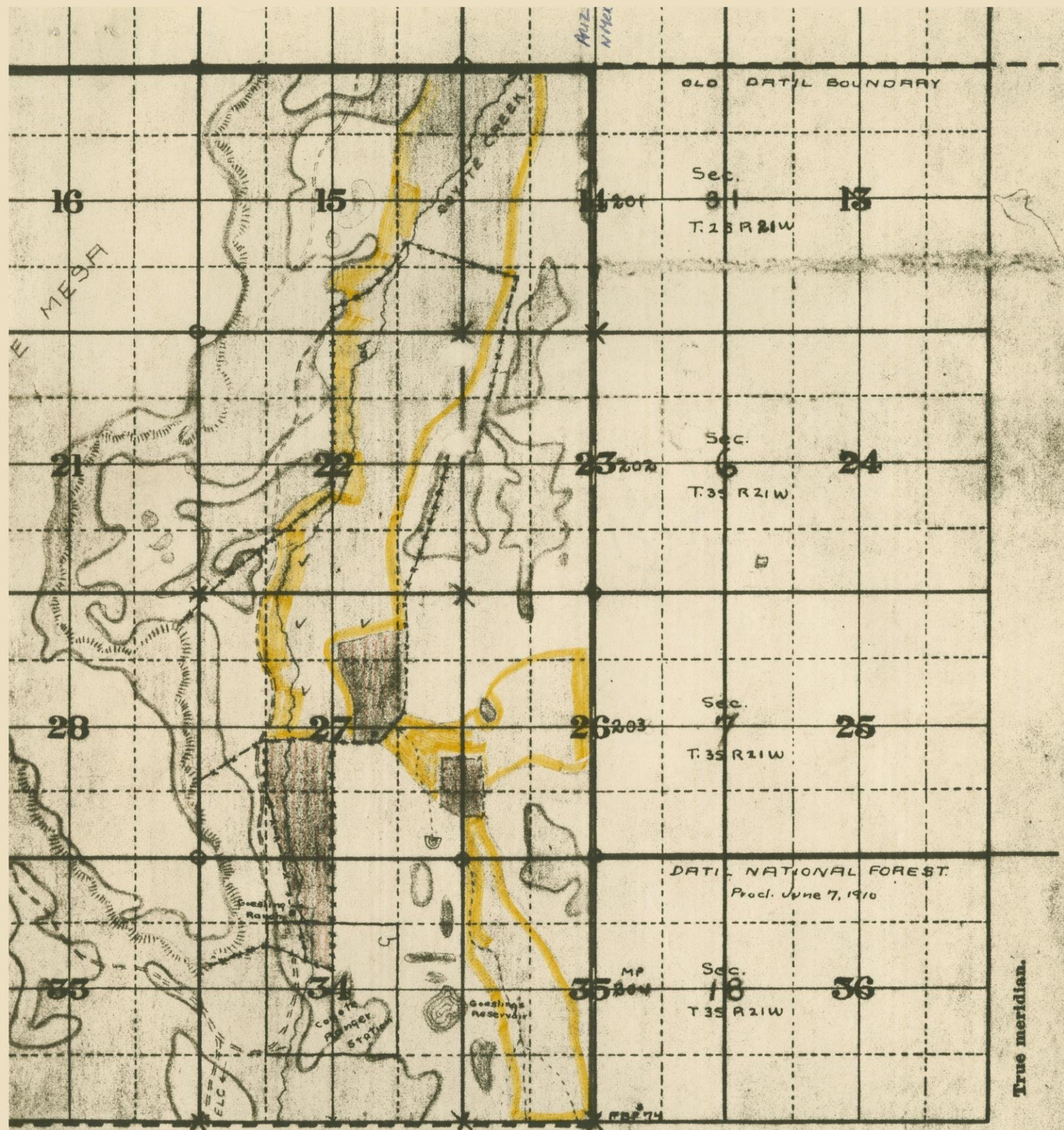
Approved.....

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In charge Land Examinations

Enclosures

- Map. No. 1 - Type map of Requested Elimination
- Map No. 2 - Status map of Requested Elimination
- Map No. 3 - General map of Forest showing Requested Elimination, possible more comprehensive elimination, and possible addition



SCALE.—Two inches = 1 mile.

*Aldo Leopold* - Forest Assistant  
(SIGNATURE)

Approved - 3-7-11

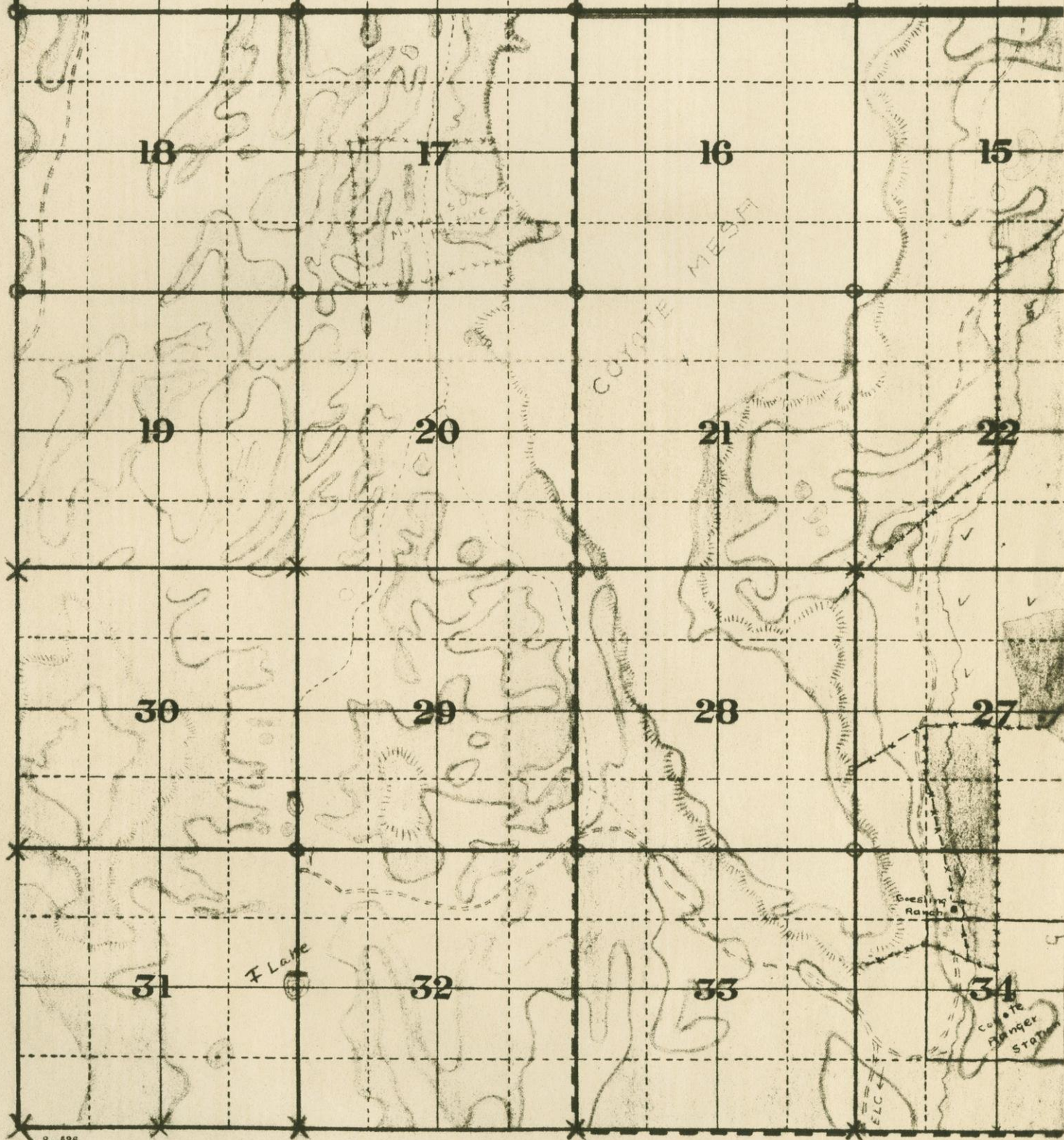
*Juan G. Guzman*

Forest Supervisor.

CULTIVATED  
CULTIVABLE  
PASTURELAND








T8N R3E G4SR mer.

Twp. 8N Age 30E



March 6 - 1911  
(DATE.)

# LEGEND

- |   |  |
|---|--|
|  REQUESTED ELIMINATION   |  CULTIVATED |
|  RECOMMENDED BOUNDARY    |  CULTIVABLE |
|  PRESENT FOREST BOUNDARY |  GRASSLAND  |
|  WOODLAND                |  |



--- MINUTES OF THE APACHE RANGER MEETING ---

September 8 - 14, 1910.

Held at Springerville, Ariz.,

In new Office Building - Forest Service lot.

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(Note. In these minutes no attempt was made to keep a verbatim record of all that was said, but only a record of the most important discussions with the conclusions reached. Owing to the tendency of several men to talk at the same time it was impossible to get a complete record. L. L. W.)

Thursday - September 8, 1910.

Meeting convened at 2:30 P.M. Those present were - John D. Cuthrie, Frederic Winn, Aldo Leopold, R. E. Marsh, T. C. Martin, G. B. Chapin, H. C. Eaton, W. C. Martin, J. H. Sizer, J. C. Wheatley, R. T. Cheen, W. P. Lawson, James Reagan, J. H. Hinck.

Mr. Cuthrie opened the meeting by stating the purposes of such meeting, stating in part, "We had a meeting last October and from what I can find out from the men, they all got something out of it and were certainly in favor of continuing it." He stated that a camp had been established at the Supervisor's house where sleeping and eating accommodations in tents were provided for all Forest officers in attendance. A cook and helper had been hired as well as a horse wrangler, and arrangements had been made to keep all horses in a nearby pasture.

Notices were posted giving the following committee appointments:-

Shooting Match - Sunday A. M. - September 11.

James H. Sizer, Ch.  
Davis B. Rudd,  
Homer O. Eaton.

Baseball Game - Sunday P. M. - September 11.

J. I. Pritchard, Ch.  
T. H. Mitchell  
R. T. Cheen

Ranger Dance - Tuesday Evening, September 13.

Aldo Leopold, Ch.  
W. C. Wheatley,  
Benton S. Rogers

Notices were also posted stating time of meetings and meals. Notice was given of the desirability of all men eating and sleeping at camp in order to keep down expenses.

Mrs. Winn extended an invitation to all the men, through Mr. Guthrie, to attend a corn roast at her home the night of the 9th.

As a number of men were not present, the program was changed somewhat; therefore, the subjects of Supervision, Diaries, Service Reports, etc. were postponed until the following day when all the men should arrive.

### Rangers' Reading Course.

The subject of Rangers' Reading Course was taken up for discussion. Mr. Guthrie raised the questions, "Were the men getting anything out of it, and did they think it advisable to take an examination after completing a course." Also, were they able to complete the course?

G. B. Chapin: Unable to complete course - could not find time.

J. C. Wheatley: Got books during fire season and did not have an opportunity to read them. Suggested taking it up during the winter months.

D. C. Martin: Never had an opportunity to get hold of the books.

G. B. Chapin: Thinks it more practicable to take up the subject he has immediately in hand. For instance, if he is doing June 11 work his reading course should be on that particular subject, i. e., during the summer months.

J. D. Guthrie: Believes that if a man has an interest in the work, he will find time to read the course, in evenings, even if it takes several months. Thinks the reading course should be taken up again during the fall and winter. - - (C.) "What do you think of having an examination after completing course?"

D. C. Martin: Does not think it would be justifiable because they would not have time to complete the book. He thought that if a man had a good knowledge of all the work, it would be well to have an examination.

J. D. Guthrie: It is suggested that an oral examination be given.

H. O. Eaton: Does not think an examination would be absolutely necessary, although it would be of value as it would show that a man has gone over the course and as he may be called upon to do that kind of work. Eaton decided that an examination would be of some value as it would draw necessary information out of a man.

J. H. Sizer: Does not believe an examination would be of much benefit.

J. D. Guthrie: Asked Sizer if he did not believe he would read the course more carefully if he were going to have an examination.

J. H. Sizer: Did not believe he would.

D. C. Martin: Thinks it is putting reliable information where a man can get it. Also thinks an examination would be a good thing, as it would give a man a chance to get an accurate knowledge on some matters.

J. D. Guthrie: District office does not say an examination should be held, but it is expected that one would be.

G. B. Chapin: Is it right that a man should devote working hours to this reading if he has no other work?

J. D. Guthrie: "You have a perfect right. It is the same as reading the Use Book, as you are doing it for the good of the service, though I would not neglect current work to read it."

Aldo Leopold: "It looks to me from the letter of instructions from the District Office, it started out with the idea that the whole matter was entirely up to the men. The men are not required to take any course if they do not want it. If a man wants to get the most good out of the course, it is up to him to read the course carefully. It seems to me that an examination would be extra bother and superfluous, although there may be no way of getting around it in accordance with instructions."

J. D. Guthrie: "Would a man be as apt to read the course as carefully if there were no examination?"

A. Leopold: Suggested leaving it to the men, as a man might find out that the course would not be of much value to him.

J. D. Guthrie: "On the other hand how could a man tell whether the course is going to be a benefit to him or not unless he read it?"

A. Leopold: "A man could tell by just skimming the course over." A man could tell within an hour or so if the course is going to be what he wants.

W. P. Lawson: Would there be any credit or discredit on account of the examination?

J. D. Guthrie: "It does not have any effect on a man's standing in the Service."

Leopold: Is there any course in the set of readings which is so extremely specialized that a person having a line in the opposite could not understand it, or could not get anything out of it? Would it be possible for him to get a course in silvics, etc.?

J. D. Guthrie: Yes. - Of course some men are going to get more out of a course than others, but the time spent on courses outside of a man's particular line is not time lost.

D. C. M. Thinks it advisable to have an examination because Forest Service men are supposed to have more knowledge about things pertaining to forestry than those not in the Forest Service, and for that reason it would be an advantage to have a knowledge of all lines of Forest Service work.

J. C. W. Thinks it would be well to have an examination, as it would be no more than right to find out what a Ranger knows.

W. C. M. Thinks an examination should be held, if it is the idea to find out how much a man knows about the reading course.

Vote taken as to whether or not an examination should be held.

A. L., no, D. C. M., no, W. C. M., no, H. O. E., yes, J. C. W., yes, J. H. S., no, G. B. C., as a qualified matter it would be advisable to hold an examination, J. H. H., no, J. R., yes, W. P. L., yes, R. E. M. yes, R. T. G., yes.

### Uniforms.

The next subject taken up was that in regard to uniforms:

The men were asked if they had any criticisms to make in regard to the wearing quality of the goods or the fit of the suits.

J. C. W. Always got a perfect fit, but the goods were absolutely worthless - would not stand rough usage.

J. H. S. Thought it was the other way round.

J. C. W. Has been getting 13 and 22 oz. goods. Thinks price pretty high.

D. C. M. Found the suits to be O. K. except when worn in brushy country.

A. L. Extremely satisfactory, except for the fit. The point is whether we expect to get some kind of goods that is going to stand the roughest kind of wear, and high in price, or whether we want a uniform that we can wear only in office work and when we come to town, and pay a comparatively small price for it. Ought to put more wool in the shirts and charge a little more.

J. C. W. Says trousers wear slick and look more or less like a spotted cow.

H. O. E. Thinks the uniforms, or the goods in them, are satisfactory for this part of the country (northern part of the Apache).

J. H. S. Thinks they look all right.

G. B. C. For the price they are all right and look all right.

J. D. Guthrie: Stated that from his experience with the shirts they are the best one can get for the money.

#### Blankets.

J. D. Guthrie: "Last fall we started a plan looking towards ordering Forest Service blankets. The majority of the men agreed to take a certain number, but the whole thing fell through because the Company refused to furnish the blankets C. O. D. when it was taken up with them by Supervisor MacKay of the Sitgreaves."

The question was asked if the men wanted to take the matter up again. They decided that they did, and the number each man wanted was gotten.

#### Accounts.

Mr. Guthrie opened the discussion of accounts by saying, - all accounts are now handled directly by the Auditor in the Agricultural Department. This means the Forest Service accounts are handled by a set of men who are not in the Forest Service at all. The Fiscal Regulations of course govern all accounts as formerly. They are getting very particular about Regulations. A supply of Fiscal Regulations will be sent out to the different men. In regard to the question of supplying Rangers with samples of different accounts - this has been done to a certain extent. A new set of forms up to date will be sent out and when there is a change a new form will be sent out. Vouchers sent in by Rangers are not detailed enough. Vouchers covering supplies, etc., do not give the unit price. The signature should be written exactly as it appears on heading of voucher. Names on the Pay Roll for instance, must be written identically the same as they appear on the appointment papers.

The following questions in regard to accounts were asked:

D. C. M. A man has horsefeed and lodging on one subvoucher, how should he divide it?

J. C. Put the horse feed and lodging on separate vouchers.

Mr. Guthrie continued, a man who is hired for a short period

should not be asked to sign a form A and wait for his pay when the amount is less than \$10.00. You can take a receipt on a form 4A, send it in here, and I can pay the man with a personal check. Any payment on subvoucher for more than \$10 should have the statement on it "Cash payment demanded." Asking a man to wait three or four weeks for an amount as small as \$10 makes it hard to get labor and also makes the people who work for the Government think they should be paid more on account of the long delay in getting paid.

D. C. H. Where it is necessary to make a new corrected voucher, can only one notary fee be charged?

J. D. G. Submit both notary fees on the last voucher, though it is very doubtful if both would be paid.

### Forage Allotment

The subject of forage allotment was discussed.

J. T. Cuthrie: This year the forage allotment money can be used for putting in agricultural crops at stations, cultivating them and harvesting them. It applies to all Forest Officers who are required to keep horses.

(Answering J. C. Wheatley's question - it was decided that repairs to irrigating ditches should be charged to improvement.)

The instructions of the Forester in regard to allotments were read by Mr. Cuthrie and discussed. - This year \$530, has been authorized for the Apache. The situation will be a little better than last year as more grain and hay is being raised at some of the Ranger stations.

The question of how many horses a man actually needs <sup>was</sup> brought up. It was agreed that it varies according to what district a man is on and what class of work he has to do.

D. C. M. Uses two and feeds grain and they are now broke down. Thinks it is better to keep four in the summer than to keep two and feed grain.

J. C. W. During the summer, needs at least eight horses; during the winter, three.

W. C. M. Two during winter and four during summer on grass.

H. O. E. Five in summer time and two during winter.

J. H. S. Eight or ten during summer and four during the winter.

C. B. C. Five during the summer and three during the winter.

J. K. H. Uses two during the summer, but a man should have at least six.

J. R. Five during summer; three during winter.

The question of how much it costs to feed a horse was asked.

I. C. L. Cost \$250 to feed a horse a year.  
I. C. L. \$272.50 for three horses.  
W. C. M. \$50 per head.  
H. O. E. \$85 for two horses.  
J. H. S. \$125 to half-feed four.  
G. B. C. Average for three horses \$190.  
A. L. \$120 for one horse.  
J. C. W. Would money spent for irrigating and harvesting grain be counted in the \$75 that an officer must spend from his personal funds?  
Cuthrie: It would.

The District Forester arrived from Albuquerque to attend the meeting.

Meeting adjourned at 4:05.

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Friday - September 9, 1910.

Meeting opened at 9:30 A. M. Those present were District Forester Ringland, R. E. Marsh, Aldo Leopold, W. P. Lawson, R. T. Cheen, Claud McDowell, James Reagan, H. O. Eaton, J. H. Hinck, C. B. Chapin, J. H. Siger, G. B. Rencher, W. C. Martin, J. L. Pritchard, W. O. Wheatley, J. C. Wheatley, F. H. Mitchell, M. L. Nichols, D. C. Martin, J. P. Cuthrie and Frederic Winn.

#### Reading Course

This subject was again discussed.

Question - Should an examination be held?

W. O. W. Yes. Have an examination at Ranger Meeting and set aside half a day for it.

J. L. P. Thinks it a good plan to have an examination.

F. H. M. Believes an examination should be held, but thinks an oral examination is better than a written one.

The District Forester gave a brief talk on the importance of the reading courses. A discussion followed as to whether an oral or written examination should be held.

W. P. L. Suggested that a combination examination be given, which suggestion was adopted, and it was decided to first have a written examination about a month before the Ranger Meeting and an oral examination at the meeting.

Mr. Ringland stated that an examination would be the best way of maintaining interest and stimulating an interest in technical knowledge. Mr. Ringland also stated that an examination would be held with the understanding that it does not prejudice a man's standing in any way.

Vote taken as to whether an examination should be held - 15 in favor of holding examination.

