

FERRES
Plot 4

Plot 4 Halls Flat

Date Aug. 8, 1940
Examiner ALH

Bitterbrush (*Parshia tridentata*) Life history data

3.3 feet wide x 13 chs long

① Forest Lassen ② Locality Halls Flat ③ T 33N E 6E S 24 ④ Transect No 1

⑤ Strip A, B. ⑥ Range type Timber ⑦ Mammal interior, ⑧ Grazed by S, C, D.

⑨ Condition Utilization ⑩ Pt Density L M H ⑪ Aspect S

Range G P P N L M H

Shrubs G P P N L M H

Herbs G P P N L M H

⑫ Slope 3 % ⑬ Soil type Loam

⑭ Distance from water

Plant No

	1	2	3 AB	4	5	6	7	8	9	10
⑮ Height (inches)	14	8	10	12	8	14	6	4	3	6
⑯ Diameter "	30	8	10	14	14	24	8	3	3	6
⑰ Shape (1, 2 or 3)	1	1	2	1	1	1	1	1	1	2
⑱ % crown dead	10	75	10	5	75	75	2	0	50	30
⑲ Seed formation (NL M H)	N	N	N	N	N	N	N	N	N	N
⑳ % utilization	90	90	60	90	90	60	80	50	75	50
㉑ Util or injury	GAH 10% 10%	—	GAH 10% 20%	—	—	—	—	—	—	—
㉒ Chain	1			2			2			
No! Vol. factor (d ² x ht)	12600	512	1000	2352	1568	8064	384	36	27	216

not right
let it grow
act

	11 AB	12	13	14	15	16	17 AB	18 AB	19	20 AB
15 Ht	9	5	5	4	5	8	12	13	18	4
16 Dig	14	8	6	6	5	13	15	26	8	5
17 Shape	1	3	1	1	1	1	1	1	3	1
18 % cr. dead	50	60	70	10	2	40	15	10	2	1
19 Seed	N	N	N	N	N	N	N	N	N	N
20 % Util	85	20	80	90	90	90	90	90	0	0
21 Util or injury	—	—	—	—	—	—	GAH 10% 2%	—	GAH 10% 2%	—
22 Chain	2		2		3		3		3	
Vol. factor	1764	320	180	144	125	1352	2700	8788	1152	100

Shape



3

NONE
ON
CHAM
#6

[illegible]

Transect 1											
		51	52	53	54	55	56	57	58	59	60
15	Ht	8	7	4	9	10	10	12	10	8	4
16	Dia	12	14	5	14	9	4	14	18	12	6
17	Shape	1	1	1	1	2	3	1	1	1	1
18	% crdd	20	50	5	5	20	25	5	50	2	50
19	Seed	0	0	0	0	0	0	0	0	0	0
20	%util	90	90	85	90	70	40	90	90	90	50
21	utiloring	0	0	0	0	0	Gallus 80	Gallus 7	Gallus 7	Gallus 7	0
22	Chain	← 9								10	→
23	Vol. factor	1152	1372	100	1764	810	160	2352	3240	1152	144
24											
25		A12						ABC			
		61	62	63	64	65	66	67	68	69	70
15	Ht	8	5	8	4	4	10	6	14	5	7
16	Dia	14	5	11	4	2	10	10	34	5	9
17	Shape	1	2 ^{sage}	1	1	3 ^{JP}	2 ^{JP}	2	1	1	1
18	% crdd	30	10	5	30	80	20	10	50	25	5
19	Seed	0	0	0	0	0	0	0	0	0	0
20	%util	90	30	90	80	0	60	60	40	50	90
21	utiloring	Gallus	0	Gallus	0	0	0	Gallus 10	0	0	0
22	Chain	← 10									11
23	Vol. factor	1568	125	968	64	16	1000	600	16,184	125	567
24											
25								A13	A13	AB	AB
		71	72	73	74	75	76	77	78	79	80
15	Ht	5	3	4	4	4	5	4	4	6	8
16	Dia	8	3	4	12	3	11	9	3	10	18
17	Shape	1	2	1	1	2	1	1	2	1	1
18	% crdd	85	10	50	40	20	30	20	40	20	40
19	Seed	0	0	0	0	0	0	0	0	0	0
20	%util	0	0	90	90	60	30	90	20	90	80
21	utiloring	0	0	0	0	0	0	0	0	0	0
22	Chain	← 11					12			13	→
23	Vol. factor	320	27	64	576	36	605	324	36	600	2592
24											
25											

