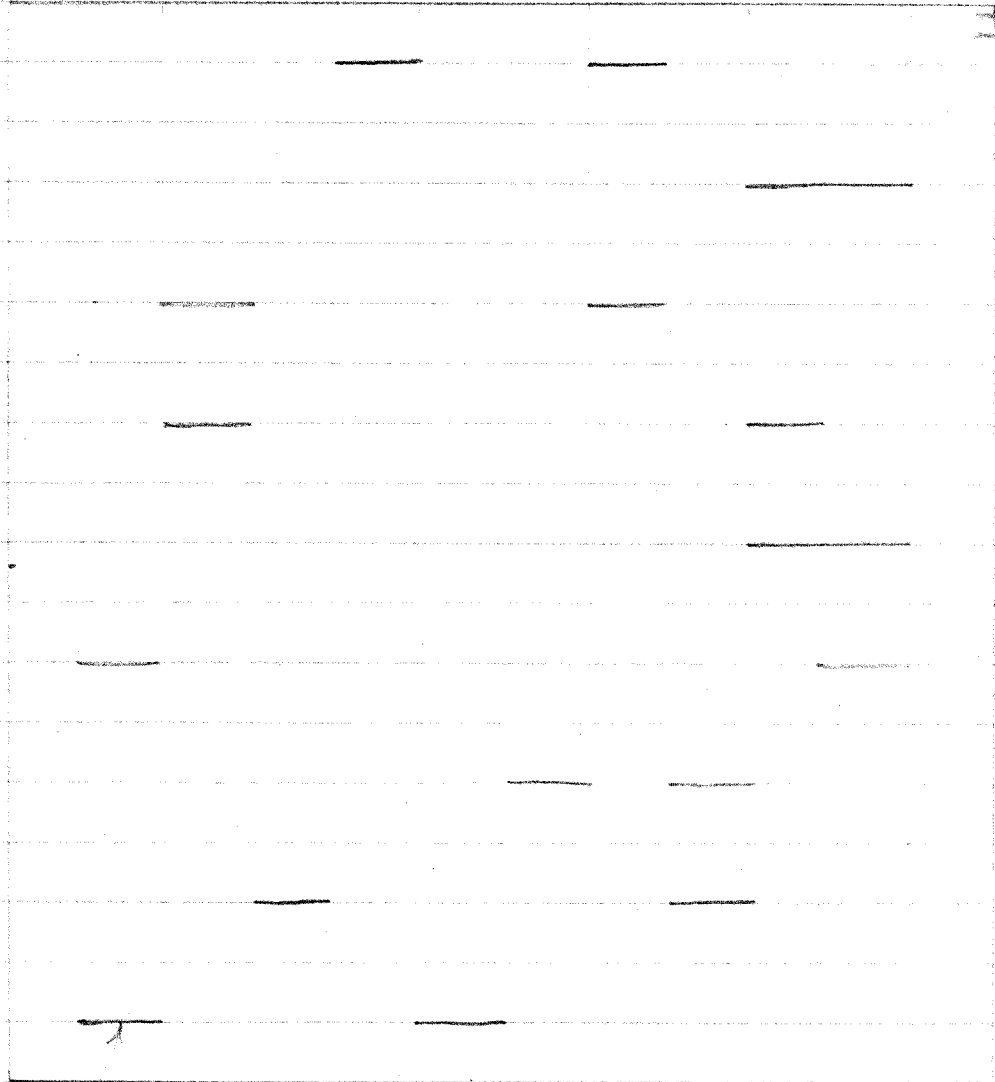


Composition-density

Dist. Aug. 1951
Grass Valley
Bitter River

Grass Valley Bitter River



1st story 100' line transect

location of
sectors
first transect

Shrub Transects

Grass forbs transects

Number = 9

Number = 18

Length = 100 feet

Length = 100 inches

Inside Enclosure

Interception transects for browse on
Grass Valley bitterbrush plot
Total of 17 transects

