

*Clawson*

RANCHITA RANGE STUDY Annual Progress Report - 1973

Activity on the Ranchita Range Study was limited to occasional "show me" tours and observations. No measurements of permanent plots were made because the Range Improvement Forester's position was vacant until August.

The lease agreement expires in February 1974, and the new landowner has been contacted regarding extending the lease for another five year period.

No cultural or range improvement operations were carried out during this year, but the grazing trials were continued. Table #1 summarizes the grazing procedures and Table #2 summarizes the grazing results.

If a new five year lease can be negotiated, 1974 may be a busy year for the study. The grazing trials will continue, photo records will be updated, remeasurement of vegetative composition and density will be conducted and plans to conduct additional conversion work on Plot #2 will be formulated.

Any additional conversion attempts on Plot #2 will try to demonstrate pre-burn techniques which will reduce air pollution resulting from burning operations. "Ball and Chain" and chemical desiccation techniques may be used.

*Gerald E. Ranger*  
GERALD E. RANGER  
Forester II

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Att

cc: A. McReynolds  
W.H. Weitkamp  
M. Dodge 2  
T. Waddell  
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Grazing Procedures-Table #1

<u>Year</u>	<u>Plot No.</u>	<u>No. Head</u>	<u>Date on</u>	<u>Date off</u>	<u>Days Grazed</u>	<u>Average Weight on</u>	<u>Average Weight off</u>
1962	1	17 a	Mar. 21	Apr. 20	30	531	630
	2	13 a	Mar. 21	Apr. 20	30	510	593
	1	17 a	Aug. 15	Oct. 1	46	667	721
	2	13 a	Aug. 15	Oct. 1	46	670	710
1963	1	19 b	Apr. 15	Aug. 5	111	572	748
	2	12 b	Apr. 15	Aug. 5	111	578	742
1964	1	18 a	Feb. 14	May 16	91	654	766
	2	12 a	Feb. 14	May 16	91	617	739
1965	1	30 c	Jan. 20	Mar. 18	57	372	449
	2	30 c	Mar. 18	June 2	75	449	560
	1	30 c	June 2	July 21	49	560	604
	1*	30 b	Nov. 11, 1965	Mar. 17, 1966	126	463	482
1966	2**	20 b	Feb. 3	May 15	100	286	326
1967	1	20 b	Feb. 2	Feb. 25	23	428	469
	1	10 b	Feb. 25	May 2	66	450	612
	1	23 b	May 2	May 19	17	606	633
	2	6 b	Apr. 10	May 19	39	566	630
	3	15 b	Feb. 2	Feb. 25	23	438	503
	3	25 b	Feb. 25	May 2	66	498	602
	3	12 b	May 2	May 19	17	602	638
	4	77 b	Nov. 20	Nov. 29	9	556	548
1968	1	25 b	Mar. 1	May 3	62	438	527
	2	10 b	Mar. 1	May 3	62	450	545
	3	25 b	Mar. 1	May 3	62	418	531
	4	30 b	Apr. 3	May 3	30	503	552
1968-69	1*	30 b	Dec. 12, 1968	Mar. 13, 1969	97	323	417
	1	15 b	Mar. 13	June 2	81	420	577
	2	10 b	Mar. 13	June 2	81	405	542
	3*	30 b	Dec. 6, 1968	Mar. 13, 1969	97	348	448
	3	15 b	Mar. 13	June 2	81	453	614
	4*	25 b	Dec. 6, 1968	Mar. 13, 1969	97	334	404
1970	1	25 b	Apr. 1	June 3	63	678	764
	2	7 b	Apr. 1	May 1	30	427	499
	2	5 b	May 1	June 3	33	499	562
	3	25 b	Apr. 1	June 3	63	470	606
	4	25 d***	Apr. 1	May 1	30	332	379
1971	1	25 b	Feb. 1	Mar. 3	30	322	381
	1	25 b	Mar. 3	Apr. 1	29	381	425
	2	10 b	Apr. 1	May 5	34	411	453
	2	10 b	May 5	May 31	26	453	493
	3	25 b	Feb. 1	Mar. 3	30	303	349
	3	25 b	Mar. 3	Apr. 1	29	349	407
	3	25 b	Apr. 1	May 5	34	407	462
	3	25 b	May 5	May 31	26	462	504
	4	25 b	Feb. 3	Mar. 3	28	310	370
	4	25 b	Mar. 3	Apr. 1	28	370	420
	4	25 b	May 5	May 31	26	460	507
1972	1	20 b	Feb. 23	Apr. 3	40	541	640
	2	5 b	Feb. 23	Apr. 3	40	500	600
	3	25 b	Jan. 17	Apr. 3	77	497	655
	4	15 b	Feb. 23	Apr. 3	40	567	673