## Rangers' Diaries

This subject was discussed briefly.

Mr. Guthrie stated that the average Ranger's diary is too brief and too cut and dry. Men never enter any discussion with a Forest user - judging from diary never meet any body on the road, or never discuss with them Forest Service business. Best plan is to keep record in black notebooks and write on both sides of each page.

## Monthly Service Reports & Promise Card System.

In the discussion of Service Reports the question of what work should a man charge to miscellaneous executive duties, improvement, etc. was explained by Mr. Guthrie.

In the discussion of the above subjects each man was requested to give his method of keeping track of appointments.

W. O. W. Used a desk calendar.

W. C. C. L. Used his notebook.

F. H. M. Rates his notebook and puts each appointment down on its particular date.

J. I. P. Uses desk calendar and first leaf in notebook, and trusts some things to his memory. He also uses wall calendar, jotting down two or three words in space around figures.

Mr. Ringland thinks note of all appointments should be made as changes on a Ranger District often take place and a new man should have some record of the appointments to be filled.

Mr. Ringland also thinks Rangers' knowledge is too personal, i. e., they don't impart their knowledge in regard to certain things which they learn while on their district, to other forest officers, or make it a matter of record for their successor.

W. C. M. Uses notebook.

J. H. S. Trusts his memory.

G. B. C. Has an attention box in which he puts all matters needing immediate attention, and in going into the field or away from his station takes the contents of this box in his carrying case so he can refer to it. He also uses the desk calendar.

H. O. E. Uses first leaf in note. Is away from Ranger Station four or five days at a time and therefore cannot use desk calendar.

## Rangers' Plans of Work

J. C. T. (C.) "How many men can follow out their monthly card plan of work?"

A discussion of the card plan of work, ensuing month, followed this question.

M. L. N. Thinks plan of work is all right, but does not think it practicable to have dates as no ranger is certain of what he may be required to do.

Mr. Ringland suggested that criticisms be made if the courses were not just what the men wanted. Suggested that a committee of three be appointed to work out details of the work. The work of the committee would be to see what each man wanted and in that way properly distribute the reading courses. Mr. Ringland also suggested that Saturday afternoon be set aside as a study time.

### Uniforms.

The question of uniforms was again taken up. Mr. Guthrie asked those present what criticisms they had to make in regard to the fit and wearing qualities of the uniforms.

J. L. P. Goods satisfactory, but fit decidedly wrong.

Shirts O. K.

F. H. M. Goods too hot. Light weight goods not stout enough.

Vote taken as to whether uniform should be used. All in favor of having uniforms.

Mr. Guthrie suggested that since everybody was in favor of having uniforms everybody should get them.

H. O. E. Suggested that a representative of the company be sent out to take the measurements of all officers and file them with his firm for future use.

A. L. Suggested that all men present have Mr. E. R. Patterson of the Becker Merc. Co. take their measurements and have duplicate copies made, giving one to each man, which measurements should be used in future orders.

Mr. Ringland made the suggestion that since a coat is hardly ever worn, a gray shirt with a green tree embroidered on the points of the collar be used as a suitable kind of a simple insignia.

No action taken on this suggestion.

A. L. Thinks for all kinds of work uniforms are not satisfactory.

It was suggested that overalls of the same color as that of the uniforms be used when the work is too rough for uniforms. The question was brought up as to whether a coat or jumper should be worn with the overalls.

D. C. L. In favor of a coat with plenty of pockets.

The question was put to a vote. All in favor of coat except two.

The question whether wearing of uniforms should be compulsory,

was next voted upon. All in favor of having the wearing of uniforms while on duty compulsory, effective January 1, 1911, with the exception of D. C. M. and W. O. W. - the uniform to consist of coat, trousers and shirt.



The following question was put to a vote "How many think the monthly plan of work is a good thing?"

12 in favor of using card system of plans for future work.  
2 opposed - J. E. B. and J. L. P.

J. L. P. Objection is that it does not do anybody any good. Thinks that when a man is on his District he should plan out what things are needed to be done to improve his district and the plan of work should be made out for three months, six months, or even a whole year.

Mr. Ringland suggested that a routine plan of work and a constructive plan of work be put into effect.

A. L. Thinks the men do not put enough time on new work and their time is entirely taken up with routine work.

Mr. Ringland thinks an annual working plan should be submitted each year.

J. E. B. Agrees with Pritchard - that yellow card is useless, as a man cannot follow his plan. Suggested that a man make a record of what improvements are needed as the work presents itself.

The question whether a three-months or six months plan of work should be adopted was voted upon. It was decided to submit a three months' plan beginning October 1, for October, November and December - plans not to include routine.

#### Planting - Seed Collecting

The subject of seed collecting was next taken up.

Mr. Ringland stated that he wanted to get Engleman spruce and red fir seed. Thinks 75¢ per bushel a reasonable price for cones. Suggested that small parties of Mexicans be organized to collect seed. He spoke of a hook, on the plan of a pitchfork, which had been invented for raking cones off the trees. Mr. Ringland talked at some length on the importance of gathering all the seed possible. He suggested that the seed gathered this fall be dried during the winter and sowed next year during the rainy season. Requested the men to be frank if they were not certain as to the seed crop on their district.

Each man was requested to give an estimate of the seed crop on his district.

H. C. B. Not much at the Apache Lumber Co.'s Mill, nor at Patterson's mill.

W. C. M. Yellow pine poor on his district.

G. B. C. Very little yellow pine seed. Cones mostly in tops of trees which shows that it is a poor crop.

J. C. W. Crop light.

G. B. C. Plenty of pinon.

Pires & Fire Fighting - Fire Tools

Question of fire tools was discussed.

J. C. . . . Thinks Asphalt rakes are entirely too heavy. Hard to work among young seedlings. Recommends garden rakes with long handles.

H. O. E. A rake of the same quality as that of the Asphaltum rake, but smaller.

C. B. C. Suggested having a rake with a cuff like a hoe, without handles; handles to be cut and inserted in cuff after reaching fire. Could pack more rakes on a horse if they had no handles.

Mr. Ringland spoke of an arrangement, used by a Forest Supervisor in Oklahoma, of putting fires out by water, the water being packed to the fire in canvass bags.

The Rangers on the Apache did not think such an arrangement would work in putting out fires which occur on this Forest.

G. B. Chapin's suggestion of having rakes without handles and provided with a cuff similar to a hoe, was approved by several other rangers.

Mr. Guthrie suggested the proposed plan of a series of tool boxes to be distributed over the forest.

F. H. L. Gave description of a rake similar to the one which Mr. Chapin suggested, which had two thumb screws to fasten in the handle, the cuff being split up the sides. Used by a Mexican on the Clifton District.

It was stated that tool boxes could be made out of logs or shakes for \$15.00.

Mr. Ringland inquired if it would be worth while to have the Property Clerk furnish pack saddles to the Rangers, to be used especially in fighting fire and to be kept in the tool boxes.

Was not taken favorably by the Rangers.

F. H. L. Thinks it would be unnecessary if fire boxes were provided.

It was suggested that tool boxes be supplied with chuck, in a locked chest.

C. B. R. Suggested that the tool boxes be supplied with a cooking outfit.

J. I. . . . Did not think it advisable to keep chuck and tools in boxes on the forest as they would be stolen.

After some discussion it was decided that chuck would be kept in tool boxes only for a month or so. Suggestion made that all tools and supplies be marked with J. C.

H. O. E. Says fire tool boxes are needed on top of the White Mountains.

J. H. S. As a general proposition, thought that the fire boxes would be a pretty good thing. Tools more important than chuck - could kill a cow for food.

C. B. R. Is in favor of having chuck stored on some parts of the Forest.

J. C. . . . Thinks shovels more important than rakes in fighting fire.

H. O. E. and several others are in favor of short handled shovels.

H. O. E. Thinks hoe should be in fire-box outfit.

It was suggested that crosscut saws be included in outfit also.

Mr. Ringland suggested the use of dynamite for fighting fire as it had been used to good advantage in the Northwest this season.

Vote taken as to those in favor of fire tool boxes. all in favor.

10 in favor of providing chuck in fire boxes.

It was agreed that canteens, S. A. water bags, 6 hoes, 6 rakes, 6 shovels, 6 axes, and 2 crosscut saws be put in fire boxes.

Question of bedding being provided in boxes was brought up. Nothing definite decided upon.

J. T. C. Suggested that a temporary laborer be put on duty in certain parts of the Forest subject to fires, to work on trails when no fires.

W. O. W. Suggested that instead of having would-be-cow punchers hired at \$2.50 per day, hire Mexicans who would work for \$30 per month and be satisfied with much cheaper food.

It was stated that we would always have fires as long as we paid \$2.50 per day for fighting fire.

It was suggested that each Ranger have five Mexicans for fire patrol, about 45 days each year.

J. C. W. Could work them on his District.

J. H. S. Could not on the Eagle District, as he would not have Mexicans work for him.

The question of permittees supplying chuck at fires was brought up.

Mr. Guthrie stated that a supply of chuck should be stored at the fire boxes as it would be cheaper in the end, and permittees are rather touchy about supplying chuck when they are delayed in getting pay for it.

The question of how much labor could be expected of each permittee was discussed.

Mr. Guthrie thinks some scheme should be figured out in which a man would work according to the number of head of stock he had a permit for

F. H. L. Thought a permittee should work two days for every 100 head of stock.

J. C. W. Two days for every 100 head of stock.

Mr. Ringland suggested that each permittee be required to work according to the value of his permit; figuring that his time was worth \$2.00 per day, for example, if a permittee was paying grazing fees of .50 he would be required to work 15 days.

C. B. R. Stated that small permittees gave the most help in fire fighting.

W. O. W. Agreed with Kencher as to this. Said it was hard to get the large permittees as he did not always know where they were.

G. B. C. Thinks a nominal price of \$1.00 per day should be paid the permittees for fighting fire, as they would be more satisfied to stay with the fire if they were paid something.

F. H. M. Thinks a permittee should not work according to the number of stock he had on the Forest, but should stay with the fire until it is out. Thinks a man should be paid for packing chuck to fire, and that all chuck should be furnished free.

Mr. Ringland inquired if we had any trouble with men about waiting for their pay.

Mr. Guthrie stated that there had been some trouble of this kind this season in paying for labor, but no trouble as to paying for hire of horses and buying of chuck.

J. L. P. Thinks a man should stay with a fire until it is out and should not be paid even though it is off his own range.

M. L. H. Agreed that permittees should fight fires until they are out and also agreed that the Forest Service should stand for the chuck and the packing of it.

F. H. M. (C) "If a man refused to go to a fire what could you do?"

J. D. C. Could do nothing, except refuse to grant him a permit the following year, or cancel any S. U. permit he held.

W. O. W. Thinks if a man is asked to go to a fire, he must go.

J. I. P. Thinks a Ranger should go to the nearest man for help.

Mr. Ringland suggested fixing the distance from the lines of each man's allotment or range.

F. H. M. Still maintained that he thought it was up to every man to fight a fire until it was out.

J. L. P. Thinks if men were required to go a certain number of miles from his allotment, there would be a long discussion with some of the permittees as to the exact distance to the fire.

J. C. . . Mentioned the fact that he had trouble this summer in getting men to fight fire.

M. L. H. Suggested that clause be inserted in grazing permit as regards fire fighting.

Mr. Ringland suggested a change in present clause in application for grazing permit.

M. L. H. Thinks the nearest men should go to the fire first and if it is very large, to call on men farther away.

J. L. S. Thinks all permittees should be required to fight fire.

M. L. H. Thinks a man with a considerable bunch of cattle should spend at least the same length of time, in proportion, as a man with a small bunch of stock.

Mr. Ringland read clause (revised) to be inserted in application for grazing permit. In part, as follows, . . . "To render all reasonable aid in extinguishing forest fires within the locality in which the stock is grazed, both independently and upon request of the Forest Officers". The word 'district' was changed to 'locality'. There was a short discussion as to what the word "reasonable" signified.

Vote taken as to those in favor of substituting the above clause for the present one. All in favor.

J. C. W. Thinks permittees fight fire better than paid fire fighters.

In regard to fire trespass, the Wilcox case on Bear Wallow was brought up.

Mr. Ringland thought it would be well to gather all the information possible and to put it up to the District Forester's office.

A. L. Stated that difficulty in getting fire fighters was on account of rich fellows coming in and setting fires and burning up the country and not giving aid in putting them out.

E. L. W. Said the Wilcox party had a Mexican cook, who had been reprimanded severely a few days before their camp burned, for leaving the camp fire.

Mr. Cuthrie (Q) "Could we require permits for campers."  
Mr. Ringland does not think we could.

### Game Protection

This subject was discussed.

(Question) Do all the men want to be game wardens.

W. O. W. Does not think it would be of any use as it was impossible to get a jury to convict.

F. J. M. Cane several cases where men were found guilty of violating the game laws but no jury would convict them.

J. C. W. Is strongly in favor of game laws if they can be enforced.

M. L. W. Does not think it would be of any particular benefit.

A. L. Thinks that unless a man is interested enough in the subject to care anything about game protection, that he ought not to have a commission... It is a shame the way things are going on this forest... creates disrespect in not being able to enforce the game laws. Stated that in several cases if he had had a commission he could have arrested several parties violating the game laws.

E. O. W. Justice of Peace told him that a Ranger has got to see a man kill the game before he can be convicted.

A. L. Thinks this is not the time to get discouraged in regard to the condition of things. This is a new country and it takes time to get the people to see the benefit of game laws. Suggested arresting the rich tourists first, thus arousing the sympathy of the people. Thinks if the thing is managed right and judgment used in making arrests, some of the difficulties which we now have to contend with may be overcome.

F. H. M. Was highly in favor of Leopold's views on the subject.

C. B. R. Suggested that each hunter be required to produce a license when asked to do so.

G. B. C. Thinks all Rangers should have a commission. Could have used one this summer.

F. H. L. Suggested putting restrictions on the kind of gun a man is allowed to use in hunting.  
Vote taken as to those in favor of having a commission.  
All in favor.

There was a short discussion as to whether anybody could arrest an Indian off the reservation.

Meeting closed at 6 P. M.

Saturday, September 10, 1911.

Meeting opened at 9:30 A. M. Those present were R. T. Cheen, R. D. Marsh, W. P. Lawson, J. H. Hinck, J. H. Sizer, W. C. Martin, C. B. Chapin, Claud McDowell, H. O. Eaton, Aldo Leopold, D. B. Rudd, B. S. Rogers, K. L. Nichols, J. C. Wheatley, C. B. Rencher, James Reagan, F. H. Mitchell, J. L. Dritchard, W. O. Wheatley, Frederic Winn, J. D. Guthrie. The District Forester found it necessary to return to Albuquerque.

### Reconnaissance

Meeting opened by Leopold giving a talk on the Reconnaissance work. He went very much into detail, showing very clearly the nature of reconnaissance work and how each particular feature of the work was done. In part, as follows:-

"Reconnaissance work consists of making an estimate of all timber and making a map of the country as we go over it to estimate the timber.... The method is rough. It consists of going once through each 40-acre subdivision and making an estimate of the timber in that 40 acres, and this estimate is arrived at by taking sample acres as one goes through the forty and estimating, or counting all the timber on those acres. . . . In surveyed ground, the method is to start from one of the section corners. The forties are gone through by tiers. The territory covered in this way every day varies from one to two sections. A man is generally allowed sections in a string two or three miles long, which enables him to cover more ground in a day than if he was assigned but one section. The maps made in the field are of course just a rough sketch. They include the location of all streams, trails, roads, timber lines, fences, etc., and the topography is put in by contours. . . . In speaking of surveys, I would like to bring up the importance of keeping the surveys on the forest in shape. The surveys in many places are very old, and I think there is a big danger of the corners established becoming obliterated, and you will therefore agree that it is a mighty important question, that of freshening up the corners that have been set, by replacing them and keeping rock piles in shape. On the Greer District they are in excellent shape. Area covered by Reconnaissance last year was 65,000 acres. Area covered to date 170,000 acres, 200,00 acres remaining uncovered. Cost of the work last year was 4 $\frac{1}{2}$  per acre, this year, 1-2/3 $\frac{1}{2}$ , and at the rate we are going, by the time

the work is finished, the cost of the work may be reduced to  $1\frac{1}{2}\%$ ."

Mr. Leopold also spoke about the fine crew of men he had working for him this summer. They were Yale and Michigan men, some graduates. He said, "By the reconnaissance system, a green man can do surprisingly accurate cruising". He explained the method of drilling the men to do accurate pacing, and told his plans for the work to be done this fall. He spoke of the necessity of the Forest officers giving names to the different features on the maps, after they had been completed by the Reconnaissance men. Spoke of there being valuable pulp wood in some parts of the mountains. Showed how difficult it was to estimate aspen when mixed with spruce.

Mr. Cuthrie gave a brief talk on the plan of having a Ranger detailed to Reconnaissance work, giving reason for not having been able to do so, and stating that the plan had not been dropped by any means - unable to follow out as planned since regular work on Districts kept Rangers busy.

#### Timber Sales - Cordwood

Timber sales discussed.

First question taken up was cordwood sales on the south end - whether we have got anything there to sell or not.

P. H. M. Very little left to be sold. Last year 60% of the sales were dead stumps and in taking these they were dug out of the ground leaving holes. During heavy rains these holes form large pools which run over the slopes doing damage to the ground by causing washes. The number of timber sales now on the Clifton District is 12.

Discussion in regard to cost of timber sales and cordwood sales.

P. H. M. Too much time charged to cordwood sales. As, for instance, the time spent in keeping the Mexicans from stealing the wood is charged to that item.

J. D. C. We get more out of timber sales than cordwood sales though timber sales cost less.

P. H. M. Says Mexicans like time limit best in buying cordwood, even though they do not have time to get all they pay for.

J. P. C. Stated that cordwood sales cost us 60¢ to handle while we only get 50¢ per M. ft. B. M.

J. L. P. Conditions on his District (Metcalf) are the same as described on the Clifton District. Some cordwood left, but it is needed for protection of the soil. Thinks that according to Mr. Cuthrie's statement, we are paying for the destruction of the Forest and forage. Does not think we ought to allow free use to the Mexicans on the south end.

D. B. R. Thinks sales ought to be cut out, but that they ought to be cut out gradually on account of the poor people. Thinks we can finally cut the sales out altogether, and that the people can get better bargains from the lumber yards and dealers.

W. O. W. Cave several instances where Mexicans were going to drop out of the cordwood business.

F. H. M. Thinks they ought not to make another sale on the south end. Had two men offer to buy 200 cords at a snort after he said he was going to stop selling cordwood. Proposed posting notices that cordwood sales would be stopped.

Mr. Guthrie stated that he had planned the first of August to cut down sales by not making them for less than 50 cords each, and to make as few as possible, and then on the first of October, or even before, have notices published and put up in conspicuous places, notifying the public that after January 1 no cordwood sales would be made there at all. Steavens says he will put up a yard in Metcalf and have enough wood to supply Metcalf for a year if necessary. He charges \$9.00 a cord. Mexicans want \$10 and \$11 for 8 burro loads, which will average about 5/8 of a cord.

It was thought that the people on the south end could get their wood cheaper if the cordwood sales were stopped. Coal is \$18 per ton and 50% cheaper to burn than wood. Mr. Guthrie believed it was largely up to the Companies in Clifton to furnish fuel to their employees and it would be necessary for them to bring it in.

Discussion as to the profit made by the men dealing in cordwood.

D. B. R. Does not think three months' notice is time enough in which to bring the cordwood sales to a close. Later agreed that three months would be sufficient if the lumbermen would guarantee to supply the demand.

It was stated that there would be half a dozen men to go into the wood-yard business as soon as they find out that the cordwood sales are to be cut out by the Forest Service.

J. L. P. Stated that they can cut coal and wood in Metcalf in 30 days to supply the demand.

It was agreed that the Companies in Clifton would get in fuel for their employees and that no hardship would be worked on the people.

F. H. M. Believes there ought not to be another stick sold on the Clifton District. Says people understand that cordwood sales are to be cut out at the end of the year, and for that reason they are stacking up in their yards waiting for higher prices. Thought by the close of the year all the year all the contracts would be closed. Did not think we would have much trouble with Mexican trespass.

Instructions were given in regard to the handling of timber trespasses.

M. I. W. Says it is understood by the people that no more cordwood sales will be made on the south end.

Discussion as to whether we should cut out free use entirely on the South end.

D. B. R. Says burro men would steal wood while getting free use.

J. L. P. Thinks if we furnish free use to the people in Clifton we would be furnishing it to the mining company, and not to settlers. Thinks if a man did get free use he would sell it.