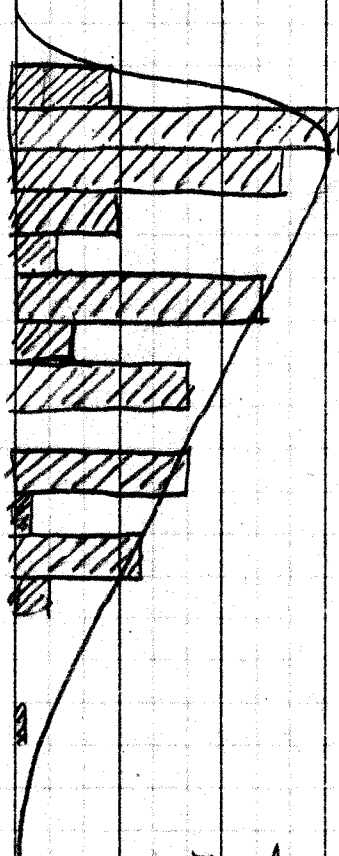
T. Av
 81
 8"
 11"
 17% 17% 4%
 28%
 none
 79%

Height

4	2		
16	3		
13	4		1
5	5		
2	6		
12	7		
3	8		
8	9		
	10		
	11		
8	12		
1	13		
6	14		
2	15		
	16		
	17		
1	18		
	19		
	20		
81			

Diameter

2		
4		
6		
8		
10		
12		
14		
16		
18		
20		
22		
24		
26		
28		
30		
32		
34		
36		
38		
40		



Cl.	No. plants	Tot. ht.	Tot. diam.	Tot. % covered	Tot. % utiliz.	Number	1	2	3
1	6	66	100	200	480	5	1	0	
2	10	55	72	264	710	8	1	1	
3	5	50	57	53	255	4	0	1	
4	3	28	37	105	260	3	0	0	
5	4	35	35	180	185	2	0	2	
6	none								
7	7	70	115	95	590	6	1	0	
8	13	110	145	300	1160	13	0	0	
9	10	75	78	370	575	5	1	4	
10	12	86	131	362	730	8	3	1	
11	5	23	36	190	270	4	1	0	
12	3	13	23	70	180	2	1	0	
13	3	18	31	100	190	2	1	0	
Total	81	629	860	2289	5585	62	10	9	
Ave.		7.8	10.6	28.3	68.95				

Shape	%
1	77
2	12
3	11

$$(1) \sum (d^2 \times g \times \text{util. \%}) = 114,424.40$$

$$(2) \sum (d^2 \times g) = 145,487$$

$$(1)/(2) = 78.7 = \text{ave. \% utilization}$$

A

Lassen

% crown dead distribution

% crown dead	f no. plants
0	4
1	1
2	4
5	9
10	10
15	3
20	10
25	7
30	7
40	6
50	10
60	2
75	2
80	4
85	1
90	1
Total	81 ✓

(See last of data
sheets for
additional
computations)

Distribution of diam.

Diam	f no. plants
1-6	28
7-12	26
13-18	19
19-24	3
25-30	3
31-36	2
	81 ✓

Nov. 2 1940

Alormay

Age Pt - ring counts

(assume 1 ring per year)