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Grazing Procedures-Table #1 cont'd

Year	Plot No.	Head	Date on	Date off	Days Grazed	Average Weight on	Average Weight off
1973	1	25 b	Jan. 1	Apr. 20	110	303	467
	2	10 b	Jan. 1	Apr. 4	94	302	445
	3	25 b	Jan. 1	Apr. 20	110	301	454
	4	20 b	Jan. 1	Apr. 20	110	302	446

Footnote: a = replacement heifers, b = steers, c = mixed, and d = calves  
 \* Includes winter grazing  
 \*\* Weights estimated  
 \*\*\* Many of calves in this group were sick during the grazing period

Grazing Results - Table #2

Plot #1 (45 Converted Acres) *(54 ac. total including 9 originally grass)*

Year	Total Production		Production/Acre	
	Pounds Beef	A.U.M.'s	Pounds Beef	A.U.M.'s
1962	2,600	27.6	57.8	.61
1963	3,350	47.5	74.4	1.06
1964	2,020	38.2	44.9	.85
1965	3,620	51.0	80.4	1.13
1966	630	59.5	14.0	1.32
1967	3,050	21.7	67.8	.48
1968	2,230	24.9	49.6	.55
1969*	5,170	56.1	115.0	1.25
1970	2,130	38.8	46.7	.86
1971	2,548	18.5	56.7	.41
1972	1,990	15.8	44.2	.35
1973	<u>4,101</u>	<u>35.4</u>	<u>91.1</u>	<u>.79</u>
	33,439	435.0	742.6	9.66

Plot #2 (50 Converted Acres) *(65 ac. total including 15 originally grass)*

1962	1,600	21.2	32.0	.42
1963	1,970	28.8	39.4	.58
1964	1,470	24.6	29.4	.49
1965	3,330	38.8	66.6	.78
1966	800	20.2	16.0	.40
1967	390	4.7	7.8	.09
1968	950	10.3	19.0	.27
1969	1,370	12.8	27.4	.26
1970	815	6.1	16.3	.12
1971	820	8.8	16.4	.18
1972	500	3.7	10.0	.07
1973	<u>1,430</u>	<u>8.6</u>	<u>28.6</u>	<u>.17</u>
	15,449	188.6	308.9	3.83

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 Grazing Results - Table #2 cont'd

Plot #3 (25 Converted Acres) *(34 ac. total including 9 originally grass)*

Year	Total Production		Production/Acre	
	Pounds Beef	A.U.M.'s	Pounds Beef	A.U.M.'s
1967	2,963	29.4	118.0	1.2
1968	2,820	24.6	83.0	1.0
1969*	3,993	44.3	155.0	1.72
1970	2,506	28.3	100.2	1.13
1971	3,682	40.3	147.5	1.61
1972	2,890	27.2	115.6	1.09
1973	<u>2,808</u>	<u>29.2</u>	<u>112.3</u>	<u>1.17</u>
	21,662	223.3	831.6	8.92

Plot #4 (50 Converted Acres 1967 - 35 Converted Acres 1968)