F. H. M. Free use should be cut out with the wood men. Inconsistent to cut out cordwood sales and then grant free use.



M. L. H. Thought it might work a hardship on some widows.  
F. H. H. Believed it wouldn't as he knew them too well.  
Morning session closed at 12 M.

Afternoon session opened at 1:30 P.M.  
Mr. Guthrie notified the men that Lr. Becker would give a watermelon feast tonight or tomorrow night for all Forest officers.

### Free Use

The practicability of cutting out free use saw timber was brought up for discussion.

F. C. M. Thought it would be economy to cut out free use saw timber.

F. H. H. Inquired if a man gained anything by having a free use permit for saw timber, after taking into consideration the time spent for logging, brush piling, etc.

C. B. R. Says an experienced man can save \$4.00 a thousand by having a free use permit.

J. D. C. (C) "Do you know how Patterson feels about it?"

G. B. R. "Patterson says he would just as soon saw free use, but it doesn't make much difference."

D. B. R. On account of there not being very many saw mills in the country, people cannot use much saw timber, except that near saw mills and therefore it would be a good plan to cut free use out and let the people buy what lumber they needed from the saw mills. By not being required to look after free use cutting areas and sales, there would be a great deal of time saved.

J. L. P. Thinks free use for saw timber should be cut out.

Mr. Guthrie stated there is very little hold on a free use permittee, as after he has had his timber run through the mill, it is hard to make him go back and pile the brush.

C. B. C. Says there is much time lost through free use timber, on account of the people failing to take the timber after it has been marked for them.

J. T. Guthrie - "Under the present regulations we can grant free use for \$20 worth of saw timber, provided a man does his own logging. It is simply a set of rules and regulations, which if complied with, a man can get \$20 worth of saw timber; if he does not care to comply with the requirements he is entitled to nothing. They are very liberal with June 11 claims. A man can secure more than \$20 worth, provided of course he uses all of it on his claim."

F. H. H. Suggested that all saw timber, dead or green, be handled by one man.

J. L. P. Thinks Rangers should not be bothered with free use but that it should be handled in the Supervisor's office.

J. D. C. Does not agree with him.

There was a discussion relative to some men getting more free use than they are entitled to during the year.

F. H. M. Thinks a Ranger can very easily ask the permittee if he has had other permits that year or not. If he does not tell the truth in regard to the matter, a good plan would be to cut out his free use privileges altogether.

A. L. Spoke of the system of recording a man's statement on the margin of his permit.

Discussion as to the number of free use permits a man should be allowed each year.

It was decided that it would be best to cut out free use permits for dead material entirely, or grant a blanket permit covering an entire year.

Discussion as to whether blanket permit should cover both dead and green timber.

J. A. B. Did not see why the people could not have all the timber they want without a permit, if the office does not want statistics.

D. C. M. Thinks every dead stick of timber should be removed from the forest.

G. B. R. Thinks it would cut down the use of green timber if we grant all the dead timber the people want.

D. B. R. It looks to him that since there is so very little demand for green timber, the people should be allowed to use what little timber they want.

Thinks that if a man is allowed all the dead timber he can use and is required to take out a permit for green timber, before he will go to the trouble of looking up a ranger to get the permit and have the ranger look up the timber he wants and mark it, he will use dead timber.

A. L. Thought that by abolishing permits for dead material, all the easy and accessible places are going to be cleaned out of their best stuff and within a couple of years we will only have the poor material left, and even that would get more and more remote.

It was stated that all this material would be used for improvement work and would not be going out of the forest.

A. L. Thought that new settlers would hesitate to come on the forest if they saw all the free use material was gone.

---- Thinks timber is growing faster than it can be used.

It was stated that the greatest objection to the blanket permit would be in submitting a report showing how much timber had been cut.

A vote was taken as to abolishing all free use for green saw timber. - All in favor.

A vote taken as to those in favor of doing away with free use permits for dead material, if possible.

All in favor.

If it was not possible to do so, all were in favor of granting blanket permits for a year, for \$20 worth of whatever dead material a man needed, but limit the green material to \$10 worth, to be covered by separate permit.

There was some discussion as to whether a man should have a blanket permit for all he needs or have a limited amount.

A. I. Brought up the point of allowing the use of dead material on burned areas without restriction.

J. D. C. (Q) Do you all agree that some definite amount should be put into this blanket permit? Shall we grant a blanket permit for one year covering \$50 worth of dead material and \$20 worth of green material, with the understanding that all green timber be marked?

J. L. P. Does not like green timber being in blanket permit. Says it would encourage the use of green timber.

W. O. W. Does not think the use of a blanket permit would cut down the routine, but that it would be worse.

J. H. S. (Q) "What is the dead timber to be valued at - same as green timber?" Do not think that is right."

J. D. C. Stated that dead timber is better for posts and better for fuel.

J. H. S. Thinks he would have trouble on his District if green timber is valued at the same price as dead timber, for a man would want the green timber if he is to be allowed a certain amount.. Thought that the valuation of dead material should be half of that of green timber, and that the blanket permit should be for \$25.00 instead of \$50.

A few minutes before the close of the session Mr. Cuthrie talked on the subject of free use reports, saying that in some cases the reports submitted did not check. He also dwelt a few minutes on the importance of Rangers instructing new men under them in regard to the granting of free use.

Sunday, - September 11, 1910.

In the morning a shooting match took place between the Forest officers at the meeting. The match was held near Becker's Lake. The contests consisted of rifle and revolver shooting, the rifle at 250 ft. and the revolver at 100 ft. - each man having three trials with each kind of gun at a target, the successful man being the one who ran up the highest combined score. As a result of the shoot Ranger Pritchard tied with Guard Lawson. It was decided that the tie should be shot off on Monday morning which was done, giving Pritchard an easy victory. The

prize, a bridle with heavy silver conchos and buckles, accordingly went to Pritchard.

Sunday afternoon a base ball game was played between the Forest officers and a picked team from Springerville and Egar, which resulted in a victory for the Foresters by a score of 13 to 11.

Monday - September 12, 1910.

Meeting opened at 10 A. M. Those present were J. D. Guthrie, Frederic Winn, R. T. Cheen, C. E. Rencher, W. C. Martin, J. L. Hinch, James Reagan, R. E. Hopson, C. D. Chapin, J. W. Hough, R. E. Marsh, Aldo Leopold, B. S. Rogers, J. C. Wheatley, W. O. Wheatley, L. H. Mitchell, C. H. Collingwood, H. B. Wales, C. W. McTibbin, H. C. Eaton, M. L. Nichols, J. E. Sizer, J. L. Pritchard, D. C. Martin, T. Wells, D. B. Ruda.

### Timber Sales - Saw timber

Timber sales on the north end taken up for discussion. Mr. Eaton gave a brief talk on the sales on his District. He stated that the sales are quite numerous, there being two sawmills and two shingle mills. Thinks it is a wrong proposition that the shingle mills should be allowed to make shingles only. If sawmill and shingle mill would combine, a lot of material that goes to waste would be utilized. He stated that the shingle mills are now hauling in tops and other unmerchantable timber, with the idea of making some proposition with the sawmill people to use it. He spoke of the mill people complaining that they were not getting full value on account of the large amount of rot. Eaton claimed that they were getting an overscale. L. H. M. Thought complaint of mill people could be overcome by allowing them to pick their trees and have them pay a higher rate.

H. O. E. Said they were willing to do this, but he informed them that he thought the office would not agree to it. Thought it would not be good for the Forest as it would take out all the good trees.

A few minutes were spent in discussing brush disposal.

W. O. W. Says brush would have rotted quicker on his District if it had been scattered.

J. D. G. Stated that scattering is going to be a great deal harder to get properly done than piling.

H. O. E. Said the people think scattering means leaving the limbs just where they fall.

T. W. Said that Pearson's method is to clip off the branches so that the brush lies flat and close to the ground.

Mr. Wells changed the subject with the following question: What about the dead tree proposition. He stated that

on the Coconino they tried to get dead trees cut down free, as it was an advantage to the Forest account of the trees being one of the worst obstacles in fighting fire. One objection the people had to cutting dead trees was that it dulled their saws.

J. T. C. Stated that this requirement has been used on Apache for some time.

H. O. E. Thinks it a good thing to take the question up on this Forest.

L. W. Says Woolsey favors making a reduced charge, but does not favor having free of charge those that are merchantable. Stated that Johnson thinks it would be a good idea to cut them down free of charge.

J. T. C. Stated that Woolsey did not think we ought to give the dead timber away - thought we ought to charge at least 5 cents a cord on south end.

G. B. C. Says that on his district there are a couple of patches of this bug-killed material, which he thinks ought to be gotten rid of. Trees are dead and worm eaten.

J. T. C. Stated, in that case, encourage every possible use of it by free use or otherwise.

C. B. C. The patches are isolated.

W. C. W. Does not think it would have a tendency to exterminate the beetle by the use of the dead stuff on the forest.

J. D. C. Says it does.

Subject changed to Mr. Greenamyre's work in studying the Composite Type of Forest.

Mr. Cuthrie: "Forest Assistant Greenamyre of the Coconino Experimental station is doing some work on the Forest this year, making a study of a study of a certain type, the Composite type, which, I understand from Mr. Pearson is quite an unusual type for this district. The work is quite important and Mr. Greenamyre will be here this year and probably next year."

Mr. Leopold gave a brief talk on Mr. Greenamyre's work.

### Salting

This subject was discussed.

B. S. R. Thinks it should be left to the stockmen where the salting grounds are to be located.

J. C. W. Thinks a man ought to use his own judgment as long as the range is in good shape.

J. I. P. Says stock do not drift very far on his district. Hopper's drift some and paddocks some. Says if stockmen do not salt enough they are the losers. Most of them on his district (Metcalf) think ten pounds is too much.

B. S. R. Says more salt is required on top of the mountains than down below.

J. L. P. Says salt is kept on the saltgrounds all the time and does not see why it would be justice to the stockmen to require them to put out salt when it is not required.

D. B. R. Does not think people ought to be required to put out salt where there is no need of it. Thinks the amount of salt now required to be put out is satisfactory, but the amount is small enough. Thinks people ought to put out according to how much the cattle use, that a rough and rocky place should be picked out for the salting grounds.

C. B. C. Says there is always a kick more or less about salting. "For instance we have been speaking of a man being permitted to put salt where he wants to. Some want to salt near home, as they claim the cattle drift home if they do so."

E. O. E. Says big stock men put out more salt than required; Small stockmen are rather backward in putting out the required amount.

Discussion in regard to picking out salt grounds and protecting them from sheep - Peterson's sheep and Barrett's cattle.

H. O. E. Stated, one thing in favor of the cattlemen's argument is that they cannot herd cattle. The sheepmen however herd their sheep on the cattle men's salt grounds, Thinks they should be given some good area which should be posted.

J. . . . Thinks it best to give cowmen a grazing district and sheep men a grazing district, not have both on same area!

J. D. G. & H. O. E. Do not agree with Wheatley as to that - impossible and impracticable.

D. B. R. Thinks the sheep men ought to keep their sheep off the cattle men's salt grounds.

J. . . . (C) "Do you think it would be practicable to lay out small excluded areas for salt grounds."

H. O. E. Thinks it is a good idea.

C. B. C. Thinks cattlemen should have established salt grounds, have it so understood, and have the sheep men keep off of them.

C. B. R. Thinks sheep men should have the privilege of picking their lambing grounds and have cattle keep off of them, as it is very important that they have good lambing grounds and they are very scarce.

F. E. E. Thinks there would be considerable kicking if special salt grounds were established, as it would cut out considerable grazing land.

C. B. R. Says there would be very little trouble if salt grounds were located on edge of allotment, but if they were located in the center of some man's allotment, there would be trouble.

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J. L. P. Thinks if they have pool salt grounds, half a dozen would be sufficient.

F. E. M. Thinks if we have many salt grounds there will be more of a tendency for the cattle to drift.

W. O. W. Thinks if we did get the pool system working a grazing inspector would come along and stop it, claiming that it was killing off the turf.

D. B. R. Thinks a smaller area is better for a salt ground, as it would be easier to get around it. Thinks if the salt ground covered a large area as recommended there would be more of a tendency to encroach.

J. L. P. Thinks trouble is more imaginary than anything else - relative to sheepmen getting on cattlemen's salt grounds.

H. O. E. Suggested that the question be left to the Ranger. A vote taken as to those in favor of laying out definite areas for salt grounds and making excluded areas of them, on sheep allotments.

All in favor except H. O. E. and W. O. W.

D. B. R. Recommended that salt grounds be posted.

Vote taken as to whether we should leave the entire matter to the discretion of the Forest officer on the ground, i. e., laying out definite areas for salting grounds in sheep allotments.

All in favor.

J. E. S. Says very little salt is being put out on his district. He has been unable to get any receipts for salt, has trouble with small stockmen.

B. S. R. Believes salting grounds should not be fenced, as was suggested by someone present.

J. D. C. Stated, "You should make it a rule to see that every person puts out enough salt for every head of stock he has got."

Question: "How can we make the system any more effective?"

J. H. S. Cancel a few permits until they put out the required amount of salt.

Regulation 62, of the Use Book, was read to show that violation of Regulation 62 constituted trespass. It was agreed that in cases where enough salt is not being put out, it should be mentioned in the quarterly grazing report, and the matter will be taken up with the permittee giving him warning in time.

C. B. C. Says he hardly ever has any trouble with men salting their stock if he gets right after them.

J. H. S. Thinks it would give a man a loophole by allowing him the privilege of taking a whole year to put out the required amount of salt.

Afternoon session.

The subject of salting was taken up again.

F. C. M. Thinks present system of salting is working out all right, but does not think that on his particular district 10 lbs. is enough. He has no kick about permittees not putting out enough salt.

J. D. C. (C) "Has anybody heard any kick from permittees about their being required to put out too much salt?"

No kick.

J. T. C. (C) "Should more salt be put out next year?"

W. C. H. Thinks 5 lbs. more per head should be required next year.

J. L. P. Thinks 10 lbs. of rock salt in that special locality (Metcalf) is enough, but he is not sure of it. He thinks it would be well to raise the amount to 12 or 15 lbs. Says the only thing stockmen would need to do would be to keep salt on their salting grounds.

J. H. E. Thinks 15 lbs. would be better than 10.

J. R. Thinks about 15 lbs. would be enough.

H. O. E. Thinks present amount is all right.

C. B. C. Thinks 20 lbs. is little enough, and he knows from his own experience stock will eat double the amount if they can get it.

It was stated that the people admit that 10 lbs. of salt is not enough, but all of them do not put out that amount.

J. H. S. Thinks we ought to wait until the people put out ten lbs. and then have them put out more.

M. L. W. Agrees with Pritchard, that the Ranger on the job should use his judgment as to whether the stockmen should put out the full 15 lbs. Make a fifteen lb. limit and have it enforced where necessary.

D. B. R. Does not think it would do any hurt to put out 15 lbs. If they do not use it one year, they will the next. Thinks it is pretty hard to tell how much salt a cow will use, but a good way to find out would be to give them more than enough.

A. I. Would be inclined to go slow and believes 10 lbs. would be plenty for the present. Thinks it would be wise to let it go at 10 lbs. for at least another year, as it appears from the talk today there is difficulty in getting men to salt.

B. S. R. Thinks they ought to get used to the 10 lb. limit before they go any higher.

W. O. W. Leave it at 10 lbs.

J. C. W. Thinks 10 lbs. will be sufficient.

F. H. M. Thinks it ought to be left at 10 lbs. for another year.

J. I. P. Thinks we ought to raise at least one lb. to let the people know we are gradually bringing up the amount of salt.

R. T. C. Thought a raise of at least 2 lbs. should be made as it would be noticed more.

Vote taken as to those in favor of requiring 12 lbs. per head during 1911.

10 in favor of 12 lbs.

3 in favor of 10 lbs.



Discussion as to the practicability of putting salt on the ground. Troughs suggested.

C - Hogs

Hog question discussed next.

J. B. C. "Considerable complaint from people in regard to hogs getting into their gardens and fields. Should we try to cut down the number? We now have 9 permittees and they run from 5 to 50 head each."

D. B. R. Says hogs are a hard thing to fence against and thinks they ought to be cut out unless they are on a homestead claim.

A. I. Inquired, how are hogs marked on the south end? *of the hogs? RW*

J. H. S. Earmarked.

W. C. W. Says he has seen them both earmarked and branded.

C. B. C. Thinks hogs should be eliminated from the forest if we think anything of our reproduction.

F. H. M. Cited an instance in which they were very destructive to reproduction.

J. C. W. Suggested setting a limit for each applicant.

D. B. R. Says people can pay more on hogs than they can on goats, as they are more profitable.

W. C. W. and J. C. W. Know several people who are waiting to come on the Forest with hogs.

F. H. M. Says they are the most destructive animal on the Forest.

J. E. S. Says they are very destructive to gardens, camps and especially to springs. Thinks if they are doing damage to the majority of users they ought to be cut out.

A. I. Inquired whether hogs root out grass roots and destroy the range for cattle.

J. H. S. Says they root holes in the ground.

Vote taken as to those in favor of cutting down the number of hogs on the Forest. All in favor.

Discussion as to whether we should put up the fee or put a limit on the number of head each permittee shall have.

J. L. P. Objection to limiting number of head is that if any are allowed to run at large they would do damage just the same. Should require permittees to keep their hogs fenced at their homes.

J. H. S. Thinks they ought not to be allowed to run free on the Forest.

W. C. W. Suggests taking out two permits a year for hogs so that a Ranger could get a line on what hogs were on his district.

Vote taken as to those in favor of entirely eliminating hogs. All in favor.

W. C. W. Thinks hogs should not be cut out entirely as it would cause a more bitter feeling against the Service.

F. H. M. In favor of cutting them out entirely by next year, notifying them now.

J. C. W. Is in favor of cutting them out.  
 W. O. W. Thinks they ought to cut down every man to 5 head and next year cut them out.  
 B. S. R. Believes they ought to be cut out entirely.  
 A. I. Cut them out entirely within a year.  
 D. B. R. Cut them down this year and next year cut them out altogether.  
 E. I. H. Give them time to get rid of them, but in time cut them out entirely.  
 J. H. S. Is in favor of giving them time to get rid of the hogs.  
 C. B. C. Is in favor of excluding them as fast as we can. They are dirty around camp, etc.  
 H. O. E. Thinks they ought to be gotten rid of as they are very "undesirable citizens".  
 J. R. Thinks they ought to be excluded by 2 years.  
 J. H. H. Cut them down to five and next year cut them out.  
 W. C. M. Thinks they ought to allow some on the range around the permittees place.  
 G. B. R. Thinks an investigation should be made into the hog question as he has seen no damage done by hogs.  
 D. B. R. Thinks they do enough damage to streams, and springs, say nothing of the damage to young seedling growth, to justify cutting them out.  
 J. L. P. Suggested that if permittees wanted hogs for their own use they could pen them up. Is in favor of cutting them out of the forest, and if it is possible, to notify the permittees within a month or so. Thinks it would work no hardship on the people as pork is so high this year.  
 D. C. M. Thinks the best way is to restrict them to a certain area or grazing district.

#### G. - Horses

Discussion in regard to horses covered by permit.  
 J. D. C. (C) Do you think all the horses that are running on the Blue District are under permit that should be?  
 J. C. W. Does not think they are. Suggests having a roundup and have a sufficient number of Rangers to complete the roundup.  
 W. C. K. Thinks a roundup would be of no advantage.  
 W. O. W. Cited several cases where men were not paying on range horses.  
 B. S. R. Thinks it would be well to have a roundup if they could get the necessary help.  
 A. I. Thinks the horses ought to be rounded up.  
 D. B. R. Thinks stockmen ought to notify us when they have a round up so the rangers could get to it.  
 Relative to wild horses on the range.  
 E. L. H. Thinks a wild horse is a pest and ought to be gotten rid of.  
 J. H. S. Thinks there ought to be at least three or four Rangers to start out and gather up every horse they could find; they to go alone if they could not get any stockmen to go with them.

C. B. C. Does not know of any feasible way of catching wild horses.

J. R. Does not think there is any way of getting after them. Would take three or four years to round them up.

C. B. C. Says the only way we can help ourselves is to go to the roundups and get tabs on the horses.

Discussion as to getting correct count on stock on the Forest:

J. C. E. Men would have to attend roundups.

W. O. W. Says they have no general roundups on his District.

B. S. R. Thinks it all right to attend roundups if the cowmen will give the correct number.

A. L. Would not expect calf tallies to be of much value the first year.

D. B. K. Does not think calf tallies would amount to anything.

J. H. S. Does not believe one man in ten knows how many cattle he has got.

J. H. S. Believes the calf tally would be a benefit in about three or four years by comparing the calf tallies with the shipments.

