

Hubbard  
Ray  
7 Aug. 1952

Diameter of ~~some~~ Bitterbrush, ~~cut~~  
~~at~~ Grass Valley, California

P-1952

Outside of enclosure

Inside enclosure

Obs.	Diam. (inches)	Obs.	(inches) Diam.	Obs.	(inches)		Obs.	(inches)	
					Diam.	Inches Diam.		Diam.	Diam.
					Old	New		Old	New
1	19	26	20	1	35	53	26	17	35
2	26	27	20	2	35	54	27	13	31
3	21	28	60	3	42	61	28	18	37
4	40	29	40	4	30	45	29	18	41
5	20	30	36	5	38	45	30	12	32
6	15	31	30	6	40	58	31	12	34
7	50	32	60	7	32	55	32	22	49
8	27	33	30	8	35	60	28	19	36
9	31	34	35	9	40	50	34	18	47
10	17	35	32	10	33	55	35	24	51
11	17	36	35	11	40	62	36	18	43
12	45	37	28	12	30	50	37	13	32
13	32	38	20	13	26	50	38	18	32
14	36	39	40	14	23	48	39	26	51
15	20	40	36	15	28	45	40	17	39
16	53	41	45	16	20	43	41	22	45
17	35	42	28	17	22	48	42	10	28
18	23	43	36	18	19	40	43	19	43
19	46	44	43	19	20	50	44	15	39
20	32	45	22	20	26	50	45	23	57
21	28	46	24	21	18	52	46	15	34
22	27	47	35	22	20	45	47	21	52
23	60	48	35	23	17	29	48	21	47
24	28	49	22	24	11	23	49	25	82
25	23	50	14	25	25	40	50	32	70

771

826

705

1211

468

1087

1597  
31.9

5

1173

2298

23.5

46.0

69.50% - percentage crowns  
outside to crowns inside

(percentage old  
crown of new crown)