1967	630	12.8	-12.6	.3
1968	730	7.9	20.8	.2
1969*	1,760	29.8	50.3	.9
1970	1,160	8.7	33.1	.25
1971	3,880	27.4	110.8	.78
1972	1,590	16.6	45.4	.47
1973	<u>2,870</u>	<u>25.2</u>	<u>82.0</u>	<u>.5</u>
	11,360	128.4	329.8	3.4

\*Includes winter grazing in 1968

Calculated net gains were based on actual acreage converted. Since 9 acres of Plot #3 were grassland prior to conversion, the total effective grassland area in Plot #3 is 34 acres. Assuming equal productivity of both converted and original grassland, the total gains were reduced by 9/34ths.

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Investment - Returns - Table #3

Year	Improvement Cost/Acre	Estimated Return/Acre *	Percent Recovered on Investment
Plot #1 1962	\$39.91	\$7.06	17.7
1963	-	9.24	40.7
1964	9.34	3.92	41.2
1965	-	9.75	60.7
1966	-	1.69	64.3
1967	9.63	8.23	67.7
1968	-	6.02	77.9
1969	-	14.38	102.4
1970	-	5.17	111.2
1971	2.22	10.21	123.8
1972	-	8.58	137.9
1973	-	17.68	166.8
	<u>\$61.10</u>	<u>\$101.93</u>	
Plot #2 1962	\$31.77	3.88	12.2
1963	-	4.78	27.2
1964	-	2.56	35.3
1965	-	8.07	60.8
1966	-	1.94	66.8
1967	-	.95	69.7
1968	-	2.30	77.2
1969	-	3.43	87.9
1970	-	2.50	95.7
1971	-	2.95	105.0
1972	-	1.94	111.1
1973	-	5.54	128.5
	<u>\$31.77</u>	<u>\$40.84</u>	
Plot #3 1967	\$79.79	14.83	18.6
1968	8.05	10.38	28.3
1969	6.67	19.38	47.2
1970	-	12.16	60.0
1971	-	26.55	88.1
1972	-	22.42	111.8
1973	-	21.78	134.9
	<u>\$94.51</u>	<u>\$127.50</u>	

Plot #4 (50 Converted Acres 1967 - 35 Converted Acres 1968)

1966-67-68	\$70.36	No significant returns because of inability to conduct grazing trials properly.	
1969	8.57	6.06	7.7
1970	-	4.02	12.8
1971	1.11	19.44	36.9
1972	-	8.80	47.9
1973	-	15.80	67.6
	<u>\$80.04</u>	<u>\$54.12</u>	

\* Return - Production weight - 3% x average price

(\$12.50/cwt - 1962, 1963, 1965 and 1966  
 9.00/cwt - 1964  
 18.00/cwt - 1971  
 20.00/cwt - 1972 and 1973

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Itemized Chargeable Costs on Ranchita Project \*\*  
Based on Actual Expenditures for Materials, Equipment & Labor\*