C. B. C. Doubts whether the calf tally would be of any benefit or not.

E. C. E. Thinks calf tally ought to be continued.

J. R. Thinks it ought to be continued as the longer you work at it the more accurate results you would get.

J. H. W. Thinks calf tally is all right.

J. L. P. Thinks it is a good plan. Does not think it would do any harm.

D. C. M. Says the majority of the cowmen are honest and are willing to do the right thing.

When this was put to the meeting, the large majority decided otherwise, that the average stockman looked at his grazing fee exactly as he did at his taxes, that it was perfectly allowable to beat the Government out of every cent possible.

#### Record of Grazing Permits.

Blank forms, record of grazing permits, were distributed among the men. Question was brought up whether the information required on the blank would be of enough value to warrant its use. Vote taken as to those in favor of putting form into use. Majority in favor.

(Question) Would a Ranger want to carry around this information in his note book? (Referring to information on blank form)

J. L. P. Does not see that it would be of enough use to be worth while.

D. C. M. Suggested some revisions in form be made. (See attached form).

W. C. W. Suggested throwing out calf tally and keeping other records.

Discussion as to system of individual ranges - whether grazing districts should be the same as the Ranger Districts.

It was agreed that grazing districts should be the same as the ranger districts wherever possible. This is now done, with a few exceptions, where it has not been found to be practicable.

Tuesday - September 13, 1910.

Meeting opened at 9:25 A. M.

Those present were Frederic Winn, R. E. Marsh, R. E. Hopson, O. I. Bishop, W. P. Lawson, J. W. Hough, C. W. McKibbin, G. B. Rencher, Claud McDowell, Collingwood, J. H. Hinck, J. H. Bizer, W. C. Martin, E. D. Sales, James Reagan, T. Wells, Aldo Leopold, H. O. Eaton, G. B. Chapin, D. B. Rudd, L. L. Nichols, J. I. Pritchard, R. T. Cheen, W. C. Wheatley, B. S. Rogers, J. C. Wheatley, H. H. Mitchell, D. C. Martin, J. D. Cuthrie.

The question of individual cattle ranges was taken up for discussion:

J. D. Cuthrie: "You all understand the Forest is divided into five grazing districts and each grazing district is divided into individual cattle ranges. It is questionable whether these individual cattle ranges are of any benefit or not. If we make the ranges larger, it would give us more power in requiring permittees to fight fire."

J. C. W. Stated that it seemed to him the best idea would be to set aside a larger grazing district, as it would overcome to some extent the difficulty of getting fire fighters.

J. D. C. "Have the grazing districts the same as the ranger districts?"

B. S. R. Thinks it would be an advantage as we could get more fire fighters, as the permittees would have no come-back.

J. I. P. "What was the idea of making individual cattle ranges in the beginning?"

J. C. To have a more definite location for each particular brand of stock.

J. I. P. Thinks by having a large grazing district it would be easier to get men to fight fire.

J. D. C. "Would we have kicks on account of drift?"

H. L. H. Thinks it would be of some advantage in getting fire fighters but thinks it might cause some conflict between cattlemen.

D. B. R. Thinks grazing districts should be established and the small ranges abolished. Thinks the individual grazing districts interfere with fire fighting.

G. B. C. Is in favor of having small cattle ranges. Says there is an understanding among the cattlemen that they have a certain range.

H. C. C. Thinks both sides of the question have valuable points, and if the large majority agree to have large grazing districts it is agreeable to him. Does not see any advantage of the small districts on his district.

G. B. C. Thinks cattlemen should have the privilege of saying where their cattle should be put.

J. T. C. Stated that a man paying on 30 head may apply for several different ranges - if they want different range.

A. L. Thinks Major's idea is exactly right, that the location of stock varies with conditions so much from time to time, that the cattle ranges on the map are entirely too rigid, thinks the lines of the grazing districts should correspond with the lines of the ranger districts. It would be of some advantage to forest users as they would know to what ranger to apply for grazing permit.

H. O. E. The objection to this would be the routine in the office and difficulty in getting permittees to go a long distance to fight fires.

D. B. R. Thinks there would be less confusion by not having names for the districts.

W. C. M. Is inclined to favor the larger cattle ranges as it would cause less confusion in a good many ways - have grazing districts same as ranger districts.

J. L. S. Thinks grazing districts ought to conform to ranger districts.

H. I. N. Thinks there would be some conflict between cattlemen as to the favored part of the district.

J. I. P. Thinks cattlemen would throw their cattle on the favored districts.

D. B. R. Thinks Rangers should say where salting grounds should be located. Thinks cattlemen have enough respect for each other so there would not be any trouble.

J. H. B. Thinks the grazing and ranger districts should be the same.

C. B. R. Thinks having grazing district same as ranger district would be a good thing.

D. C. M. Says it may not be possible to make them always the same, but it would be preferable to what we have at present. Where it is possible, believe it would be well to have the grazing district coincide with the Ranger District. Thinks it would simplify matters to call them by names of the ranger districts, and number them, 1, 2, 3, etc.

G. B. C. Thought there would be less confusion where local names are used, and believed there were plenty of them.

J. L. P. Suggested giving the grazing district a number and a name.

There was some discussion in regard to stock drifting off the large districts.

Vote taken as to whether grazing districts should be the same as ranger districts. All in favor, except Rogers.

Vote taken as to those in favor of giving grazing districts a number.

3 in favor.

W. O. W. Is in favor of giving both number and name of Ranger District.

D. B. R. Why not name the grazing district after the name of the ranger station?

Discussion in regard to naming grazing districts the same as the ranger stations.

H. C. E. Does not think it would be well on his district.

J. T. G. Thinks it best not to have an ironbound rule, but where we see fit have it the same as the Ranger District.

### Drift Stock

The question of drift stock was again brought up. - whether any great amount of horses and cattle drift on the Indian Reservation.

B. S. R. Stated that Slaughter's cattle drift on there in the winter time.

H. C. E. There is some drift from the Sitgreaves and the Indian Reservation. Indians come in every once and a while and round them up and get \$1.00 per head for all stock found. Drift on the Indian Reservation is more than offset by their drift over here.

J. T. G. (A) "How can we get the amount of drift except by going with roundups? Might cooperate with Indian Office."

H. C. E. Thinks proposition (drift on reservation) is a difficult one to handle.

D. B. R. Thinks if we keep tabs on the cattle that drift from the Indian Reservation over here, just as they do, we might get a compromise.

J. T. G. "I guess you all understand that the Indian addition is more or less up in the air and until the thing is more definitely settled, I think we might make some cooperative agreement, especially in grazing."

### Crossing Permits

The question of crossing permits for sheep going to Clifton was taken up.

J. T. G. "We could hardly refuse to grant a man a permit to get his stock to market. The point is whether it is practicable to grant crossing permits clear to the south end for sheep."

J. C. E. Thinks the service ought to do so. Does not see how we can refuse to allow people to take their sheep to market.

H. E. M. Thinks there would be no objection if the sheep were kept on the wagon road.

H. C. E. Thinks it would be well for sheep to be driven down there as it would drive out the grass hurs which are a pest. Does not think the Blue People would have any objection to the driving of sheep down the river.

Discussion as to the possibility of keeping sheep on the wagon road.

M. I. E. Does not see what the use of the permit is if they have a right to the wagon road.

J. I. P. Thinks it would be all right to use the road if they kept on it.

D. B. R. Thinks all permittees should be allowed to take their sheep to market no matter where they went, but thinks they should be confined to a certain route and should be made to go as fast as possible. If they abuse the privilege in any way, cut them out entirely.

J. H. S. Thinks the people in whose country the sheep-drive would go through should be considered.

J. C. W. Thinks there will be no kick.

C. B. C. Advocates having a regular sheep driveway for the people to use.

H. C. E. Thinks that sheep should be allowed to go down under the forest restrictions, but not allowed to come back.

Does not think we could restrict the use of the driveway to permittees.

A. L. Thinks it would take all the rangers on the forest to keep the sheep on the road, as the road is only 100 feet wide and sheep could not possibly keep on it. Thinks people in Clifton do not need sheep from this end.

J. L. P. When the Forest Service says stockmen cannot drive sheep across the forest, it is interfering with industrial conditions. Thinks they ought to be able to drive their sheep to Clifton as long as they can get a better price.

J. C. W. Says it will not hurt the country along the Blue.

E. H. H. Thinks it eventually will.

The point was brought up that the sheepmen on the south end would want to bring their sheep to Holbrook if the price was better.

D. C. A. Suggests confining the use of the driveway to permittees.

J. R. Thinks the stockmen should be granted a driveway of some kind in order to get their sheep to market.

W. C. L. Thinks if they are going to drive thousands down there, it ought not to be allowed.

J. D. C. "It is up to the National Forest to protect the people in and near the National Forest. If there is a just kick from the people along the Blue, the thing should be cut out."

J. H. H. Thinks they ought to be given a driveway down the river just for marketing their stock.

C. B. R. Believes they should have a driveway down the river. Belives they will only go but once.

D. C. M. Thinks that a whole lot of the troubles are imaginary. Thinks if we can confine the stock to a certain route, it would be all right. Thinks it would be only the inferior stock that would go to the south end, as they can sell most anything to the people in Clifton.

Vote taken as to those in favor of granting crossing permits to sheep men to carry their sheep to the south end, through the Forest, provided they follow the road:

10 in favor

3 opposed.

Afternoon session.

### Counting Corrals

J. D. C. "Taking up again the subject of crossing permits, but not down the Blue this time;- in order to avoid the necessity for granting crossing permits, two sheep driveways have been provided, but practically only one is used. In regard to counting, I believe all sheep should be counted when they go on the forest. Relative to a man crossing another man's grazing allotment, do not think it ought to be encouraged, but if a man does not object to another man crossing his area, see no reason for refusing to grant crossing permit. Have had no kick from men using driveway."

J. L. P. "Are the corrals at Iris satisfactory for counting?" Stated he took out part of the chute that was there and let the sheep come through a hole in the fence. The old corral there can be used for several years more. It seems to be very well located.

C. B. C. Had no objection to the counting corral at Nutrioso, but thinks sheep men when coming off should be required to notify the ranger.

A. L. Brought up the point that Riggs Creek was being eaten up by sheep, leaving only a couple of other creeks in which cattle could be gotten up on the mountain. Riggs creek was the easiest . . . and practically the only creek by which poor weak cattle could get up on the mountains.

D. C. M. Suggested that if another counting corral is to be built, it be made different from the one at Nutrioso, as the opening is too large.

J. L. P. Thinks opening is too small. Can count sheep going fast better than going slow.

D. C. M. Recommended using a gate to regulate opening.

It was agreed by the majority that the faster the sheep went, within reasonable numbers, the easier it was to count them.



It was stated that there has been a great deal of kicking on the part of the cattlemen in the Coyote country about sheep overgrazing the land.  
Advisability of putting sheep on the top of Escudilla:  
G. B. D. Stated that it is not advisable at all. Would conflict with the interests of everybody who has heretofore used that country. Horses use that country more than anything else - it is almost considered a pasture by the people in that vicinity.

#### Counts on Cattle

J. D. C. (Question to J. C. W.) "What percentage of the cattlemen on the Blue District do you think are paying on all they have got on the Forest?"

J. C. W. Does not believe there are any paying on all they have got. Might be one or two. Johnson and Thompson.

J. D. C. (Question to F. H. M.) "How many on the Clifton District?"

F. H. M. About 80 per cent.

B. S. R. Is satisfied that Slaughter does not pay on all he has.

W. O. W. 65% on Baseline District.

D. B. R. Thinks hardly a cattlemen pays on all he has got. Thinks they ought to be raised until the stock owners are willing to have a count. Raise them on a proportion, as much as possible. Ought to be some system by which cattle could be counted every once in five years.

J. C. W. Says it is easier to round up cattle now than it was years ago.

D. B. R. Thinks it is no easier. Says if a Ranger works with cattle all year, he knows about what a man has.

H. C. E. Thinks they pay on at least 80 per cent on Greer District.

A. I. From what he picks up from conversations, the cowmen do not consider they are paying on all they have got.

J. R. Knows that they are not paying on all they have got, at least certain parties are not.

W. C. M. Is satisfied that some large owners are not paying on all they have got. There are several of them who live over at Eagar.

J. H. S. Thinks that all but two are paying on all they have got on the Eagle District ( Double Circle and 4 - 4. These two are paying on about 75 or 80 per cent.

H. C. E. Says there is one man on his District who is paying on more than he has got. (Barrett)

G. B. R. Says small owners generally pay on all they have got - the big ones pay on less than they have on the reserve.

D. C. M. Believes the same as Rencher.

J. D. C. "We ought to spend all our efforts in getting at what the big men have got. More criticism in this regard in the handling of grazing than in any other thing."

- J. D. G. (Question to J. C. W.) Is it practicable on Blue District for a man to work with roundups?
- J. C. W. Yes.
- F. H. E. Have no roundups on his district.
- B. S. R. Says it is easy to attend Circle roundup but hard to get to Slaughter's roundup as they never let it be known when they work.
- W. O. W. Practically impossible to attend all the roundups as they generally begin on the same date on Baseline.
- M. L. N. Never any general roundup in his district (Metcalf).
- D. B. R. Thinks it is up to the Ranger a good deal to find the very best way he can of getting a check on the cattle on his district. Thinks he should take notice of all the cattle on his district, all the time, and by so doing he can get a general idea by the time fall comes around each year, of what cattle are on his district.
- C. B. C. Thinks a good way to find out the number of stock a man has is to get the sanitary inspectors' records.
- J. D. G. Stated, "We get the Arizona News which is supposed to have a list of all stock sold in Arizona, and where it is sold. It gives, date, place, number and brand."
- H. O. E. Stated that where it has been possible he has attended roundups. Thinks it is the only way a Ranger can get at how many cattle a man has.
- J. H. S. Agrees with Eaton, that that is the only way to get at it. Thinks there ought to be more than one ranger at each roundup. In some cases, where there is more than one brand to be counted, he has to take some cowpuncher's word.
- M. L. N. Inquired if a Ranger had the right to ask a man to string out his cattle, in order to count them.
- W. C. M. Wanted to know if a ranger had the right to ask a man to cut out his cattle.
- Mr. Guthrie answered these questions by stating that a Ranger had the right, provided no hardship was worked on the stockman.
- G. B. R. Suggested raising the number of stock on each man's permit until he demanded a count.
- W. O. W. Thinks if a man follows up these roundups, there should be at least two rangers on each district.

### Range Improvement

- Aldo Leopold brought up the subject of fencing springs. Says Rudd Knolls spring was filled with sheep litter last summer, on account of Bud Creer's sheep staying there.
- D. B. R. Stated that this spring is 4 feet deep with a rocky bottom.
- C. B. C. Said proposition was made four years ago that each man should fence at least two springs each season, but was not followed out.
- J. D. G. Suggested that the idea of Major's be taken up again.
- B. S. R. Says springs will have to be fenced before they can be fixed up in any shape.
- J. D. G. Thinks we will have very little trouble in get-

ting both cowmen and sheepmen to fix up springs.  
W. C. W. Thinks there would be no trouble in getting men to do it.  
G. B. C. Suggested having a man repair the particular spring he was interested in.

### Special Use Pastures

This subject was discussed.

J. D. C. "The number of special use pastures has increased remarkably in the last year on this Forest, - only three reports that have come in, have not been approved. In my mind, it is quite a question how to keep a check on these pastures, i. e., not allow them to get too numerous. If we don't put a check on them, it means the open range is going to get fenced more and more. Special use pastures, together with school sections on the north end, do cut down the cattle and sheep areas considerably."

General Question: How large a pasture should a man have paying on 100 head of cattle?

J. C. W. On the Blue District he ought to have a pasture not smaller than 150 or 175 acres - a man with 40 cattle, 80 acres would be little enough.

F. H. M. A man paying on 100 head should have a section of land if he is on the south slope of Limestone Mt. A man on the juniper land should not be allowed over 80 acres of land for 100 head.

B. B. R. A man paying on 100 head of cattle should have a pasture of 50 acres.

W. C. W. Inasmuch as a pasture is not used the year round, a man should be allowed  $1\frac{1}{2}$  to  $1\frac{1}{4}$  acres per head, and in some places where perhaps it is better, hold him down to an acre per head. If the land is very poor, it would be of no value to fence.

J. L. P. Stated that it all depends upon what the man intends to use the pasture for, whether simply for holding steers or whether he is going to keep milk cows in it all the time, or for holding horses.

M. L. N. Says one would have to take into consideration what the land is to be used for and the condition of the land. For 100 head, from 100 to 125 acres.

D. B. R. Stated that it depends a great deal on the kind of grass land it is. Should have 320 acres where 100 head use it the year round.

J. D. C. "I took the matter up with the District Forester last year as to just what the policy was. He said the policy was to discourage fencing up the Forest and grant special use pastures only when necessary for the handling

of stock. It is a hard proposition to keep them down, but at the same time you have got to recognize that a man needs it."

C. B. C. Must take into consideration whether it is going to interfere with the rights of others or not.

H. O. E. Says it depends upon several questions. - What he wants to use it for, location he applies for, and quality of grass. For 100 head of cattle, 75 to 100 acres.

M. L. M. Thinks a man should keep his pasture for an emergency - run his cattle in it in times when the range is poor, and outside when the range is good.

J. R. 100 acres to 100 head. Suggests putting valuation on the land in order to get at a proportion.

J. H. S. 80 acres for 100 head, when pasture is used only a few weeks at a time. Says in some cases more than one party uses the same pasture and in that case it should be of pretty good size.

A brief discussion followed about more than one party using a pasture. It was stated that if a ranger thinks a pasture is being injured he should recommend cancellation of the permit.

W. C. M. Thinks it depends upon the country. About 100 acres on his district would be sufficient for 100 head.

C. McD. Thinks that is about the right ratio.

C. B. R. Thinks it ought to be as little as it could for it is the policy to discourage pastures on the National Forest.

D. C. M. Stated that he differs with the whole bunch. Thinks a man should have enough pasture to keep his saddle horses, when not in use. Says a man with a small bunch of cattle needs a pasture in order to handle them profitably. It's the policy to encourage small stockmen instead of large owners. Believes 200 acres for 100 is sufficient, but it depends upon the place.

Session closed at 5 P. M.

Wednesday, September 14, 1910.

Meeting opened at 9 A. M. Those present were D. C. Martin, Claud McPowell, W. F. Lawson, J. H. Hinck, W. C. Martin, C. B. Rencher, R. T. Hopson, C. D. Chapin, Aldo Leopold, J. L. Pritchard, H. C. Eaton, D. B. Rudd, J. H. Sizer, E. E. Marsh, W. C. Wheatley, B. S. Rogers, F. H. Mitchell, T. Wells, James Reagan, Frederic Winn, J. D. Guthrie.

### Settlement

Discussion as to Ira Harper getting 40 additional acres near his homestead claim, but not adjoining it.

The question of a man having the right to sell the improvements on his claim was discussed at some length. C. B. C. Came to the conclusion that the whole sum and substance of it was that a man cannot sell anything that belongs to the Government.

Discussion as to the length of time a man is required to stay on his claim, whether he can leave it or not, etc. M. I. N. Stated it was believed by some people that they had the right to be absent from their claim for six months in order to send their children to school.

J. D. C. Stated the six months absence clause applied principally to the northwestern States and not to Arizona. Such a case should be taken up with the land office by the claimant in each case and permission obtained for each absence.

It was stated that grazing land should not exceed agricultural land in areas recommended for listing, but could equal it.

M. I. N. Inquired if it is the understanding that a man can get 40 acres of land in addition to his homestead right for 120 acres, provided it joins the 120 acres.

J. D. C. Answered, Yes, provided it is more valuable for agriculture.

Use Book was read. It was found that a man could take up an additional homestead by paying \$2.50 per acre, where he was on the land prior to the creation of the Forest.

Discussion between Mr. Rudd and Mr. Guthrie whether land should be adjoining in order to be filed on.

Discussion in regard to Tenny's case at Alpine.

H. O. E. Brought up a case on his District in which certain parties wanted to know the possibility of getting land on top of the White Mts. for agricultural purposes under Act of June 11, 1906. It is open country and good land, but season too short for growing crops. Mr. Eaton inquired what action a Ranger should take, whether he should tell the man there was no show at all, or whether he should leave it up entirely to the man.

J. D. C. "You should discourage applications for such land. If there is no show for the man to get the land, the Ranger might tell him so, but leave it up entirely to the man whether he should apply for it or not. Supply the man with blanks and tell him frankly the possibility of his getting it.

In regard to a man leaving his homestead claim, it was stated that the land office allows no definite time of absence, and if a man must have absence, it is up to him to take it up with the land office.