Aug 6, 1952

B Kay

R Hubbard

Species:	<i>Purshia tridentata</i>				<i>Artemisia tridentata</i>			<i>Chrysothamnus</i>			<i>Pinus ponderosa</i> (reprod)		
Number of transect	Intercept of live material	Intercept of dead material	Intercept of old crowns	total Intercept	Intercept of live material	Intercept of dead material	total Intercept	Intercept of live material	Intercept of dead material	total Intercept	Intercept of live material	Intercept of dead material	total Intercept
1	14	7	14	21	14		14		6	6	84*		84*
100' 0"	26			26	32		32						
	8			8	22		22						
	19			19	3		3						
		34		34	24		24						
	34	18	10	52	14		14						
	32	8		40		10	10						
	18	16		34	23		23						
	42	6		48									
	26	20		46									
	18	18	16	36									
	12		10	12									
	24	3	8	27									
	9	17		26									
	18	8		26									
Total	300	155	58	455	132	10	142		6	6	84*		84*
% of line	25.00	12.92	4.83	37.92	11.00	0.83	11.83		0.50	0.50	7.00		7.00
Number of plants	14	11	5	15	7	1	8		1	1	1		1

* Third story (limb free to 4 feet)

* Third story (limb free to 4 feet)

Interception Transects for Browse on Grass Valley Bitterbrush Plot

Aug 6, 1952

B. Kay
R. Hubbard

Species: <i>Purshia tridentata</i>					<i>Artemisia tridentata</i>			<i>Chrysothamnus</i>			<i>Pinus ponderosa</i>		
Number of Transect	Intercept of live material	Intercept of dead material	Intercept of old crowns	Total Intercept	Intercept of live material	Intercept of dead material	Total Intercept	Intercept of live material	Intercept of dead material	Total Intercept	Intercept of live material	Intercept of dead material	Total Intercept
3	13			13							32		32
100' 2"	29	28	19	57	11		11						
	3	3		6	4		4						
	25	12		37	15	4	19						
	32			32	5		5						
	42	18	33	60	8		8						
	12	3		15	18	36	54						
	26	6		32	29		29						
	5			5	16	14	30						
		10		10	4	16	20						
	19	11	18	30	24		24						
	25	12	20	37									
	33	14	18	47									
	32	6		38									
	1	34		35									
	30	20	35	50									
	6			6									
Total	333	177	143	510	134	70	204				32		32
% of line	27.75	14.75	11.92	42.50	11.17	5.83	17.00				2.67		2.67
Number of plants	16	13	6	17	10	4	10				1		1

Interception transects for browse on
Grass Valley bitterbrush plot.

Aug 6, 1952

B. Kay

R. Hubbard

Species: <i>Purshia tridentata</i>					<i>Artemisia tridentata</i>			<i>Chrysothamnus</i>			<i>Pinus ponderosa</i>		
Number of transect	Intercept of live material	Intercept of dead material	Intercept of old crowns	total Intercept	Intercept of live material	Intercept of dead material	total Intercept	Intercept of live material	Intercept of dead material	total Intercept	Intercept of live material	Intercept of dead material	total Intercept
15	42	20	40	62	4		4						
100' 0"	45	35	60	80	3		3						
	13			13	14		14						
	21			21	20		20						
	10	6		16		32	32						
	27	7	22	34	11		11						
	21	25	27	46	27		27						
	3	13		16	23		23						
	22			22	9		9						
	21	8		29	19	8	27						
					27	11	38						
					14		14						
					7		7						
					18		18						
					6		6						
						8	8						
Total	225	114	149	339	202	59	261						
% of line	18.75	9.50	12.42	28.25	16.83	4.92	21.75						
Number of plants	10	7	4	10	14	4	16						

Aug 2 1952

B. Kay

R. Hubbard

Intercepting transects for browse on
Grand Valley bitterbrush plot.

Species:	<i>Eurhynchium tridentata</i>				<i>Artemisia tridentata</i>			<i>Chrysothamnus</i>			<i>Pinus ponderosa</i>			
Number of in each	Intercept of live material	Intercept of dead material	Intercept of old crowns	total Intercept	Intercept of live material	Intercept of dead material	total Intercept	Intercept of live material	Intercept of dead material	total Intercept	total Intercept	Intercept of live material	Intercept of dead material	total Intercept
7	23	6	25	29	53		53	3		3	35			
100' 0"	5			5		9	9	3	5	8	20			
	5			5										
	23	23	19	46										
	12			12										
	10	28		38										
	37	6		43										
	8	21	20	29										
	44	19	27	63										
	31	21		52										
	5	5		10										
Total	203	129	91	332	53	9	62	6	5	11	55			
% of line Number of plants	16.92	10.75	7.58	27.67	4.42	0.75	5.17	0.50	0.42	0.92	4.58			
	11	8	4	11	1	1	2	2	1	2	2			
9	20	14	20	34				5		5	29			
99' 7"	23			23							42			
	17			17							33			
	4			4							35			
	22			22							65			
	8	12		20										
	11	12	12	23										775*
	7			7										
	24	6		30										
	44			44										
Total	180	44	32	224				5		5	204	775*		
% of line	15.06	3.68	4.35	18.74				0.42		0.42	17.01	64.85		
Number of plants	10	4	2	10				1		1	5	1		
* Third story (limb free to 4 feet)														