Plot #1 (45 Converted Acres)			Plot #2 (50 Converted Acres)		
Brush Crushing	Feb 1960	47 acres @ 4.37=205.39	Feb 1960	48 acres @ 4.37=209.76	
Fire Line Construction	Feb 1960	54 acres @ 1.48= 79.92	Feb 1960	65 acres @ 1.48= 96.20	
Oak Tree Treatment	-	-	Feb 1960	155 each @ .10= 15.17	
Oak Tree Removal (Bulldozing)	-	-	-	-	
Brush Disking #1	-	-	-	-	
Brush Disking #2	-	-	-	-	
Burning	Oct 1960	54 acres @ 1.92=103.68	Oct 1960	65 acres @ 1.92=124.80	
Drill Seeding	Nov 1960	24 acres @ 14.38=345.12	Nov 1960	10 acres @ 14.38=143.80	
Manual Seeding	Nov 1960	15 acres @ 7.57=113.55	Nov 1960	19 acres @ 7.57=143.83	
Herbicide Spraying	May 1961	50 acres @ 9.57=478.50	May 1961	60 acres @ 9.57=574.20	
Follow-up Spraying #1	May 1962	39 acres @ 3.67=143.13	May 1962	29 acres @ 3.67=106.43	
Follow-up Spraying #2	Apr 1964	32 acres @ 3.61=115.45	-	-	
Follow-up Spraying #3	May 1967	40 acres @ 5.83=233.25	-	-	
Legume Over-seeding	Dec 1961	40 acres @ 5.47=218.80	Dec 1961	29 acres @ 5.47=158.63	
Erosion Check Dams	Dec 1961	7 each @ 9.30= 65.10	Dec 1961	1 each @ 9.30= 9.30	
Cleaning Check Dams	Dec 1962	7 each @ 6.12= 42.84	Dec 1962	1 each @ 6.12= 6.12	
Fertilization #1	Dec 1964	32 acres @ 9.53=304.91	-	-	
Fertilization #2	Nov 1966 and Jan 1967	20 acres @ 10.00=200.00	-	-	
Fertilization #3	Feb 1971	10 acres @ 10.00=100.00	-	-	

TOTAL COSTS	\$2,749.64	\$1,588.24
AVERAGE COST PER ACRE	\$61.10	\$31.77

\* Equipment and Labor costs based on GDF reimbursement rates; AGC rates used when GDF rates could not be applied.

\*\* Figures same as 1969 since no work was done on project during 1970.

Itemized Chargeable Costs on Ranchita Project  
Based on Actual Expenditures for Materials, Equipment & Labor

Plot #3 (25 Converted Acres)			Plot #4 (50 Converted Acres 1967) (35 Converted Acres 1968)		
Brush Cracking	-		Jun 1966	26 acres @ 20.23=	\$525.96
Fire Line Construction	Oct 1965	25 acres @ 2.52=	Oct 1966	50 acres @ .88=	\$63.12 44.16
Oak Tree Treatment	-		-	-	
Oak Tree Removal (Bulldozing)	-		Jun 1966	50 acres @ 16.66=	832.77
Brush Disking #1	May 1965	25 acres @ 20.26=	Jun 1966	24 acres @ 24.31=	506.40 583.35
Brush Disking #2	Oct 1965	25 acres @ 18.78=	Jan 1967	24 acres @ 11.29=	469.50 270.99
Burning	Oct 1965	25 acres @ 2.84=	Oct 1966	50 acres @ 3.70=	71.12 184.88
Drill Seeding	Oct 1965	25 acres @ 12.66=	Jan 1967	24 acres @ 11.78=	316.47 282.72
Manual Seeding	-		Nov 1966	26 acres @ 4.91=	127.66
Herbicide Spraying	May 1967	25 acres @ 8.78=	May 1968	10 acres @ 12.34=	218.50 123.42
Follow-up Spraying #1	May 1968	25 acres @ 8.05=	Jun 1968	25 acres @ 11.99=	201.21 299.86
Follow-up Spraying #2	-		-	-	
Legume Over-seeding	-		-	-	
Erosion Check Dams	-		Jul 1966	3 each @ 14.74=	44.22
Cleaning Check Dams	-		Nov 1967	2 each @ 13.79=	27.59
Fertilization #1	Nov 1966	28 acres @ 12.49=	Nov 1966 and Jan 1967	24 acres @ 17.38=	349.63 417.20
Fertilization #2	Dec 1969	10.5 acres @ 15.85=	Feb 1971	5 acres @ 7.75=	166.95 38.75
<b>TOTAL COSTS</b>					<b>\$2,363.90</b>
<b>AVERAGE COST PER ACRE</b>					<b>\$94.51</b>
					<b>\$3,903.53</b>
					<b>\$80.04</b>

\* Equipment and labor costs based on CDF reimbursement rates; AGC rates used when CDF rates could not be applied.