Brinkley's case was brought up. Twenty acres of Mr. Brinkley's claim is covered by Colter's reservoir and he wants to know if he can get 20 acres additional. It was decided that if it was an Interior case he

(Right of Way) case he would have some chance of getting the 20 acres. It was decided that the Drinkley case should be looked into, to see which was prior - Reservoir or listing of June 11 claim. Discussion regarding certain claims cases on the Forest followed, in which adverse reports had been submitted by Forest officers.

#### Forest Surveys - Stations & Settlement

The question of what should Forest Service monuments or June 11 monuments be made of, was brought up.

J. L. P. Thought they should be made out of something that will withstand the pawing of a Supervisor's horse. (Joke).

W. O. W. Believes a large boulder half buried would make the best monument.

J. L. P. Thinks a mound of small stones built up two or three feet high is more likely to be torn down than three or four good sized stones.

It was stated that monuments are often destroyed by cattle rubbing against them.

It was decided that the best monument is a half buried boulder, or a stake driven in the ground and stones piled around it.

#### Settlement

Mr. Guthrie talked a few minutes on Settlement, Settlement Uses, etc. He stated that a man taking out a special use permit to try out the land, if he filed on the land, he could not be allowed the title he was on the land under special use, in proving up on his claim. The only advantage of his taking out a special use would be that he would not use his homestead right.. If a man wants a special use permit he must apply for it on his own hook, for we could not offer him one. Supposing a man files on a homestead claim and does not live on it for five years, he forfeits his homestead rights. If a man abandons his homestead on account of drought, it depends upon the merits of the case whether he loses his homestead rights, the question to be decided by the Land Office entirely.

Some cases were mentioned where parties applied for land, which on being examined, only a small portion was

recommended for listing. Mr. Guthrie stated that the applicants could apply again for enough land to make up the 160 acres, provided there was adjoining agricultural land.

J. L. P. Inquired if a man can file under filing fees already paid or must he pay new filing fees.

Mr. Guthrie stated that he must pay new filing fees.

Discussion about bona fide squatters selling the right to file on the land which they have settled on.

Mr. Guthrie stated that they could not seal their right to file on the land.

A case was brought up where a man was using homestead land for pasture only. Mr. Guthrie stated that unless we could show that it was interfering with the best interests of the Forest, we would have to wait until the five years were up and then contest it on the ground of non-compliance with Homestead Laws.

Discussion as to whether Forest officers had jurisdiction over June 11 claims, whether after being filed on they were not strictly under the Department of Interior and not the Forest Service.

Afternoon session

#### Annual Grazing Reports

The question of having Rangers submit a grazing map with the Annual Grazing Report was discussed.

W. O. W. Thinks map would be a pretty good thing.

B. S. R. Thinks it would be all right.

F. H. L. Does not think it would be of any benefit.

J. C. W. Does not see that a map would be of any advantage.

J. L. P. Thinks it would cause a Ranger to study the range on his district a little more and thereby be of advantage.

J. D. C. Thinks a map would be of some value to the office, to have on it the portions of the range that are overgrazed, undergrazed, and needed range improvements, etc.

J. L. P. Thinks the chief value would be in creating an interest in range conditions. Says a map of any kind of work is worth considerable.

W. O. W. Thinks most important point is that it would be of great help to a new man going on a district.

D. C. M. Thinks some things can be shown more conveniently on a map, and wherever such is the case it should be done. Thinks just grazing dope should be shown on grazing map.

J. H. S. Says a map would not do him any good for all the overgrazed land on his district is on the creek, and the only way to overcome this is to improve the springs and build troughs.

J. R. Thinks a map would be of some benefit.

M. L. N. Believes a map would be of value. Thinks it would be an incentive to a man to study his district, and that it would cause him to keep his eyes open.

G. B. R. Thinks a map would be a good thing.

W. C. M. Thinks it would be all right and that salting grounds, springs, etc. should be located on them.

Question of having applications for grazing permit submitted in fall instead of spring, or not later than January 1, was discussed.

J. C. W. Stated that the present plan suits him.

J. I. S. Says cattlemen will complain that his cattle may die before grazing season opens. Heaviest losses are in March and April.

#### Improvement

Mr. Guthrie stated that the amount allotted for the Apache was \$3200 for this year, considerable less than last year, which of course means that the improvement work will be handicapped. Ranger labor on improvement projects does not necessarily have to be charged to the different projects. The plan is to put the bulk of the money we have into material. This is absolutely necessary in order to make the amount go as far as it possibly can. The improvement work this year will be carried out as follows:

Mesa Pasture

Hammigan Pasture

Baseline house,

Honeymoon Station

Possibly doing something at Limestone.

Addition to the office building.

Staining and finishing as many of the houses at Ranger Stations as possible.

Construction of telephone line from Luna to Blue, which is partly constructed already.

"We have a larger salary allotment this year than we had last, but of course we will use it all up. On certain districts this year, I hope to get at improvement on trail work, fixing up and repairing trails that are in need of it. The question of signboards has been talked of considerably. Material for the construction of sign-



boards does not have to be charged to improvement, but to general expense.

H. O. E. Stated that more pasture is needed on his district (Greer).

F. H. M. Says there is a greater need for pasture on the south end than on the north end of the Forest.

The advisability of having each ranger make an improvement map, showing the proposed improvement work, to be submitted with annual Improvement report, was discussed. All in favor of making such a map.

W. C. M. Thinks it would be a good idea but does not see any use of it if we have no money to do any work.

M. I. S. Thinks by making a map and showing just what improvement work ought to be done, we might get more money next year. It was suggested that the maps show the location of proposed fire bores, trails, springs, water troughs, telephone lines, etc.

Discussion in regard to telephones.

W. C. W. Thinks we need telephone lines more than we do pastures and houses, - they should be first of everything. Suggested phone line from Alma to Blue, 9 miles.

C. D. C. Thinks there should be a line from Lookout, as more fires can be seen from that point than any other.

H. O. E. State that we could get all the hauling done by cooperation from Lee Valley if line was put to Greer from Springville.

J. C. S. Need a line from Blue Range to Blue River Ranger Station.

W. C. W. Believes it would be well to put in two lines of the most importance out of the five mentioned, - line from Blue R. S. to the Blue Range the most important. Discussion as to the possibility of getting permittees by phone at Mountain meadow to fight fire.

### Filing

J. D. C. "It is the plan to have all the permanent ranger stations equipped with oak filing cases very shortly. I have not insisted very much on filing, as I did not think it just to jump on a man for not filing when he had nothing to file in, but when you get the oak filing cases, there will be no excuse for not having your files in shape. Most of the files inspected have been in mighty good shape considering the lack of filing equipment. Typewriters are now on the way for all the Stations. It

seems foolish to get oak filing cases and typewriters for Ranger Stations that are nearly falling down, but as long as we had the chance to get them there was no need of throwing it away.

### Notices

(General Question) "Do you think it practicable to get out tin fire notices? Would they be an improvement over the present ones?"

It was decided that the tin signs would be more satisfactory as the squirrels could not destroy them and they could not be easily torn down.

J. C. W. Suggested having tin game notices, giving the opening and closing of the different seasons.

In closing, a few general points were taken up and briefly discussed.

A. L. Brought up the point of sheep using the same bedding ground all season.

H. C. D. Brought up a discussion in regard to sheep crossing excluded areas.

The matter of seed collecting was again taken up. Mr. Guthrie suggested getting all they could where Greenamyre was working, from squirrels' nests, and at saw mills. Suggested turning this work over to temporary men wherever possible to do so. Called attention to the fact that sample seeds for testing are required of each Ranger, and that these samples should be sent to the District office as soon as possible.

Meeting adjourned 4:30 P.M.

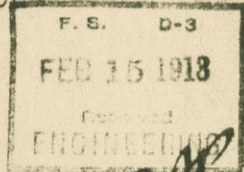
This closed the meetings.

J. C. W.

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February 13, 1913.

SUPPLEMENTAL REPORT CONCERNING THE RETENTION  
OF THE SERVILLETA ADMINISTRATIVE  
WITHDRAWAL.



Reference is made to the report of the above designation dated February 11, 1913, and submitted to the District Forester February 12, 1913, also to the title map for Township 26 N., R. 10 E., N.M. P.M., accompanying the above report on which this withdrawal is indicated in red. There is attached a plat showing the tie between this withdrawal and the southeast corner of Section 31, T. 27 N., R. 10 E., accepted survey. Field notes for the above mentioned tie are also submitted herewith.

There is situated on this withdrawal a permanent ranger station and other improvements having a total value of \$1200, together with a pasture fence representing an additional value of \$200. These improvements are being and will be continued to be used as winter headquarters of the Servilleta District and it is therefore desired to retain this withdrawal which was made by the Department of Interior on February 11, 1909, as part of the National Forest for the protection and use of improvements thereon.

It is therefore recommended in the elimination of the surrounding area, this tract be retained.

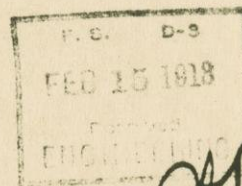
*Aldo Peofol*

Forest Supervisor.

Submitted to the District Forester, together with boundary report dated February 11, 1913, on FEB 12 1913

LP - BOUNDARIES  
Carson 1903-1927  
FRC 110127

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
CARSON NATIONAL FOREST



TRES PIEDRAS, NEW MEXICO

0  
Carson - Boundaries  
Servilleta Elimination

February 11, 1913.

1. Location and Area.

This recommended elimination is the woodland and sage brush area which constitutes the southwest portion of the Amarilla Division of the Carson National Forest. The gross area involved is 101,941 acres.

2. Description of Topography.

The area is characterized by large expanses of level or gently rolling country, a few rims, particularly on Comanche Canyon, and some broken hills in the vicinity of Tusas and Vallecitos Creeks. Elevation ranges from 6500 to 8000 feet.

3. Climate.

Rainfall 15". Snow falls irregularly during the winter, but does not lie long on the ground. There is no chance for the encroachment of a yellow pine type. The area is suitable for agriculture in its climate, except for the slight rainfall, and a large portion of it very well suited to it in the matter of soil.

4. Forest.

The attached administration outline shows the areas of types and the stand. All reproduction is poor. There is no watershed value involved. The only two permanent

streams affected are the Tusas and the Vallecitos, which join to form the Rio Caliente within the area, which are fed from ~~affected~~ sources above the proposed boundary line. As the pinion stand will not be materially modified by elimination, the temporary flow of the arroyos which is of practically no value will be but little affected. The range, except for sage brush is very scarce and overgrazing which may take place will change conditions of erosion but little

#### 5. Fire Damage.

Practically the only fire danger is that which exists along the line of the D.& R.G. which is also the region of the heaviest woodland. The fires which have occurred along the railroad since the creation of the Forest have been small, and it is very unlikely that sufficient fire to seriously menace the Forest can get started before sufficient measures are taken to overcome it.

#### 6. Water Power and Public Use.

There are no developed or contemplated uses of the above classes. About one mile south of the intersection of the proposed boundary and Vallecitos Creek is a storage and possible power site which was examined in the fall of 1912 by Engineer H. B. Waha, whose verbal findings were that the flow was insufficient to make this an attractive proposition at this time.

There are no other present or future public uses involved which would be affected by the proposed elimination.

## 7. Settlements.

Small cultivated ranches are practically continuous along the Tusas, Vallecitos, and Rio Caliente. Servilleta Plaze, La Madera, Anconis, are very small Mexican plazas, located along the streams within the proposed elimination. There are also two or three agricultural claims on the flats at a distance from the streams. There is considerable likelihood of future agricultural development with the extension and development of dry farming methods.

## 8. Industries.

The ranch business involved is indicated under (7).

About 16,000 head of sheep are wintered here under permit. About 300 head of cattle and horses are ranged here under year-long permit. All of the stock involved is held by small owners and no large stock interests will profit especially by the elimination.

There is a small timber sale business - mostly post with some cordwood sales. Total sales for the present fiscal year will probably come to about \$250. The supply of woodland material is large and it is not likely that locally settlers will ever suffer in this regard as a result of the elimination.

## 9. Roads and Trails.

There are several roads which have been in use by the public for many years - notably the road which

follows roughly the Vallecitos and that which follows the Tusas - which two join and continue down the Rio Caliente toward Chamita, the road which follows roughly the railroad near the east boundary, and the road down Comanche Canyon. None of these will be affected in any way by the elimination. No trails of importance.

#### 10. Public Sentiment.

There will probably be some opposition in the vicinity of Ojo Caliente on the part of small cattle owners who run stock on the Ojo Caliente Cattle Area. This involves too small a part of the area as a whole and too small a ~~position~~<sup>proportion</sup> of the population in and near the proposed elimination to materially affect the question as a whole. In general public sentiment will be favorable to it. There are numerous "chronic kickers" against the Forest Service living on the area. No large interests will profit especially by the elimination.

#### 11. Administration.

This topic is covered by the attached tabular sheet.

The proposed Forest boundary commencing on the east side of the Forest follows as near as may be the line between the yellow pine area and the woodland to the west side of Comanche Canyon, there follows south along the west side of the canyon to the south end of the mesa between Comanche and Tusas whence it runs west to a point west of the Tusas and follows south-westward along the base of a range of hills

covered with yellow pine to the northeast corner of the Lobato Grant. It forms a line which fairly closely cuts off the woodland area from the yellow pine and at the same time is located topographically in such a way as to make it very desirable from an administrative point of view.

## 12. Recommendations.

This area has been covered by reconnaissance so that the type areas and stands as given in the attached table may be considered reasonably accurate.

The matter of this elimination was considered by the board committee for this Forest appointed by the District Forester and was considered highly advisable. The amount of western yellow pine involved is negligible.

While there is some present demand for woodland species as shown by the timber sale business, there is a large supply of the same and continued inclusion of the area within the Forest would simply mean that there would be in the end no hope of regeneration or continued silvicultural management, since such management applied to woodland will never be practical in this section. Much better results will be obtained by devoting the funds so spent to the intensive management of the pine type within the Forest proper, both in value to the Service and to the people. No hardship or special advantage will result from the elimination of this area, either to established equities or to the present or probable future communities. I therefore respectfully



recommend that the area outlined in red on the attached map be eliminated from the Carson National Forest.

Aldo Peafold

~~Deputy~~ Forest Supervisor.

Approved: Feb 12 1913.

Aldo Peafold  
Forest Supervisor.

Approved:  
Arthur C. England  
District Forester  
Feb 15-13

Report and map forwarded to the District Forester FEB 12 1913.

Dictated by Deputy Supervisor Marsh, but signed by me in his absence to avoid delay.

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Carson - Boundaries  
Servilleta Elimination.

Tres Piedras, New Mexico,  
February 11, 1913.

Area- - - - - 101,441 acres

Stand:

Yellow Pine- - - - - 135 M. Ft. B.M.  
Douglas Fir- - - - - 25 M. Ft. B.M.  
White Fir- - - - - 5 M. Ft. B.M.  
Pinon and Cedar- - - - - 232,205 cords.

Land Classification and Acreage:

Woodland - - - - - 76,418 acres. 3 cords, per acre  
Cultivated - - - - - 780 "  
Cultivable - - - - - 7,500 "  
Open - - - - - 24,242 "  
Timber land- - - - - negligible

Cost of Administration:

Salaries and Expenses- - - - - \$1,000.00

Income by classes:

Grazing- - - - - \$2,025.00  
Timber Sales - - - - - 250.00

Business:

Permits S. & G. - - - - - 16,000  
Permits C. & H. - - - - - 300  
Settlement Cases - - - - - 10

*Aldo Leopold*

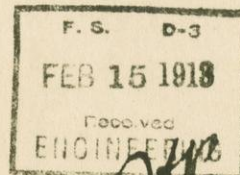
Deputy Forest Supervisor.

Approved: FEB 12 1913

*Aldo Leopold*  
Forest Supervisor.

Dictated by Deputy  
Supervisor Marsh, but  
signed by me in his  
absence to avoid delay.

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
CARSON NATIONAL FOREST



0  
Carson - Boundaries  
Mesa Las Viejas Elimination

TRES PIEDRAS, NEW MEXICO

January 8, 1913.  
*AM*

1. Location and Area.

This recommended Elimination is located between the Carson and Jemez National Forests, and forms the southwest corner of the latter. The gross area involved is 60,740 acres.

2. Description of Topography.

The area is a rolling mesa whose elevation ranges from 7000 to 8000 feet. The breaks on the south and west are very steep rugged cliffs.

3. Climate.

Rainfall 15". Snow falls irregularly during the winter, but does not lie very long on the ground. The chances for extension of the very limited pine type are very small. The area is suitable for agriculture in its climate, and less favorably so in its soil.

4. Forest.

The attached administration outline shows the areas of types and the stand. All reproduction is poor. There is no watershed value involved, since the elevation is low, there are no streams except of temporary flow, the pinon stand will not be appreciably affected by elimination. The gramma vegetative cover will be reduced by overgrazing but the gently

rolling topography will prevent serious erosion.

#### 5. Fire Damage

It is believed that the present parks have been caused by very ancient top fires in the Pinon. These are a very rare occurrence, but when conditions allow them to start there is hardly any chance of checking them like an ordinary fire. None have occurred in this country for 20 years, and not more than one for 70 years or more. Fires cannot cross into the Forest from this area.

#### 6. Water Power and Public Use.

There are no developed or contemplated uses of the above classes. There are some apparent power sites on the Chama River by these were inspected last September by Engineer Waha, and he verbally stated to me that they were impracticable.

There are no other present or future public uses involved.

#### 7. Settlements.

There are two cultivated ranches along the Chama, and extensive unused improvements on the Canyon de Chama Grant. There is some future agricultural possibility on the Mesa but the difficulty of securing good water will postpone settlement for some years.

#### 8. Industries.

Stockmen are the only industry concerned. The Amador Mercantile Co. of Tierra Amarilla have a tank and graze 1500 sheep under permit yearlong. All other grazing is spasmodic, being possible only in times of heavy rain or snow. There is a fair stand of gramma grass on the whole area.

The wood and saw timber on this area are not necessary for the continued prosperity of any community. There are indefinite quantities of wood in every direction, and extensive stands of sawtimber on the adjacent Forests to the East and West.

9. There are no roads or trails except those worn by wagons and pack animals of sheepment

#### 10. Public Sentiment.

There will be no opposition to this elimination. Mr. T. D. Burns, the owner of the Canyon de Chama Grant, desires the elimination.

No large interests will profit especially by the elimination. There is no demand for the timber, and the range will be used by the small sheepmen of the surrounding country.

#### 11. Administration.

This topic is covered by the attached tabular sheet. On account of the negligible business adequate patrol of this area has been difficult in the past.

The new Forest Boundary recommended follows as closely as possible the precipitous east rim of Navajo Canyon. It is advisable to leave this canyon out on account of the heavy trespass patrol and crossing permit business involved. One small spring will be lost in this Canyon, but the mesa top on the east side is sufficiently watered without this spring. The Navajo Canyon contained the Navajo Administrative site, which was recommended for release October 1, 1912.

#### 12. Recommendations.

This area was inspected by the boundary committee for this Forest appointed by the District Forester, and elimin-

ation was considered desirable by the committee. The small amount of Pine does not justify administration. The woodland species are of no present value, nor is there any present or likely future demand, within any determinable time. Should such a demand ever arise the continued inclusion of the area within the Forest would simply mean that the timber would be sold without any definite hope of regeneration or continued silvicultural management, since such management applied to woodland species will never be practicable in this section. Much better results will be secured by devoting the funds so spent to intensive management of the pine type within the Forest proper, both in value to the Service and to the people. No hardship or special advantage will ~~be~~ result from the elimination of this area, either to established equities or to the present or probable future communities. I therefore respectfully recommend that the area outlined in red on the attached map be eliminated from the Carson National Forest.

*Aldo Seefeld*

Forest Supervisor.

Report and map forwarded to the District Forester FEB 12 1913

*Approved*  
*Arthur C. Ringland*  
*District Forester*  
*Feb 15-13*

Carson <sup>6</sup> = Boundaries  
Mesa de las Viejas Elimination.

January 8, 1913.

ADMINISTRATION OUTLINE

Area.....59,200 acres.

STAND:

Timberland..... 4,530 M. Ft. B.M.  
Woodland.....147,000 cords

LAND CLASSIFICATION AND ACREAGE

Timberland..... 2,265 acres  
Woodland..... 49,080 "  
Cultivated..... 200 "  
Cultivable..... 2,000 "  
Grassland..... 9,195 "

COST OF ADMINISTRATION

Salaries.....\$50.00 (proportional)  
Expenses..... 20.00  
70.00

INCOME BY CLASSES

Grazing.....\$187.00

BUSINESS

Permits S&G (1)..... 1500 sheep  
Settlement..... 5 cases

During some seasons several thousand sheep from the Canjilon District are occasionally assigned here for a couple of weeks. Considerable opportunity for water development. Will carry 8000 head yearlong.