* Third story (limb
free to 4 feet)

Aug 7, 1952
R. Hubbard
B. Kay

Interception transects for browse on Grass Valley bitterbrush plot

Species <i>Parshia tridentata</i>					<i>Artemisia tridentata</i>			<i>Chrysopsis</i>			<i>Rhus ponderosa</i>		
# of transect	Int. of live mat.	Int. of dead mat.	Int. of old crown	Total Int	Int. of live mat.	Int. of dead mat.	Total Mat.	Int. of live Mat	Int. of dead Mat	Total Int.	Int. of live Mat		
11	8	10		18	38	5	43	5		5	76		
99'2"	28	16		44	32	5	37	9		9		8.75*	
	4			4									
	35			35									
	43			43									
		20		20									
	32	4	26	36									
	5			5									
Total	155	50	26	205	70	10	80	14		14	76	8.75*	
% of line	13.02	4.20	2.18	17.23	5.88	0.84	6.72	1.18		1.18	6.39	73.53*	
Number of Plants	7	4	1	8	2	2	2	2		2	1	1	
13	33	15	17	48	8		8	8		8	32		
99'0"	17	16		33	28	29	57				31		
	23	23	32	46	32		32						
	18	25	34	43	12		12						
	13			13	10	9	19						
		28	28	28									
	25	22	40	47									
	15	37	29	52									
	43			43									
	4	19		23									
	33		10	33									
	10	36	28	46									
	3			3									
Total	237	221	218	458	90	38	128	8		8	63		
% of line	18.95	18.60	18.35	38.16	7.58	3.20	10.77	0.67		0.67	5.30		
Number of Plants	12	9	8	13	5	2	5	1		1	2		

* Third story (limb free to 4 feet)

Interception transects for browse on
Grass Valley bitterbrush plot

Aug 7, 1952
R. Hubbard
B. Kay

Species		Purshia Tridentata				Artemisia tridentata			Chrusothamnus			Pinus ponderosa		
# of Trans.	Int. of live Mat.	Int. of dead Mat.	Int. of old Crowns	Total Intercept	Int. of live Mat.	Int. of dead Mat.	Total Int.	Int. of live Mat.	Int. of dead Mat.	Total Int.	Int. of live Mat.			
15	19	7		26	12		12				120*			
99'3"	13	13	26	26	24		24				53*			
	14	51	39	65	7	11	18				80*			
	25			25		20	20							
					13	4	17							
					22	12	34							
					22	4	26							
					28	3	31							
					8	6	14							
					14		14							
					15	3	18							
Total	71	71	65	142	165	63	228				253*			
% of line Number of plants	5.96	5.96	6.30	11.92	13.85	5.29	19.14				21.24			
	4	3	2	4	10	8	11				3			
17	29	6	20	35	17		17				10*			
	8	16	15	24	10	7	17				58			
99'0"	24		18	24	10		10				48*			
	12	20		32		12	12				145*			
	18			18	14		14				34*			
					3	14	17							
					2		2							
					22	10	32							
						24	24							
						10	10							
					20		20							
					5	14	19							
						6	6							
					19		19							
Total	91	42	53	133	122	97	219				58	237*		
% of line Number of Plants	7.66	3.54	4.46	11.20	10.27	8.16	18.43				4.88	19.95		
	5	3	3	5	10	9	15				1	4		

Interception transects for first story
vegetation. Grass Valley bitterbrush plot.