Lassen

Data collected Aug 8/41 Near Halls Flat 7 33N R6E S1T

No	Age	No	Age	No	Age
✓ 1	80 83	✓ 31	63 good count	61	54 ap. 52 ap. - poor count, rotten center, poor count, rotten center
✓ 2	52 52 ap. 28 ap. x	✓ 32	52 ap. 65 B x	✓ 62	30 29 Fair count rotten center
✓ 3	28 28 B x	✓ 33	60 69 Fair count	✓ 63	52 ap. 54 ap. - rotten center
✓ 4	34 37 good count	✓ 34	50 45 ap. poor count	✓ 64	24 27 good count
✓ 5	47 48 good count	✓ 35	47 47 poor count Rotten center	✓ 65	18 28 Fair Count
✓ 6	52 52 good count	✓ 36	21 18 good count	✓ 66	32 36 good count
✓ 7	28 37 good count	✓ 37	50 52 x	✓ 67	20 29 x good count poor count rotten center
✓ 8	28 29 good count	✓ 38	52 55 good count	✓ 68	62 65 24 ap. Fair Count
✓ 9	26 27 good count	✓ 39	67 66 poor count	✓ 69	59 60 good count
✓ 10	31 33 good count	✓ 40	66 65 Rotten center	✓ 70	31 34 good count
✓ 11	52 54 x	✓ 41	34 33 x 78 B	✓ 71	31 32 good count
✓ 12		✓ 42	48 48 poor count	✓ 72	29 28 good count
✓ 13	31 33 good count	✓ 43	34 29 33 29	✓ 73	21 20 ap. poor count rotten center
✓ 14	32 34 good count	✓ 44	50 50 52 ap. 52 ap. poor count	✓ 74	22 30 Fair count
✓ 15	26 30 good count	✓ 45	33 33 good count	✓ 75	21 22 Fair count
✓ 16	49 49 ap. poor count	✓ 46	30 30 good count	✓ 76	46 ap. 47 poor count rotten center
✓ 17	45 55 x (50 ap.)	✓ 47	33 36 good count	✓ 77	34 ap. 32 x good count
✓ 18	60 57 x (55)	✓ 48	18 21 Fair count	✓ 78	27 32 28 x Fair count
✓ 19	85 28 26 ap. poor count rotten center	✓ 49	31 31 good count	✓ 79	32 31 31 good count
✓ 20	38 33 x good count	✓ 50	17 24 Fair count	✓ 80	32 34 36 x good count
✓ 21	28 29 good count				
✓ 22	70 70 ap. poor count rotten center	✓ 51	45 52 ap. rotten center		
✓ 23	70 71 ap. poor count Rotten center	✓ 52	45 46 50 48 poor count		
✓ 24	34 32 Fair count	✓ 53	35 35 good count		
✓ 25	55 54 ap. poor count rotten center	✓ 54	33 34 x		
✓ 26	28 32 good count	✓ 55	36 39 good count		
✓ 27	37 40 37 ap. poor count	✓ 56	27 28 ap. good count		
✓ 28	34 40 good count	✓ 57	44 41 B		
✓ 29	55 57 good count	✓ 58	48 52 Fair count Rotten center		
✓ 30	34 37 good count	✓ 59	27 27 good count		
		✓ 60	32 36 good count		

These counts only approximate

66
13
198
66
858

3.3' x

Effect of close ^{cattle} grazing
on reproduction of
bitterbrush

Near Halls Flat Lassen N.F. Aug 8, 1941

Cattle Range

Transect 3.3' x 13 chains

Number of bushes 80
Av. ht of bushes 8"
Av. dia of bushes 11"
Percent current use 79
" " crown dead 78
Flower or seed production 0
Form of shrub.

1 77 %
2 12 %
3 11 %



Stem per crown	CROWNS	
	Number	Per cents
1	66	83
2	12	12
3	1	1
4	1	1
	80	100

17%

(B)

Nov. 2 1940
Hormung

Bitterbrush Lassen T33N R6E S24

Cattle grazing heavy - South of Halls Flat.

Note! Largest dia in tabulating each
rodent cache.

Dia	Stem	✓	✓	Max.	Stem	Max.	Stem	Max.	Dia
Inches	Number	Age	Diameter	Radius	Number	Age	Diameter	Radius	Inches
			m.m.	m.m.			m.m.	m.m.	
2.5	1	80	65	62	27	37	26 1.0	20	52B 46 18 18 1/2
1.0	2	52	27	27	28	34	18 1 1/2	15	53 35 17 14 1/2
1/2	3A	28	10	6	29	55	24 1.0	23	54A 33 19 10 1.0
1/2	3B	28	12	10	30	34	20 1.0	20	54B 34 25 15 1.0
1.0	4	34	27	15	31	61	35 1 1/2	32	55 36 30 18 1.0
1 1/2	5	47	40	26	32A	52	24 1.0	18	56 27 12 10 1/2
2.0	6	52	50	33	32B	65	42 1 1/2	35	57 46 32 23 1 1/2
1.0	7	28	25	17	33	68	46 2.0	25	
1/2	8	28	14	12	34	50	16 1/2	15	58 48 43 30 1 1/2
1/2	9	26	14	13	35	47	31 1.0	20	59 27 17 9 1/2
1/2	10	31	17	10	36	21	12 1/2	12	60 32 17 16 1/2
1.0	11A	52	25	19	37A	50	18 1/2	14	61A 50 35 35 1 1/2
1 1/2	11B	52	32	23	37B	50	15 1/2	14	61B 52 22 22 1.0
1/2	12				38	52	31 1.0	21	62 30 15 15 1/2
1/2	13	31	17	10	39	67	47 2.0	30	63 50 25 25 1.0
1/2	14	32	15	12	40	66	33 1 1/2	19	64 24 14 12 1/2
1.0	15	26	20	19	40-1	78	37 1 1/2	37	65 18 6 3 1/4
1 1/2	16	49	33	33	41A	32	15 1/2	11	66 32 16 14 1/2
1.0	17A	45	30	20	41B	28	12 1/2	11	67A 19 8 7 1/4
1 1/2	17B	55	42	38	42	48	40 1 1/2	23	67B 29 12 6 1/2
1 1/2	18A	60	33	24	43A	32	16 1/2	9	67C 24 9 5 1/4
1.0	18B	51	27	24	43B	29	8 1/4	7	68 60 50 28 2.0
1/2	19	25	15	8	43C	29	15 1/2	11	69 59 23 22 1.0
1/2	20A	30	15	13	43D	33	16 1/2	15	70 31 22 15 1.0
1/2	20B	31	17	17	44A	52	25 1.0	14	71 31 18 10 1/2
1.0	21	28	20	20	44B	50	32 1 1/2	32	72 29 13 13 1/2
1 1/2	22	70	32	30	45	33	20 1.0	12	73 20 8 8 1/4
1 1/2	23	70	40	22	46	30	12 1/2	11	74 23 15 8 1/2
1/2	24	32	12	12	47	33	23 1.0	14	75 21 10 5 1/2
1.0	25	55	25	20	48	18	11 1/2	6	76 46 22 22 1.0
1 1/2	26	28	10	8	49	31	7 1/4	7	77A 34 19 19 1.0
					50	17	8 1/4	5	77B 34 15 14 1/2
					51	45	27 1.0	25	78A 27 12 10 1/2
					52A	45	20 1.0	20	78B 25 13 9 1/2