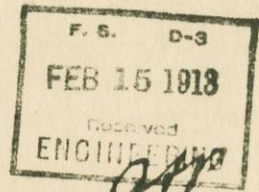
Aldo Leopold

Forest Supervisor.

FEB 12 1913

ADDRESS REPLY TO  
"FOREST SUPERVISOR"

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
CARSON NATIONAL FOREST



0  
Carson - Boundaries  
San Antone Elimination.

TRES PIEDRAS, NEW MEXICO

January 8, 1913.

1. Location and Area.

The above elimination consists of scattered areas along the boundary of the northeast corner of the Amarilla Division of the Carson National Forest. The gross area is 12,412.16 acres.

2. Description of Topography.

This is flat malpais upland covered with gramma grass, and loose volcanic rock. The altitude is 8500' to 9000'.

3. Climate.

The rainfall is 20".

4. Forest.

There is no Forest on this area, except scattering tongues of Douglas Fir and Pine extending out from the Forest land adjacent. Their area and volume of stand is insignificant. There is absolutely no watershed value involved.

5. Fire damage.

There is no possibility of fires.

6. Waterpower or Public Uses.

None involved.

7. Settlements.

None involved.



### 8. Industries.

Winter grazing of sheep. There are no permits issued for this area since it is only usable during periods of mild weather. It is used in spring and fall by permitted sheep entering and leaving the Forest.

### 9. Roads and Trails.

Two public roads cross this area. They would not be affected.

### 10. Public Sentiment.

Sentiment is in favor of elimination.

### 11. Administration.

This is covered by the attached outline. No administrative problems are involved. The cost of administration is great on account of the heavy boundary patrol at all seasons.

### 12. Recommendations.

This area is absolutely not Forest land. There are no interests involved which would be materially affected in any way, nor are there any future possibilities of any kind. I respectfully recommend that the separate areas outlined in red on the attached maps be eliminated from the Carson National Forest.

*Aldo Leopold*

Forest Supervisor.

Submitted to the District Forester with maps FEB 12 1913

*Approved*  
*Arthur C. England*  
*District Forester*  
*Feb 15-13*

0  
Carson - Boundaries  
San Antone Eliminations

January 8, 1913.

Area - - - - - 12,412.16 acres

Stand:

Commercial W.Y.P. - - - - - 100 M.  
Woodland (Pinon) - - - - - negligible

Land Classification:

Commercial timber - - - - - 240 acres  
Woodland - - - - - 1810 "  
Cultivated - - - - - 25 "  
Cultivable - - - - - 1000 "  
Open - - - - - 10337.16"  
Total - - - - - 12412.16"

Cost of Administration:

Salaries - - - - - \$200.00  
Income (Grazing) - - - - - 75.00

Business:

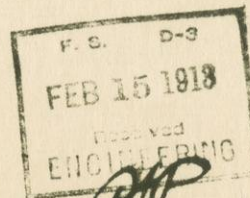
None of any kind except boundary patrol and grazing of  
70,000 sheep for a few days during April and the same in October. ✓

Aldo Leopold

Forest Supervisor.

FEB 12 1913

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
CARSON NATIONAL FOREST



TRES PIEDRAS, NEW MEXICO  
February 12, 1913  
*AM*

0  
Carson Boundaries  
Jicarilla Addition

A Report on a Proposed Addition to the Jicarilla District  
of the Carson National Forest.

(1) Location and Area.

The area recommended for addition is a strip of public domain along the present west boundary of the Jicarilla District, and contains 21,115 acres.

(2) Topography.

This area comprises rough breaks between the San Juan River, and the high plateau already included within the Forest.

(3) Climate.

Elevation 7000'. Rainfall 18".

(4) Forest.

The areas and stands of the Forest types are shown on the accompanying maps and outline. The timberland type is thin woodland with a varying mixture of pine averaging 1,500 ft. B.M. per acre. The woodland contains an unusual proportion of cedar, averaging 3 cords per acre. Reproduction is poor. On account of the rough nature of the country, a considerable watershed protective influence is involved.

(5) Fires.

There are seldom fires on this area, but danger of brush fires exists.

(6) Public Uses.

On account of the scarcity of water there are no considerations of water power involved. There are no permanent streams. Stock watering tanks are the only water development which can be anticipated, and these will be needed to properly utilize the range.

(7) Settlements.

There are no settlers on this area, and there are no alienated lands. For that reason no title maps accompany this report. This area is withdrawn for coal.

(8) Industries.

Sheep grazing is the only industry. This is spring and fall range, used in passing by a great number of sheep. It will support 5000 head yearlong, with proper water development.

(9) Transportation.

The area is crossed by a few unimproved roads and trails.

(10) Public Sentiment.

The small local stockmen are in favor of an even greater extension of the Forest. The large stockmen are opposed to any large extensions, but some of them have expressed themselves in favor of straightening this boundary, which is the object of this report.

(11) Administration.

The present Jicarilla District is a long

narrow strip embracing much valuable timber. Its administration is made unnecessarily difficult, however, by the very irregular west boundary, which does not conform either to type, topography, stand, or any other actual condition on the ground. This boundary is intercepted at right angles by deep rocky canyons, separated by rough often impassible mesas, densely grown with cedar, pinon, oak brush, and pine. All passage of stock and travel is from west to east, up and down the canyons. A band of sheep may enter a certain canyon at the San Juan River, and after 8 miles eastward will encounter a boundary notice. Another day they may go up an exactly similar canyon and go 12 miles to the boundary, crossing at altogether a different place as to type, elevation, and all other natural factors. Heavy unavoidable trespass therefore occurs, to the detriment of the Forest permittees. On the mesas, there is absolutely no way to locate the line, on account of the illogical present boundary. It is extremely difficult for the ranger in charge to administer his district under these conditions.

This report aims to straighten the present line in so far as possible without taking in open or cultivable land. The valuable pine timber of this country extends in tongues of variable length to the westward. Some of these tongues end east of the proposed line; others extend beyond it and are left out. The line is a compromise between

the opposing factors indicated. The important point is that the area to be added is practically of the same nature and stand as a part of that already included. The proposed line will make possible a much more efficient administration, and be more satisfactory to the Forest Users, and to the users of the public domain, who now never know when they are trespassing, and when they are not.

It has been suggested that the whole Jicarilla District be added to the Jicarilla Indian Reservation to the eastward. It is not within the province of this report to recommend for or against this. It should be borne in mind, however, that without the addition recommended herein the area is not an administrative unit, but with this addition it will become one.

(12) Conclusion.

The present boundary of the Jicarilla District is impracticable, and unjustified by any actual condition. For an effective administration, and to protect the Forest user and the outside stockmen from trespass, it is necessary to straighten the line. As herein recommended, this can be done without including lands less valuable for forest than a large part of the present withdrawal. 35% of the lands recommended for addition are distinctly yellow pine lands more valuable for forest than for any other purpose.

It is therefore recommended that the area shown on the accompanying maps be added to the Carson National Forest.

Submitted to the District Forester Feb. 12, 1913

*Approved*  
*Walter C. ...*  
Feb 15-13

*Aldo Leopold*  
Forest Supervisor

0  
Carson Boundaries  
Jicarilla Addition

Tres Piedras N.M.  
February 12, 1913

ADMINISTRATION OUTLINE.

Area.....21,115 acres

Stand

Timberland (Yellow Pine).....22,750 M Ft B.M.  
Woodland...(Pinon and Cedar).....11,400 cords

Land Classification & Acreage

Timberland.....15,165 acres  
Woodland..... 2,850 "  
Cultivated..... 0  
Cultivable..... 500  
Grassland and brushland..... 2,800

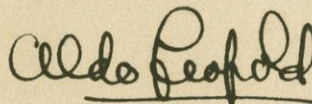
Additional cost of Administration..... 0

Income, grazing..... \$800.00

Business

Permits S&G ..... 5  
Permits C&H ..... 2 small  
Settlement ....(coal withdrawal)..... 0 possible 4

No Sales, Free Use, or Uses.



Forest Supervisor

Submitted to the District Forester February 12, 1913.

October 17, 1912.

0  
Carson Boundaries.

Memorandum for Mr. Peck.

In connection with the proposed changes in the boundaries of the Jicarrilla Division your attention is called to the fact that Mr. Harris' map classifies all land containing any scattering pine as commercial timber. The type so indicated contains a large amount of woodland often in solid bodies while the pine has been confined to small patches and fringes along the canyons and rims of the mesas. The present boundary includes practically all the commercial yellow pine except a few sections on the Caracas Mesa and the Laguna Seca Mesa. Taking the Caracas Mesa as a whole there are approximately 30 sections of western yellow pine timber averaging about 5000 feet per acre, while the Laguna Seca Mesa has about 15 sections of pine averaging the same amount per acre.

On the Jicarrilla District as it now stands there are 300,000,000 feet of western yellow pine and on the proposed addition approximately 40,000,000 feet.

Forest Supervisor Leopold is anxious that the west boundary be established below the point of the mesas on the west because this will materially simplify the administration of the District. This change will include practically no



arable land. At present sheep are driven into the rough breaks along the boundary and it is very difficult to keep track of them and to prevent them from trespassing on the National Forest lands. The jogs in the boundary are very hard to locate since the country is very rough and much of it is unsurveyed; further ~~north~~ <sup>more</sup> where there have been surveys the corners are hard to find. The permittees are practically all mexicans and it is very hard to explain ~~any~~ <sup>in</sup> regular line to them since the boundary will often vary several miles in two adjacent canyons. The further out the proposed line is located the better it will be from an administrative standpoint and it is desirable anyhow to straighten out some of the present kinks.

Your attention is called to the fact that the boundary as it now stands was established during a conference in Washington with Governor Curry and a delegation from New Mexico without any relation whatever to administrative features, *but to include as much of the line as possible.*

This District is a sandstone mesa varying from 6500 to 7000 feet in elevation with long points running out westerly and breaking off abruptly along the proposed boundary and deep canyons cut into an area from the west. There are few springs in the District and what little water may be found is located in artificial tanks. It is estimated that 25% of the present District consists of open land or brush land; 15% woodland type and 60% western yellow pine. However the Supervisor has recently submitted new figures which are probably

more accurate than these. The pine is often in very open stands and widely scattered and intermixed with woodland. The trees are often short and scrubby with low branching limbs. The steep rocky slopes are often brush covered and sometimes this type appears on the tops of the mesas.

You will note that Mr. Leopold's line is more conservative than that recommended by Mr. Harris. Leopold says that he really prefers Harris' recommendation since it will further simplify the administration but he considered it hopeless to obtain this line even under the old boundary policy.

The proposed Lumberton addition was not examined by the Boundary Committee but it appeared that the yellow pine stand was very scattered and it can be safely assumed that if there was any good timber in this area it would have been obtained under the Land Laws by the Timber Companies in that locality. This is also a coal district and it is very likely that much of the area has been located under the Mining Laws.

It was agreed that both the Jicarrilla and the proposed Lumberton Addition should be offered to District 2 since it was so far removed from the remainder of the Carson Forest. Both these areas are very close to the San Juan Forest in Colorado and may be reached within a half hours ride on the train from the headquarters at Pagosa Springs. In the event that District 2 refuses to take over this area it would possibly be a good plan to offer it to the Indian Office.

The proposed eliminations on the east side of the Amarilla Division are all desirable and the only question is whether or not more lands should be thrown out. T. 32 N., R. 8 E. is a comparatively smooth sage brush mesa with here and there a small group of woodland species. There is no living water and it has been the source of continued grazing trespass. The lands immediately west of this township contain commercial yellow pine so that no future elimination can be made at this point. While Sections 3 and 4, T. 31 N. R. 8 E. contain little merchantable timber they are bisected by deep box canyons of the Las Pinos River. The proposed location will, therefore, give us the best possible administrative boundary since it follows the north rim of the canyon. A similar condition exists in Sections 23, 26 and 35 in the same township owing to the box canyons of the San Antone River.

A strong objection to the isolation of San Antone Peak is offered by Mr. Leopold since it will not only increase the boundary of the Forest but will also seriously complicate the grazing situation. There is a great deal of trouble over trespass even now, since the San Antone Peak is an area vital to the sheep men during certain portions of the winter and if it is possible for them to pass west of this mountain it will be almost hopeless for the Service to carry on a proper administration. It will leave the Forest without a suitable place for counting the sheep in the spring and will make it necessary to have three counting corralls instead of one as at present. It will cause serious complications in three cases in regard to lambing grounds.

It will cut the fall range on the San Antone Peak in half and will make a special short season for 75000 sheep necessary. It will prevent the possibility of relieving a congestion on the remainder of the District by developing water on the proposed eliminations. At best such a change will involve only a few sections and leave a very narrow strip between the two bodies of Forest land. Any further elimination south and west of San Antone Peak will make a deep indentation in the Forest and thus complicate the administration. The open land remaining inside the proposed boundaries is non-agricultural in character and is undoubtedly potential pine land that can be reforested.

Sec. 34, T. 30 N. R. 8 E., is not recommended for elimination because the boundary now follows a low rim. However the Supervisor has no serious objection to the location on the  $N\frac{1}{2}$  and the  $SE\frac{1}{4}$  of Sec. 18 and the  $E\frac{1}{2}$  of Sec. 20, T. 29 N. R. 9 E. Section 33 in the same township is retained for topographic reasons but there is no serious objection to its elimination if considered desirable.

Since the woodland areas in the southeast corner of the Forest have been covered by reconnaissance no final recommendation should be made until this data becomes available. There are a number of box canyons and rim rocks which should be taken into consideration when the final boundary is established and may make it necessary to retain within the Forest some country that would not otherwise be considered desirable. There is

not only some open country but considerable areas of scrubby woodland that should be eliminated in T. 24 and 25 N., R. 7, 8 and 9 E, no matter what the final boundary policy may be. Toward the south line of the Forest the country becomes rough and broken consisting of dry sandstone mesas and breaks bearing a low scrubby growth of woodland. This area is difficult to administer and hard to get around over. If it is eliminated it will reduce grazing trespass materially and will also relieve the office of a great deal of its troubles with the winter grazing proposition. There is considerable exempt stock upon this area and at best it is poor range.

The Mesa Viejas is level to rolling and varies from 7500 to 8100 feet above sea level. In spite of this elevation the cover consists almost entirely of pinon 80%, and juniper 20%. However, there is some yellow pine scattered either as single trees or small groups running <sup>from one to ten</sup> ~~up to an acre, or two~~ in area. It is distributed very generally over the mesa, at the heads of the canyons and along the sides of the vegas. In some of the best bodies the stand of pine will run as high as 2000 feet per acre but it is all scrubby and limby with a mixture of pinon and cedar.

The woodland will average about five cords per acre for the whole area counting in the open parks. The soil is ~~very~~ generally sandy, or adobe.

There is no living water upon the mesa and only two artificial tanks and these are not permanent. The business on this portion of the Forest is limited to the grazing of 3000 sheep during a portion of the winter. There are, however good possibilities for water development and this could be made a pretty fair winter range. It is my opinion that at least 25% of this area would have to be listed under the Act of June 11, 1906, when applications are received. However, it is a wild and isolated country at this time. Owing to the effect of high mountains in the Jemez Forest on the south, the precipitation is very light and it is not likely that the pine type can be extended or improved. Even though this area were accessible and the market conditions satisfactory there is not enough pine at any one place to justify even the smallest portable saw mill. It is therefore believed that this area should be eliminated. In any event no action should be taken looking toward future additions on the north since it is a scrubby cedar country with considerable areas of open park land much of which is arable.

The next proclamation for the Carson should eliminate the agricultural land in the valley around Cebolla.

Section 25 is practically all patented and under cultivation. Section 35 is agricultural with the exception of a little woodland on the south side. Section 34 is practically all open. Sections 3 and 10 about half woodland and half open.

The boundaries of the Taos Division are largely determined by private land grants but even where adjoining the public domain they are very satisfactorily located. The only woodland type occurs in Twps. 27 and 28 N., R. 12 E., and here the boundary follows the deep canyon of the Rio Grande River and one of its tributaries. There is however, a small neck of open land in T. 25 N., R. 13 E. which should unquestionably be eliminated.

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
CARSON NATIONAL FOREST

0  
Carson - Boundaries

TRES PIEDRAS, NEW MEXICO

October 12, 1911.

District Forester,  
Albuquerque, N. M.

Dear Sir:

Your letter of October 3 is received.

I am very glad indeed to be informed of the contents of the petition enclosed with your letter. Mr. J. P. Rinker and Mr. E. B. Seward, whose names are the first on the petition, are influential and thoroughly reliable citizens, but from information recently coming to hand I am quite sure that their opposition to the Pot Mountain Addition is due to the fact that both of these gentlemen are interested in prospective irrigation schemes involving in part the area recommended for addition. These irrigation projects would consequently be affected by the fact that desert entries could not be made within the land added to the National Forest. The remaining names on the petition are sheep men who are naturally prejudiced at the idea of paying grazing fees for their winter range.

I have every confidence in Mr. Harris' judgment and recommendations, but before replying further to your letter I wish to take a look at this country and hope to do this at the end of the present week. It is Pot Mountain Addition which is referred to in this petition.

There are three additional boundary changes advisable on this Forest in addition to the Pot Mountain Addition, which has already been reported on. These are an addition straightening the west boundary of the Jicarilla district; an addition of a valuable timber land straightening the western boundary of the Cañillon district, and the elimination of a 40 including the town of Tres Piedras in order to avoid the necessity for a large number of Special Use cases and the complications resulting from a townsite entry. It is hoped that we can report on all of these changes before the coming winter in order that the whole Forest may be in shape for extensive and permanent boundary posting next year.

In addition to these changes, there is a possibility of a further addition east of Lumberton. This was taken up in a letter during September from your office and Mr. Harris will look into it during the present month.

Very truly yours,

*Aldo Leopold*

Acting Forest Supervisor.



Carson Boundaries  
Proposed Addition to Jicarilla Dist.  
as recommended by Harris 2/22/12

August 11, 1912

ADMINISTRATION OUTLINE SUBMITTED IN ACCORDANCE WITH MR. PECKS MEMO  
OF JULY 24, 1912 - Suppl. to outline for present District. Estimated.

AREA.....100,000 acres as recom.

STAND:

Commercial W.Y.P. ....	24,000	M
Timberland .....	50,000	M
Total sawtimber est.....	74,000	M
Woodland .....	100,000	cords

LAND CLASSIFICATION AND ACREAGE:

Commercial Timber.....	6,000	acres
Timberland .....	24,000	"
Woodland .....	40,000	"
Cultivated .....	600	"
Cultivable.....	4,000	"
Grassland .....	25,400	"
	<u>100,000</u>	"

COST OF ADMINISTRATION (additional)

Salaries (guard) .....	\$250.00
Expenses .....	500.00
	<u>750.00</u>

INCOME BY CLASSES:

Grazing .....\$1400.00 (other classes negligible)

BUSINESS:

Grazing.

No. permits C&H.....	5
No. stock total.....	200
Average per permit.....	40
No. permits S&G .....	10
No. stock total .....	10,000
Average per permit .....	1,000

Timber Sales

Sales (negligible)

Free Use No. Permits....	50	per year
Amount .....	500 M	" "
Value .....	\$300.00	" "

Settlement

No. applications next 3 yrs,	40
Listed thereon	4,000 acres

Special Uses

Free, average current	10
Paid " "	0



A.F.S.

0  
Carson Boundaries  
Jicarilla District

1912 ✓  
August 11, 1922

ADMINISTRATION OUTLINE SUBMITTED IN ACCORDANCE WITH MR. PECK'S  
MEMORANDUM OF JULY 24, 1912 - PRESENT JICARILLA DISTRICT, F.Y. 1912.

AREA.....112040 acres

STAND:

Commercial W.Y.P.....160000 M  
Timberland .....100000 M  
Total sawtimber est. ..260000 M  
Woodland.....75000 cords

LAND CLASSIFICATION AND ACREAGE:

Commercial Timber.....40,000 acres  
Timberland.....45,000 "  
Woodland.....15,000 "  
Cultivated..... 200 "  
Cultivable..... 20,000 "  
Grassland..... 9,840 "  
112,040 "

COST OF ADMINISTRATION

Salaries .....\$1100.00 (Ranger)  
Expenses..... 500.00 (including sal. Land Exam. )  
1600.00

INCOME BY CLASSES:

Timber Sales ..... \$5.00  
Grazing ..... 1650.00 (no paid uses or trespass)  
1655.00

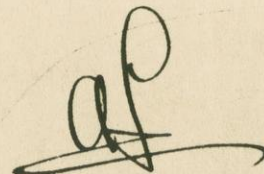
BUSINESS:

No. Permits C&H ..... 1  
No. Stock total ..... 17 (yearlong)  
Average per permit..... 17  
  
No. permits S&G ..... 14  
No. stock total .....15070 (mostly Apr.1-Oct.31)  
Average per permit .... 1076

Timber Sales (2) 20cnds. \$5.00  
Free Use;no. permits... 23  
Amount..... 489 M  
Value..... \$237.24

Settlement

No. appl. to date.... 25  
No. cases examined... 25  
No. awaiting action.. 1  
Area Listed 2440 acres  
Special Uses 1 (dip)

  
A.F.S.