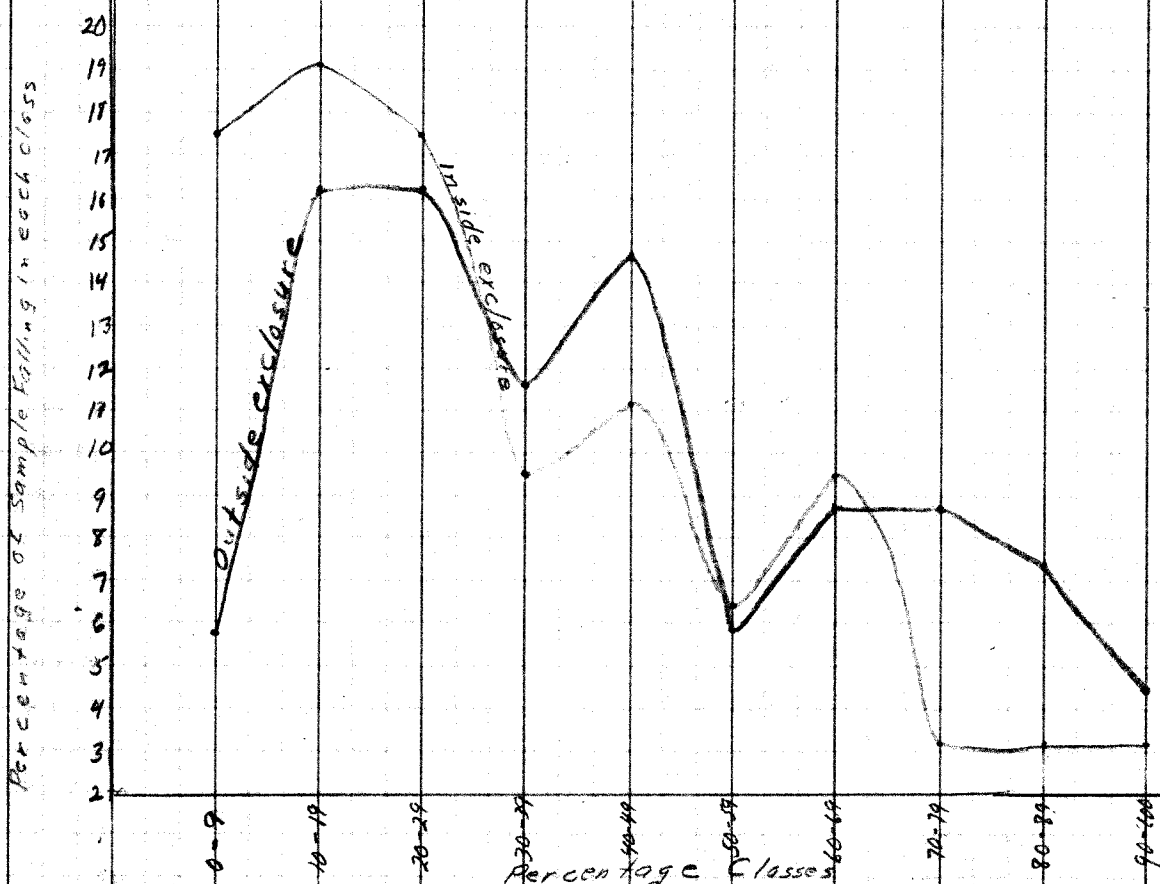
51.04%



19 August 1952  
R. Hubbard

Distribution by percentage Dead  
of Bitterbrush plants Inside and  
outside of Fenced Enclosure located  
in Grass Valley.

Percentage of Plant dead	Number* of plants within enclosure falling in each % class	Percentage of Total Sample Within enclosure falling in each class	Number* of plants outside of enclosure falling in each percentage class	Percentage of Total Sample outside enclosure falling in each percentage class
0-9	11	17.46	4	5.88
10-19	12	19.05	11	16.18
20-29	11	17.46	11	16.18
30-39	6	9.52	8	11.76
40-49	7	11.11	10	14.71
50-59	4	6.34	4	5.88
60-69	6	9.52	6	8.82
70-79	2	3.17	6	8.82
80-89	2	3.17	5	7.35
90-100	2	3.17	3	4.41
	63	100.0	68	100.0



\* Plants intercepted by 9-100' transects.

m

Amount of bitterbrush reproduction  
germinated 1933 to 1952 on plots

July 10/63  
Hermay

in 1952

Inside enclosure

Live plants in 1952

Year of germination	Age in 1952	Number		Total	Diameter (inches)	Per plant	Crown area sq "	Ht
		1941 stated	1960 Survey					
1936	17	15	72	27	11.0	95	297	114
1940	13	5	0	5	7.0	38	190	88
1941	12	30	20	50	7.0	38	1900	70
1943	10		20	20	6.0	28	560	
1945	8		5	5	5.0	19	95	
1947	6		4	4	4.0	12	48	
1949	4		20	20	3.0	7	140	
1952	1		48	48	"1.0"	1	48	
				<u>179</u>			<u>3278</u>	Ave 7.7 Ht.

Outside

Year of germination	Prob ger	No in 1944	No in 1960	Est No 1952
1936	143	63	5	12
1941	180	101	10	20
1943	18	13	8	10
				<u>42</u>

$$\begin{aligned}
 297 \times 114 &= 33858 \\
 190 \times 88 &= 16720 \\
 1900 \times 70 &= 133000 \\
 \hline
 2387 & \quad 183578 \\
 \text{Ave} &= 7.7
 \end{aligned}$$

Aug 2, 1952  
 C. W. ...  
 R. ...

Competition of Grass Valley Butterbush Plot

Browse Intercept Transsects (brush volume)										Grass Intercept Transsects (100 net Transsects)										
Plot	Area	Total Area	Area Intercepted	Area Intercepted %	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)	Area Intercepted (sq ft)
1	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	30	155385	465	0.30	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total																				
Percent of area ...																				
Total percentage of brush cover = 43.27																				
Percentages comparison with ...																				
Remains brush - known grass under brush = 40.00%																				
Adjusted (brush - grass under brush) percentage brush cover = 3.27%																				
Percent of area ...																				
Total grass intercept ...																				
Percent of brush ...																				
Total grass intercept ...																				

Percentages comparison with ...  
 Percent of area ...  
 Total percentage of brush cover = 43.27  
 Percentages comparison with ...  
 Remains brush - known grass under brush = 40.00%  
 Adjusted (brush - grass under brush) percentage brush cover = 3.27%

Total area = 465 sq ft  
 Total area = 465 sq ft