November 2, 1940
A. L. Horney

Bitterbrush Lassen T33N R6E S24
Cattle grazing heavy - South at Halls Flat

Stem Number	Age	Max Dia mm	Max Radius mm	Diam inches
79A	32	17	15	$\frac{1}{2}$ }
79B	35	23	22	1.0 }
80A	32	26	26	1.0 }
80B	36	20	12	1.0 }

Data translated from orig. compilation
sheet - Nov 2, 1940

Jan 19/61
Hormay

Age of bitterbrush plants on heavily
grazed cattle range Near Halls Flat

Size of plant

T 33N R6E Section 24														
Plants cut and aged Nov. 2, 1940														
Plant No	Age	Year	Simple	Carke	Plant No	Age	Year	Simple	Carke	Plant No	Age	Year	Simple	Carke
	1	1940 1939 1940			49	31	9	I	I		61	79		
	2	38			26, 71	32	8	II	2		62	78		
	3	37			10, 13, 20 24, 41, 45	33	7	III	4 (2) 2	21	63	77	1	1
	4	36			14, 43, 70	34	6	II	2 (4) 1		64	76		
	5	35			53	35	5	I	I	32, 68	65	75	1	1 (2) 1
	6	34			47, 54, 60 66, 77, 80	36	4	III	3 (2) 2	39, 40	66	74	1	2
	7	33			71, 72, 77 30, 79	37	3	III	4 (2) 1		67	73		
	8	32				38	2				68	72		
	9	31			55	39	1	I	I		69	71		
	10	30			25	40	1900	I	I	22, 23 33, 23	70	70	1	3
	11	29				41	99				71	69		
	12	28				42	98				72	68		
	13	27				43	97				73	67		
	14	26				44	96				74	66		
	15	25				45	95				75	65		
	16	24				46	94				76	64		
	17	23			57, 76	47	93	I	I (2) 1		77	63		
36	18	22	1	1	5, 38, 42	48	92	III	3		78	62		
	19	21			16	49	91	I	I		79	61		
	20	20			34, 52	50	1890	I	I (2) 1		80	60		
48, 73, 75	21	19	III	3		51	89				81	59		
	22	18			58, 63, 75	52	88	III	4 (2) 1		82	58		
	23	17				53	87			1	83	57	1	1
50	24	16	I	I	11, 17, 18 44, 61, 63 15, 38	54	86	I	I (2) 2 (2) 2 5					
	25	15				55	85	II	2					
	26	14				56	84							
9, 59, 64	27	13	III	3	59	57	83	I	I					
78, 56, 3, 19, 65	28	12	III	4 (2) 2		58	82							
8, 21, 67	29	11	II	2 (3) 1		59	81							
15, 46, 62 61, 74	30	1910	III	5		60	1880							
Total			19	3				33	15				8	1
Grand Total						60	19	79				Total 79		
						76	24	100 %						