August 11, 1912

0

Carson Boundaries  
Mesa de las Viejas prop. elim.

ADMINISTRATION OUTLINE SUBMITTED IN ACCORDANCE WITH MR. PECKS MEMO  
OF JULY 24, 1912.

Area.....

STAND:

Timberland .....  
Woodland .....

LAND CLASSIFICATION AND ACREAGE

Timberland .....  
Woodland .....  
Cultivated .....  
Cultivable .....  
Grassland .....

COST OF ADMINISTRATION

Salries.....	\$50.00 (prop)
Expenses .....	20.00
	<u>70.00</u>

INCOME BY CLASSES

Crazing.....

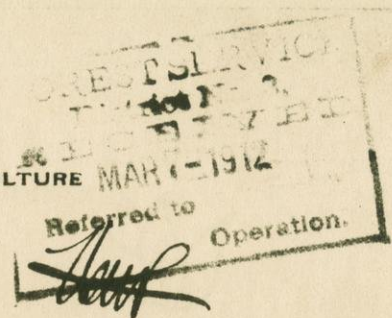
BUSINESS

Permits S&G (1) ..... 1500  
Settlement ..... 5 cases

Duringsome seasons several thousand sheep from the Canjilon  
dist are occasiobally assigned here for a couple of weeks. Con-  
siderable opportunity for water development. Will carry 8000 head  
yearlong.

ADDRESS ONLY TO  
"FOREST SUPERVISOR"

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
CARSON NATIONAL FOREST



TRES PIEDRAS, NEW MEXICO

March 5, 1912

O  
Carson-Boundaries  
Cebolla Addition

District Forester  
Albuquerque N.M.

Dear Sir:

I transmit herewith a report by Land Examiner Harris on the Cebolla Addition, proposed. 73,000 acres, indicated in red, are recommended by him for addition. 21,760 acres, indicated in orange, are approved for addition by this office. Of the area approved, 5,120 acres lie adjacent to the present boundary in T.26N.R.4E. and 16,640 acres adjacent to the present boundary in T.27N.R.4E.

The northern area is approved for addition on account of the pine timber it includes. I have personally examined this area and it is unquestionably valuable for its timber and will classify as strictly Forest land.

The southern area is largely covered with good pinion and red cedar and is recommended for its timber and on account of the necessity for a good administrative boundary. The former line was too crooked and does not at all conform to the timber nor to the topography. In connection with this area it may be well to mention that the block of 6 sections lying to the south of the town of Cebolla is largely yellow pine of excellent quality.

Land Examiner Harris' recommendation is not approved in full for the reason that it is not believed that the area recommended by him and not recommended by this office will classify as most valuable for Forest purposes. From an examination made by me I would judge that 40% of it is open sagebrush land which will have a high agricultural value on the development of water by storage reservoirs in the mountains to the eastward. Mr. Harris' argument that grazing administration would be facilitated by the addition of the entire area is valid, but is outweighed by other considerations.

I respectfully recommend that the area bounded in orange be added to the Carson National Forest.

Very truly yours

Acting Forest Supervisor

u  
Plans - Coconino  
Recreation

L files

L  
Coconino-Uses  
Term Occupancy Permits.  
Lake Mary Public Use Area.

May 20, 1916.

NOTES ON LAKE MARY PUBLIC USE AREA.

I. Basis of Report.

On April 26, Supervisor Guthrie and myself made a rough inspection of the public use possibilities of Lake Mary and examined in detail that part of the south shore for which the lots are priced on the accompanying sketch map. The following notes are not to be given as much weight as the report on Oak Creek of even date, the later area having been examined much more carefully.

II. Description.

The grazing reconnaissance map makes a topographic description of the Lake unnecessary.

The north shore of the Lake is bare at the east end and abrupt at the west end, the only suitable camping places being those marked on the map. These consist of small groves of pine on flat ground immediately next the shore of the Lake.

The north shore of the Lake having hithertofore been the only part of the Lake readily accessible by wagon, the rest of the Lake has not been used for camping purposes.

Except for a few stretches of cut-over land on the east end, the south shore is covered with a fine stand of yellow pine. The lots marked on the map include low benches from 15 feet to 30 feet above the present Lake area and afford admirable building sites. Both usage and adaptability dictate the retention of the north shore as camping grounds and the south shore as cottage sites.

### III. Work to be Done.

#### (a) Roads.

As in the case of Oak Creek, the development of the cottage sites depends primarily on roads. At present, the south shore is practically inaccessible and, to lease any lots, it will be necessary to construct a road along the shore line from the Flagstaff road at the A. L. Sims' place to the east end of the Lake. With an estimated allowance for irregularities in the shore line, the distance would be seven miles. The road should either follow the shore and pass in front of the building sites or lie back from the shore and pass behind the building sites. The difficulty of lateral connections under the latter plan indicates the advisability of a shore line road. The present instability of the lake level introduces a factor of uncertainty in the project of a shore line road, the bearing of which is

discussed more fully under V (a).

It is believed that the project warrants an early examination by the office of Engineering to determine the feasibility and cost of a shore line road as recommended.

(b) Surveys.

We will not be in a position to survey lots until the road has been surveyed. As soon as this is done, however, the lots should be laid out. The lines as sketched in on the accompanying map will, I think, furnish a sufficient guide to enable any competent surveyor to do this work, especially if he has surveyed out the Oak Creek area first.

The plan of subdivision may, however, be materially affected by changes in the lake level for the reason that some of the lots fronting on coves at present may have no water frontage should the Lake go down. The present high level is supposed to be due to the stopping up of several outlet holes in the malpais on the west end.

IV. Administrative Plans.

(a) Prices.

Prices for lots 3 to 34 were determined on the ground on the basis of the then existing \$50 maximum and have been scaled down to meet the \$25 maximum. The following table

*Parrell asked  
to make  
new.  
10/11/26*

gives the factors bearing on rental values as compared with Oak Creek lots:

<u>Item.</u>	<u>Oak Creek</u>	<u>Lake Mary.</u>
Water supply	Good water & rams	Poor water & engines
Vegetables and dairy products	Obtainable now	Probably will be obtainable.
Climate	Inclined to be hot	Cooler mountain climate
Sports	Fishing	Fishing, horse-back, motoring, boating, & bathing.
Accessible	Flagstaff 16 miles	Flagstaff 7 miles.

In general, although at present the demand is greater for Oak Creek lots, the above table seems to indicate a somewhat higher value for Lake Mary lots.

The prices recommended are based on a ten year tenure.

(b) Water Supply & Sanitation.

There are two possible sources of water supply, the Lake itself and the Babbit Spring in section 34.

The Lake water, although slightly turbid, is probably pure and, if it can be kept so, would furnish a fairly acceptable source of water supply, especially if clarified for drinking purposes by filtration.

Neither the flow nor the head obtainable from Babbit Spring are known, but it is probable that a pipe line could be constructed to serve all the lots. An investigation of the possibilities of this Spring is needed.



Pending a final decision as to the water supply, final recommendations as to sewage and garbage disposal cannot be made. A rough comparison with conditions at Oak Creek however will illuminate the applicability of the full discussion of sanitation made for that area.

The absence of running water, the irregularity of the malpais bed rock, the deeper and heavier soil, and the greater depth of the lots all go to make the problems of sanitation less difficult, except as to the fly problem, which, of course, is a serious question anywhere. Without any attempt at finality, it seems likely that, irrespective of the ultimate source of water supply, the temporary use of pits would be admissible and that later the removable receptacle type should be a minimum requirement with the option of sand filter or surface irrigation septic tanks. This plan would imply a compulsory collection system for garbage or sewage or both as in the case of Oak Creek.

#### V. Miscellaneous.

##### (a) Relation to Oak Creek.

As a matter of business principle, it is recommended that the Lake Mary and Oak Creek areas be not advertised simultaneously. This recommendation is by no means wholly based on consideration of financial returns, but rather on the principle that, for most people, the attractiveness of a summer resort depends on neighbors,

and scattering prospective permittees over two areas instead of one would inevitably delay, for both areas, the full operation of social factors which make lots salable and their use by permittees enjoyable. The question of whether Lake Mary or Oak Creek should come first depends on the comparative practicability of the road plans involved in each case and the question of the unstable Lake level, which has already been pointed out. When our engineer looks up the road question, he should also pass an opinion, if possible, on the probable future stability of water level.

(b) Sport and Recreation.

As compared to Oak Creek, the big advantage of Lake Mary is the diversity of possibilities in this line. While too narrow for sailing, motor-boats, canoes, bathing and fishing are all practicable. In addition, the more open country adds horse-back riding and motoring to the list of possibilities.

(c) A. L. Sims' Term Permit Application.

Mr. A. L. Sims is at present conducting a road-house business under special use permit at the west end of the Lake. He rents small cottages, motor-boats, row-boats and saddle horses; operates a store and dance hall; and sells bait, horse feed and gasoline. His establishment is an orderly one, but his premises are rather unsightly, due principally to the cheaply constructed

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this new  
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Lake level  
access by  
going down  
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and unpainted buildings. He claims that his business is expanding yearly and desires a term permit. It seems probable that he will either fail, due to his unattractive outfit, or succeed very well, due to the natural advantages and accessibility of his place. In either event, a permit of very short tenure would be indicated, say not to exceed five years. In case of a large growth of business, rental could then be equitably adjusted when the permit is renewed. At present, he is paying \$ 25.00 for his special use permit. Without presuming to have made an adequate study of the case, I would recommend a term permit charge of \$ 40.00.

(d) Timber Sales.

The timber on the shore of the Lake is comparatively accessible and may be applied for at any time. It goes without saying however that no further cutting within sight of the Lake should be allowed.

(e) Game and Fish.

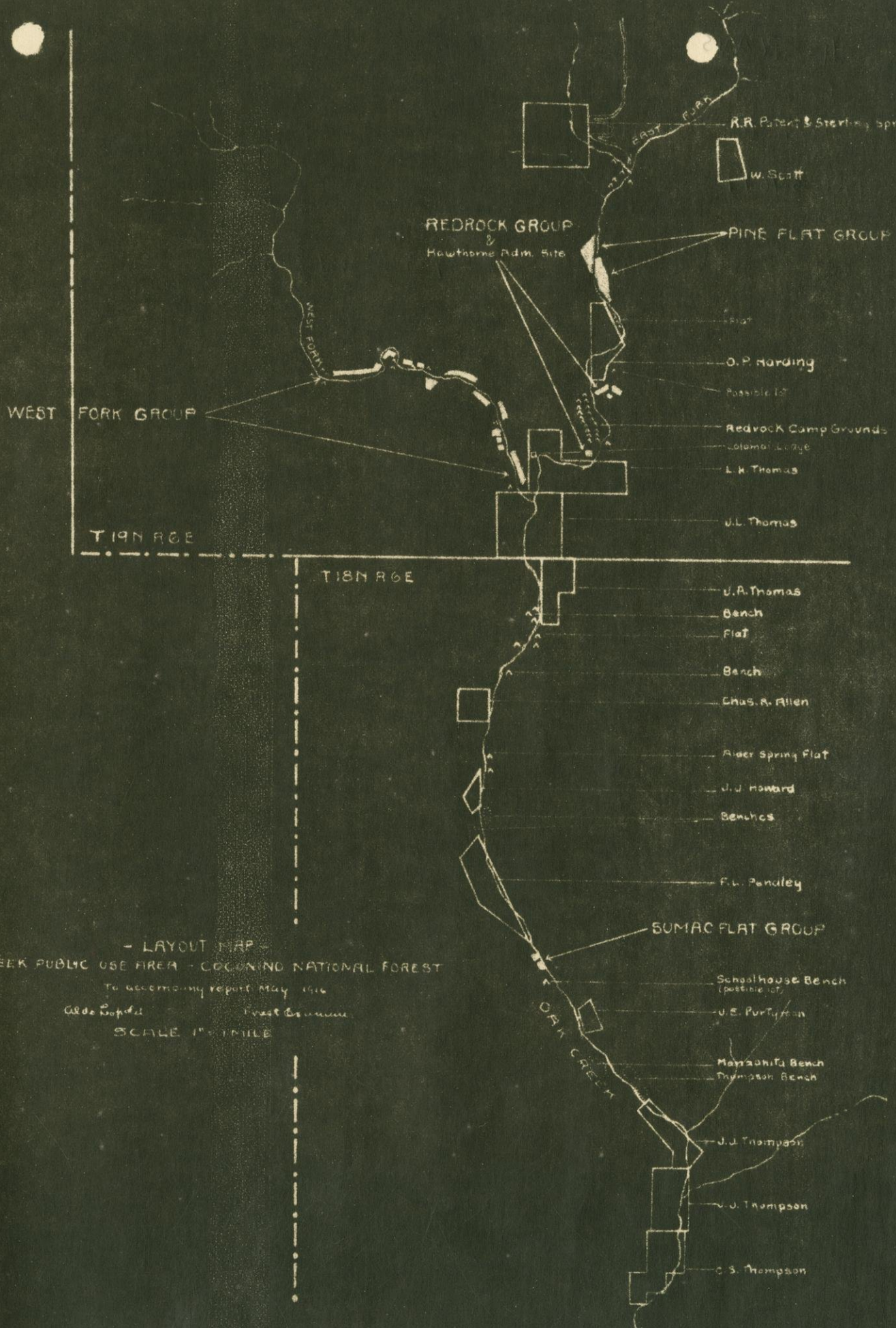
Although practically no ducks breed on this Lake, due probably to trampling by livestock, the shooting is said to be very good in fall.

The Lake contains black bass, sunfish and catfish and the fishing is good. The sunfish are locally called perch.

Aldo P. P. P.

Forest Examiner.

*[Handwritten signature]*  
1/26



- LAYOUT MAP -  
 OAK CREEK PUBLIC USE AREA - COCONINO NATIONAL FOREST  
 To accompany report May 1916  
 Aldo Leopold Forest Service  
 SCALE 1" = MILE

L files

April 26, 1921.

L  
 Boundaries-Lincoln  
 (National Parks)

The Forester,

Washington, D. C.

Dear Sir:

Supervisor Arthur informs us that there is considerable local agitation in Alamogordo and vicinity in favor of the creation of a national park to include the White Mountain country on the Mescalero Indian Reservation, the White Sands, Lava Beds and Elephant Butte Dam.

It is recalled that Secretary Fall introduced a bill in the senate for this purpose in 1912 and it is rumored that he has taken a strong position in favor of a park at this time. The primary motive behind the movement seems to be the belief that the park would carry with it extensive appropriations for roads, etc.

Supervisor Arthur has been furnished with a copy of Col. Graves' address on the national park situation in connection with the Mt. Evans area in D-2 and a copy of the D-2 Administrative Handbook which contains information on the subject.

Of course, the Forest Service has no direct interest but with the prospects of legislation similar to the Snell Bill turning over the Indian Reservation to the Forest Service, the inclusion of the White Mountain area with its fine timber stand and recreational possibilities would be a matter of serious consequence. We do not believe for a moment that such legislation can be adopted, since there is no proper ground for considering these areas of national park characteristics, but it was felt that you should be informed in order that you may watch for any legislation which may be introduced and take such action as you find to be proper.

Very truly yours,

FRANK C. W. POOLER, District Forester,  
 By Aldo Leopold, Acting.

*MM*  
 COPY SENT FOREST SUPERVISOR.  
 COPY SENT FOREST RANGER

W.P.

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L (LE)  
Uses

December 10, 1919

MEMORANDUM FOR MR. LEOPOLD, DISTRICT 3.

This memorandum is to supplement <sup>✓</sup> some conversation between myself and Mr. Leopold, which happened on December 6th.

There are no notes available in this office on this question, so it is thought best to incorporate <sup>✓</sup> in this form some observation relative to the problem discussed. The problem spoken of in this conversation was, how far shall the Forest Service carry or allow to be carried man made improvements in scenic territories, and whether there is not a definite point where all such developments, with the exception of perhaps lines of travel and necessary sign boards, shall stop. The Forest Service, it seems to me, is obligated to make the greatest return from the total forests to the people of the Nation that is possible. This, the Service has endeavored to do in the case of timber utilization, grazing, watershed protection and other activities. There is, however, a great wealth of recreational facilities and scenic values within the Forests, which have not been so utilized, and at the present time the Service is face to face with a question of big policies, big plans, and big utilization for these values and areas.

Returns from the Forests cannot be counted in total in terms of dollars and cents in the case of the aesthetic qualities within the Forests, and it is therefore rather difficult to judge just how this greater utilization can best be accomplished. It is comparatively easy to see the direct return to the individual and the Nation throughout utilization of Forest areas for summer homes, camping grounds, and picnic spots, but it is almost impossible to reduce to a money basis the value returned to a Forest visitor when viewing the country from an especially scenic auto road, scenic trail, or outlook. It is, therefore, a concrete cash argument for utilization of scenic areas for the purposes of picnic grounds, summer homes, etc., as opposed to a preservation of the grounds in a natural state because of scenic qualities.

There enters in here a feature which has been long recognized by landscape architects and city planners, which has not come to the attention of the general public or men of other professions. Landscape architects have continuously contended that there are scenic values and recreational areas of unusual beauty serving a great public need, which were never intended for private holdings. This has been recognized in some of the more congested areas of the country, and immense sums of money have been paid by municipalities, counties, and states, to secure shore lines on lakes or rivers, which had passed from under the control of the general public, and were held by individuals. There is a limit to the

- ✓ Editor of original here has "explain" crossed out with "supplement" substituted
- (2) "corporate" "incorporate"
- (3) "natural" "less marked"
- ✓ "for preservation" added.

number of lands of shore line on the lakes; there is a limit to the number of lakes in existence; there is a limit to the mountainous areas of the world, and in each one of these situations there are portions of natural scenic beauty which are God made, and the beauties of which of a right should be the property of all people.

There are in the Forests at the present time many such places in which the title is still vested in the Government of the United States, and in the Forest Service, representing this government and the people of the Nation. If these areas are allowed to go into the hands of private individuals, or if they are even built on for summer home purposes, the use is in the measure restricted to individuals or a group. The same conditions then follow, as is found in the cases cited where lands were bought back, that is the presence of the man made structures, the presence of a population, the monopolization of the scenery by those people living in those situations, react against the visitor in such a way that the fullest return of scenic and aesthetic values is not realized. It would be difficult to estimate just how much a group of dwellings in an especially scenic area would reduce the aesthetic value. There are several cases in Colorado where this can be measured to some extent by a comparative study, particularly the great canon of the Big Thompson represents the case where private holdings defeat the beauties of the canon. There are a number of other cases which can be outlined in comparison to represent the types where the scenic beauty is unspoiled. On this basis I would say that for me the aesthetic value of the Big Thompson Canon has been reduced not less than eighty percent.

There are great values of this type to be found in the several forests of the Nation, which in order to return the greatest total value to the people, not only of the Nation, but of the world should be preserved and protected from the marring features of man made constructions. These areas can never be restored to the original condition after man has invaded them, and the great value lying as it does in natural scenic beauty should be available, not for the small group, but for the greatest population. Time will come when these scenic spots, where nature has been allowed to remain unmarred, will be some of the most highly prized scenic features of the country, and unless the Forest Service has thoroughly exerted all influences possible to preserve these areas, severe criticism will some day be meted out by the collective owners of this territory to the public. So on the one hand there is an obligation to fulfill, based on the reasoning that certain areas of so great value as to be rightfully always the property of the entire public, and on the other there is need of the Service taking a broad, farseeing attitude in order that it may be prepared to meet the demands in the future.

There are other areas which are not necessarily superlative, but which should be preserved on this same basis. There will ever be a demand on the part of the people of the United States to be able to get into a part of the country which is undeveloped. There is no place particularly suited for such territory than is in the possession of the National Forest.

It is probable that great areas of medium scenic countries shall be preserved without any intrusion of civilization in order that there shall always be some great areas to which the lover of the outdoors can turn without being confronted by a settlers cabin, country store, telephone pole, or other sign of frontier civilization. This loving of the outdoors in the untouched conditions is evidenced by the number of people who travel to out of the way places to spend their vacations. In some individuals this desire for undeveloped country is especially marked. This is true, for example, of the Arctic Explorers, who endure great hardships on these trips. Other travelers of note, as for example, our late Ex-President Roosevelt, Paul J. Rainey, and others, show this desire for living in undeveloped regions. It is probably true that a big percentage of people of the United States have this craving for outdoor life in untouched regions to a less marked extent. These traits of the Nation should be given consideration right along with the other traits, which at times demand telephone and telegraph lines, modern plumbing, and other conveniences.

I have jotted down four different types of areas, which should probably not contain summer homes, perhaps no camp sites, and other like developments. First of these is the superlative area; the second is the area unsuited for any camp and summer home development, such as the high ridge of a mountain range; third is the area which should be preserved for the group rather than the individual, such as lake shores, stream banks, or such a natural feature as medicinal springs; fourth group would include areas not in these three groups, but which represent those God made and of the greatest use for preservation of any owned by the Government. There is no question in my mind but what there is a definite point in different types of country where man made structures should be stopped. How best to arrive at a definition of this point, or how best to come to a decision on these areas to be preserved is a question with me.

The Forest Service could well take the whole responsibility and while there might be some criticism on the part of some individuals, who suffered slight disappointment for the good of the larger group, the majority of the total would approve of such action. Or the Forest Service might ask the State to appoint an Art Commission or some such body to cooperate in designating areas which shall be preserved and protected in untouched conditions.



Or the National Society, formed to study rural planning and landscape architecture, might assist by naming a committee to cooperate throughout the whole country with the Service. At present it is probable that the Service will have to take the entire initiative on this work, and I believe that immediately.

The question of how best to do this is perhaps the real question, rather than shall it be done.

(Signed) Arthur H. Carhart

Recreation Engineer

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Report on D - 1 Trip

June 15 - July 23, 1926

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Aldo Leopold

Associate Director

Forest Products Laboratory

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*copy sent all Rangers*

Report on D - 1 Trip

June 15-July 23, 1926

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Aldo Leopold

Associate Director

Forest Products Laboratory

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<u>Schedule:</u> June 15-18	Missoula
June 19-July 6	Cabinet, Kaniksu, Kootenai, Blackfoot Forests and Priest River Experiment Station with Carter and Koch.
July 7-11	Missoula and adjacent mills.
July 12-23	D. 6 and D. 2

Purpose: To look for chances for Laboratory cooperation in National Forest Management work.

Scope of Report: Only such matters as appear to have some possibility of being actionable are here reported. Unactionable and descriptive material will be kept as field notes.

Summary of Possibilities of Better Utilization: Barring radical changes in the present economic system as it relates to Forests, I can see only five things the Forest Service can do toward better utilization in this region. (Action on all of these is already in some measure under way.)

- (a) Promote uses for little-used species.
- (b) Postpone as long as practicable the sale of relatively sound mixed stands.

- (c) Adjust Management Plans to provide as favorable conditions for utilization as possible.
  - (d) Continue technical analyses of woods, mill, and marketing practices.
  - (e) Work for conservative handling of private and state lands.
- (a) Promotion of Little Used Species

#### Cooperation of Industry

To my mind the salient fact bearing upon this problem is that the lumber industry is making no organized effort to solve it. Instead of trying to establish the merits of the mixed species which comprise nearly two-thirds of the remaining stand, the industry is expending its efforts to promote the pines, which are already well and favorably known.

#### Merits of Project

I know of no move in the entire field of forest utilization that comes as near to being 100 per cent desirable as the finding of outlets for the little used species of the Inland Empire. Most projects, while in the main beneficial, carry with them certain drawbacks. This project carries none. Success will be a clear gain to all concerned. Sufficient mills to cut these species are already established so that their utilization need entail no new investment in plants. Handling these species in the existing mills would retard rather than accelerate the rate of cutting, and thus extend the life of both the mills and the stand, without increasing overproduction. The financial returns

of the stumpage owner would obviously be increased, and the cost of logging decreased, if a profitable market for these little-used species were established. Forestry will be benefited by all these changes and by the reduced fire risk, reduced cost of refuse disposal, improved forest sanitation, and improved silvicultural practice. The consuming public would receive a larger quantity of good lumber of a wider variety at a price at least theoretically less. The change carries in its wake no pollution problem, no stripping of young stand, no displacement of other established products. Moreover the whole project is in the direction of sawtimber forestry, a welcome contrast to the Schenck prophecy of a future full of cellulose and devoid of boards.

### Larch

My trip, while not covering the best white Fir areas, left me with the strong impression that larch is the most promising of the mixed species, and as far as this region is concerned, should have the first call on Service funds. As Fullaway has pointed out, the National Forests contain 55 per cent of all the existing larch timber. As to the future, reproduction on burns indicates that there will be an increase in the proportion of larch on both National Forest and private lands. Larch is sound even at advanced age, attains large size, produces much clear lumber, does not stain, and ought to have a permanent geographic advantage over Douglas Fir and Southern Pine in supplying the north prairie states. These states will always be predominately agricultural, and agricultural territory will suffer less inroads from substitutes than industrial territory.

This report will not attempt to cover any detail on the properties and uses of mixed species since this would duplicate the work now under way by Fullaway and the Laboratory.

### Bedar

There is one possible flaw in cedar pole standards which induces some waste and which may be actionable. I refer to the exclusion of fire killed poles in both the Forest Service specifications and those of the Cedarmen's Association. On Watson Mt. the operator was long-butting fire marks off of freshly killed poles from which the needles had not yet fallen.

Presumably the "live growing timber" specification is partly a kick-back from chestnut and partly arises from a desire to avoid excessive checks. But are the checks in a fire killed tree actually any worse than those in a seasoned green-cut pole? (This should be determinable.) The buyer probably also wants a bright pole, but there is nothing very bright about river-driven poles or those which have lain a year awaiting shipment.

I will talk this over with the men at the Laboratory and if it looks actionable will write the District further.

### (b) Selling Mixed Stands

I see no object in deferring the sale of defective mixed stands beyond the time that the management plan would normally prescribe.

I think there has been some tendency to sell relatively sound mixed stands too soon, but this tendency is in process of active correction by Forest Management. The Dis-

tillery Bay Sale on the Kaniksu is a case in point. Koch says that under present policy such timber would be held. Of course in areas of mixed ownership our liberty of choice is much restricted.

The thought frequently came to me that on heavily burned forests the sale of mixed chances increased the already heavy over-proportion of young age-classes. Ten years of delay in such sales might decrease waste, increase receipts, and somewhat improve age class distribution, without increasing the loss from decay to any appreciable extent. To find out whether this thought warrants any change in existing sale policy would entail a closer study of management plans and local factors of expediency (such as keeping mills alive) than I was able to make.

There is possibly a doubt about the advisability of such sales as at Radnor on the Stillwater (Blackfeet Forest). Here we are getting a very low stumpage (\$1.50) for larch veterans which are not deteriorating, without the same prospect for desirable reproduction as exists on most sales of both yellow and white Pine. Even if the lodgepole understory is not augmented and defect causes the White Fir understory to give way to the spruce, both of which appear partly problematical, we do not end up with an outstandingly desirable silvicultural result. While the immediate waste is less than in White Pine sales, it is rather disconcerting to accept a driving loss on timber along the right of way of a transcontinental railroad.

Ten years might give this larch enough value to allow of cleaning out part of the White Fir and lodgepole, forcing railroad logging, and preventing so much of the clear material from going into ties.

I bring up this sale to ask rather than answer a question in the relation of utilization to management. It is possibly a borderline case. I had no opportunity of weighing local expediency factors, or of learning the relation of this sale to the management plan as a whole.

(c) Management Plans and Their Effect on Conditions of Utilization

River Logs

The outstanding example of how the management plan can in some degree create its own conditions of utilization is the successful effort of the District to sell its timber on a railroad instead of a river-driving basis. This is one of the most substantial accomplishments in the direction of good forestry that I have seen.

The mill wastes incident to driving (physical loss of logs, qualitative deterioration, and slow turn over) have been so clearly set forth by the District that there is no need to repeat them here.

In addition there is a heavy woods waste due to driving which the prospective<sup>1</sup> woods studies will quantitatively determine. The Beardmore sale on the Thorofare (Kaniksu) is an

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<sup>1</sup>The mill study has been completed by Fullaway's office and the results are now being analyzed. A woods study is to follow next year.



example. It was estimated that all the merchantable hemlock trees and 30 per cent of the larch trees were long-butted for driving, over and above the long-butting necessary to avoid shake, and these species constituted 10 and 12 per cent respectively of the sound stand by volume. This long-butting for driving is a big waste, the magnitude of which is unknown. The need for determining the extent of this and other waste is covered under "Waste Tables," page 12.

The Priest River drainage is one of the exceptions where it does not appear feasible to force a railroad. It seems to me that a special appropriation for a railroad might be thinkable. Of course the unreasoning prejudice against any and all governmental railroad projects will be a heavy handicap. It seems too bad though to foist a driving waste not only upon the present, but likewise upon future crops of timber.

The influence of the Districts anti-driving policy is plainly discernible even among private operators. One mill even apologized for railroad logs held too long in the log pond. The whole idea is going across rapidly.

Driving wastes not only timber, but other forest values. It deteriorates the recreational value of streams, especially where splash dams are used. It means dams on lakes and partial to complete deterioration of their recreational value. Streams and lakes are the heart of any country, and their sacrifice, even for the sake of getting out timber, is ultimately a matter of consequence. This region has not yet felt the effects of crowding in the use of recreational resources; one stream or lake

more or less seems a small matter at this time; but there will come a sharp end to this condition of affluence.

Is it not possible that this issue of river driving is only one of many ways in which management will ultimately create its own conditions of utilization? If so, what are the other ways and what can be done about them?

Possibly this question strikes very near the heart of our present problem. Possibly the inevitable pre-occupation of products men with the immediate job of analyzing economic conditions prevents us from thinking far ahead in terms of management plans.

It is physically impossible for products specialists to take a hand in the formulation of the management plan for every National Forest, but it may be possible to disseminate more widely among National Forest officers some of the broader conceptions of utilization in relation to forestry. I found the timber sale men and Supervisors quite familiar with the results of the economic studies conducted by the local products office and in some instances those conducted by the Laboratory, but much less familiar with the more general ideas that tie these things in with forestry.

Correlation of industries is, of course, one of the ways in which utilization may be influenced by the management plan. Unfortunately pulp and paper, the industry for which there appears to be poorest chance, is the one that has received the most attention. Even if a pulp mill were established, it

would probably use mostly spruce for newsprint and thus be a primary consumer of new forests rather than a secondary consumer of wastes from forests already being operated. The latter represents the greater need.

Fullaway's proposed intensive Survey of Secondary Industries will furnish a basis of fact for arriving at the possible expansion of such plants. It seems likely that there may be room for more box plants, and more cut-up plants for millwork parts or other ready cut stock. Somebody might be induced to specialize in treated millwork, which would tend to command a special market. This idea, by the way, was unfamiliar to the District. If it will work anywhere, it ought to work in this region.

The outlook for hydrolysis or distillation plants can best be covered by Dr. Hawley during his forthcoming trip.

#### Management Area

Here is one additional thought bearing on the correlation of management plans and utilization: The stand in the western part of the District will always be mixed, and there will always be some differential in the value of species and hence in their utilization. The higher the cutting areas are pushed up the slopes the greater the differential will become. With a given amount of effort and money to invest in timber growing, does this not indicate an intensification of forestry on the easier country and richer and more easily protected sites, as distinguished from scattering the same effort and money over a larger and poorer area?

(d) Technical Analyses of Woods, Mill,  
and Marketing Practice

These studies are of course a necessary basis for action on the preceding subjects.

The Mill Study conducted last summer speaks for itself. My impression is that it is yielding results of extraordinary value, and what is more, those results are being acted upon.

If the proposed Woods Study, the Secondary Industry Study, and the Little-used Species Studies can be made equally successful, they will combine to actually exert a profound influence on forestry and industrial practice in the region.

I have only two specific suggestions to offer on this work:

Kiln Drying

Kiln drying will doubtless be one of the means for improving outlets for little-used species, especially larch for flooring or other interior uses. The Kiln Drying Survey conducted in 1922 evidently resulted directly in big improvements, including the employment of Herman by the W. P. M. A. All this would seem to furnish an excellent foundation for a special drive on that part of the little-used species problem to which kiln drying is the key. Both the Laboratory kiln men and Herman should be available for this work.

Waste Tables

In White Pine stands there is such a big spread between the gross volume of stands and sound material actually used that

Forest Officers, for the conduct of daily business, naturally tend to think in terms of the latter only.

In one sense, however, gross volume more accurately reflects the productivity of the land and to that extent gives a better picture of future forestry. Moreover, the intelligent weighing of waste and defect as a factor in the advisability of sales requires a quantitative determination of both, at least in representative cases.

In other words, a realistic picture of waste is a necessary part of our mental equipment for handling the white pine type in such a way as to ultimately reduce waste.

The following is a hasty and possibly not entirely accurate summary of an average acre on the Marten Creek Sale. This sale represents the extreme of defective hemlock and over-mature pine.

Average Acre. Marten Creek Sale, Cabinet								
Species	Live	Standing	Woods	Cull	Cull	Sound	Seed	Gross
			Girdled	Cut Down	Scale	Scale	Frees	Volume
White Pine:	X		X	900	1600	6500	?	9000 ft.
Hemlock &								
Other mixed:	?		?	19,900?	3600	6500	X	30000
Total	?		?	20,800	5200	13000	?	39000

Such utilization "sample plots" showing each species separately and possibly present graphically instead of in figures, if possible with some indication of the grade of material lost and with mill and river losses added on, would, I think,

help greatly to visualize the utilization problem in the daily thinking of timber sale men.

The proposed woods study will be the appropriate time to devise means of such graphic expression of utilization results.

There is an interesting parallel between this proposal and the history of Diary Analysis. Until the districts began to devise means of tabulating or graphing the results of Diary Analysis, nobody made any. We read diaries, but had no standards as to what constituted good time distribution. The whole subject was lost in a fog of generalization. But when time distribution sample plots began to be graphed, everybody began to think profitably on the subject. We didn't need any formal standards. The mere ability to visualize the subject set its own standards and stimulated improved practice.

(e) Private Lands

Over-exploitation of private holdings is of course a primary cause of the market conditions which in turn necessitate waste on the National Forests. This interlocking relationship affects the National Forests not only through markets, but also through fire and through the attitude of the public toward forests.

Koch doubts whether much private forestry will precede the exhaustion of the virgin timber. This view is doubtless based on good evidence, but may it not likewise be doubted whether forestry will follow the exhaustion of the virgin

timber? Even a 10 cent tax and a 5 cent holding charge for administration and fire looks small compared with a ten dollar planting cost.

I, of course, had no time to go into this large subject. I simply want to contribute the following scattered points:

- (1) I saw no evidence for agricultural use except the few areas that seem to grow clover and the few locations apparently good for orchards.
- (2) Have we made the most of the indication that sawlog cuttings may begin at 60 years in good pine sites? (Priest River got 9000 feet out of the first thinning, and Bradner's studies indicate that in these small logs soundness compensates for lack of clear material.)
- (3) Neither labor nor equipment costs are liable to come down. Stumpage cannot go up indefinitely without encountering a "law of diminishing returns" in the form of competition of substitutes. How far must stumpage go up to support private forestry in north Idaho? At what point will it encounter serious substitution? These questions are surely subject to rough determination. If stumpage must go up so far

as to bump into wholesale substitution, then we had as well face the choice between public acquisition or public subsidization now as some time in the future, and avoid the intermediate progress of devastation.

(f) List of Items for Cooperation by P. R.

Shoemaker, Fullaway, and myself tried to draw a list of points on which P. R. could cooperate in accordance with the policy announced in Col. Greeley's letter of June 24.

The list follows. Not all of us agreed about each item. We all did agree that the letter of June 24 calls for something more than mere publicity.

1. Outlets for Little-Used Species. While the Products Offices must remain the principal agency for reaching the industries, P. R. can perform an important function in giving the general public, especially the local public in the producing regions, an understanding of this problem.

2. Reaching Bankers. The influence of banking interests in promoting forestry in the South leads to the thought that the adoption of improvements in utilization could be hastened by the same method. For instance, if the results of our economic studies on air seasoning and river logs are sound, then they certainly affect the financial soundness of a company which adopts or rejects them.

Planting these ideas with bankers is probably a matter for the District Forester in person, but might properly be delegated to P. R.



3. Sources of Logs. On account of the great distances between woods and mill, I doubt very much whether the average citizen knows where the logs come from that feed the mill in his hometown. This is a chance to demonstrate the sequence and meaning of utilization processes from woods to final product. Movies, slides, exhibits, and all the ordinary P. R. tools could be used for this.

4. Reference Texts. Shoemaker suggests the Laboratory compile a list of reference texts suitable for High School Students writing essays or theses on "Uses of Wood." His idea is that P. R. would see that the schools get such reference material and that they make use of it.

5. Manual Training. There is doubtless some way to reach manual training classes with information on the properties and uses of local woods and such points as seasoning, moisture content, etc.

6. Yield Studies. It is doubtful whether either timberland owners or the public are aware of these two new findings of research and their relation to private forestry.

- (a) Results of White Pine thinnings at Priest River (9000 feet taken out at 60 years). These thinned trees were around 14 inches D. B. H.
- (b) Results of grade yield studies showing that these small logs are just as valuable as large ones because the overrun and lack of defect offsets the smaller proportion of uppers.

Taken together, these two findings indicate a short cutting cycle yielding thinnings of high value. The bearing of this on private forestry needs to be advertised.

7. Defect and Fire. This would be a good "topic" for American Forest Week, especially as applied to the Larch-Fir-W.Y.P. type. Last year's mill scale study gives the figures. A little interpretation applied to these figures would yield a "story" infinitely superior to the fire propaganda usually available.

(g) Miscellaneous Points of Interest to:

Point:

- Pres. Whitney's Laboratory Contacts. Has not been at Laboratory for 4 years and no preservation man has been in Missoula for 6 years. This looks too long.
- Pres. Open Tank Outfit. Whitney would like to have the Laboratory get out a design and specifications for an open tank outfit intermediate between the makeshift "oil drum" outfit and the more elaborate one given in Bulletin 744. Design should include firebox and foundation.
- D-1. Mill Study Bulletin. The results of Bradner's  
Mr. Clapp Mill Studies seem too valuable to publish merely  
I.I. as Trade Journal articles. The Lake States Study is to be put in Bulletin form. Should not this work also?

- W. T. Spiral Grain. Koch says White Pine, white-  
T. M. barked pine, and W.Y. Pine spiral usually  
from right to left, while larch and Douglas  
fir spiral usually left to right. This was  
plainly true in the trees I saw. It might  
have considerable significance in helping ex-  
plain other points in structure, physiology,  
and genetics.
- W. T. Compression Wood is very common in Blue spruce  
leaning over streams, Carter says.
- T. P. Thermo-Conductivity of Wood. Dean M. F. Angell  
D. P. (Fire) of the University of Idaho is working on this,  
under different moisture contents and various  
stages of decay.
- T. P. Insulation Tests. Herman of W. P. M. A. is  
said to have tested heat losses from various  
constructions.
- Mr. Clapp Nomenclature. The latest policy concerning  
check lists vs. American Lumber Standard nomen-  
clature, sent the Laboratory under date of April  
6, 1926 (Supervision Nomenclature) evidently  
was not sent the D-1 Products Office, or else  
went astray.
- Expt. Sta. Physiology. Dean Spaulding says Assistant Pro-  
W. T. fessor J. M. Severy of the U. Of M. might be  
interested in taking on physiological work

bearing on forestry. I was not able to verify his competence for such work.

W.T. Stains for Ring Counts. W. W. White of Forest  
D.P. Management says a stain is needed to accentuate  
Expt.Sta. the visibility of summer wood in slow growth increment borings. Coal oil has been used but is unsatisfactory. Such a stain would work well with the new Dunning rule for reading increment cylinders. I told White the Laboratory would write him about this.

D. P. Tannic Acid. Carter suggests if tannin from western hemlock can not compete in the present forms and uses, what about looking for a new form or a new use? Could it be shipped or used in dry form? Could new outlets be developed? This would give a value even to the "waterpipe" trees that consist mostly of bark and dete.

W. T. Match Substitutes. Is there even a remote possibility of changing the properties of White

T. M. Fir on other little-used species so that they

I. I. could be used with White Pine for matches?

T. P.

D. P. Eureka Masic Acid plant was shut down for repairs but expected to reopen in August. Pay-

I. I. ing \$4.00 per cord for split larch butts. Did not look prosperous.

T. M.

White Pine Timbers. There are many sound bug-killed snags, part of which seem to be no worse checked than a seasoned timber would be. Could such material possibly move as structural timbers in 16 ft. lengths? (Lengths over 16 ft. not movable by present logging methods.)