Aug 7, 1952

B. Kay

R. Hubbard

Strip Number	Position in Strip	In Open			Under second story		
		(Inches)			(Inches)		
		Alive	Dead	Total	Alive	Dead	Total
1	8	<u>Bare Soil</u> 71.00					
		<u>Rock</u>					
		<u>Vegetation</u>					
		Carex			5.5		5.5
		4.5	11.0	15.5			
			5.5	5.5			
1	5	10.0 16.5 26.5					
		Idaho fescue			0.5	2.0	2.5
1	5	<u>Soil</u> 94.50					
		<u>Rock</u>					
		<u>Vegetation</u>					
		Sitanion hystrix			0.50		0.50
1	5	Carex				0.50	2.00 2.50
1	5	Idaho fescue			2.50		2.50

2010

Strip	Position				On Crown			Under second story		
					(Inches)			(Inches)		
					Alive	Dead	Total	Alive	Dead	Total
3	11	Bare Soil	89.00							
		Rock								
		Vegetation								
		Can. x			1.0	2.5	3.5			
					1.5	4.0	5.5			
					2.5	6.5	9.0			
		Stipa			2.0		2.0			
3	10	Bare Soil	97.00							
		Rock								
		Vegetation								
		Sitanion						0.75		0.75
								2.25		2.25
								3.00		3.00

Intercession transects for East story
 vegetation, Cross Valley butterfly bush plot.

Strip	Position	In Open			Under second story		
		(Inches)			(Inches)		
Number	Strip	Alive	Dead	Total	Alive	Dead	Total
5	8	Bare soil			94.50		
		Rock					
		Vegetation					
		CAREX			1.75		1.75
		Sitanion hystrix			3.75		3.75
5	3	Bare Soil			100.00		
		Rock					
		Vegetation					

Interception Transects for first story
vegetation. Grass Valley bitterbrush plot.

Aug 2, 1952

B. Kay

R. Hubbard

Strip Number	Position in Strip	In Open			Under second story		
		(Inches)			(Inches)		
		Alive	Dead	Total	Alive	Dead	Total
7	3	Bare soil 74.50					
		Rock 12.25					12.25
		Vegetation					
		Carex			1.50		1.50
		Idaho fescue			2.25		1.0
7	10				0.50	1.0	1.75
					2.75	1.0	2.5
						2.0	2.75
					5.75	2.25	8.00
7	10	Bare soil 96.75					
		Rock					
		Vegetation					
		Idaho fescue			0.75		0.75
		Sitomum hirsutum			1.00	1.50	2.50

7 Aug. 1952

E. Kar

P. Hubbard

Intercepted transsects for first story
vegetation. Grass Valley bitterbrush plot.

strip number	Position in strip	In cover (inches)			Under second story		
		Alive	Dead	total	Alive	Dead	total
9	11	Bare soil	90.75				
		Rock					
		Vegetation					
		Carex		0.50	1.25	1.75	
		Sitanion hystrix		1.5	1.50	2.50	2.50
		Idaho fescue		1.00	1.25	2.25	
				0.50	0.75	1.25	
				1.50	2.00	3.50	
9	10	Bare soil	92.50				
shaded by the big tree		Rock					
		Vegetation					
		Carex		0.75	0.75		
		Idaho fescue		2.00	2.00		
				2.50	2.50		
				4.50	4.50	2.25	2.25

R. Hubbard

Under second story

Interception Transects for 1st story
vegetation. Grass Valley bitterbrush plot.

Aug. 7, 1952

B. Kay

R. Hubbard

Strip Number	Position in Strip	In Open			Under second story		
		(Inches)			(Inches)		
		Alive	Dead	Total	Alive	Dead	Total
15	9	Bare Soil 90.50					
		Rock					
		Vegetation					
		Idaho fescue					
		2.00		2.00	2.00	1.25	3.25
		4.25		4.25			
		6.25		6.25			
15	4	Bare Soil 96.25					
		Rock					
		Vegetation					
		Idaho fescue					
					3.75		3.75

Interception Transects for first story
vegetation. Grass Valley bitterbrush plot.

Aug. 7, 1952

B. Kay
R. Hubbard

Strip Number	Position in strip	In Open			Under second story		
		Alive	Dead	Total	Alive	Dead	Total
17	2	Bare soil 99.75					
		Rock					
		Vegetation Carex			0.25		0.25
17	6	Bare soil 89.25					
		Rock					
		Vegetation Idaho fescue			2.75		2.75
		Carex			4.50		4.50

14 August 1952

B. Hay

R. Hubbard

Summary of Vegetation Composition inside
of the Van der Bilt brush plot

Species	Percentage composition	Species	
<i>Purshia tridentata</i>		<i>Sitamon hystrix</i>	
Live	15.76	In Open	
Dead	8.81	Live	0.68
Old Growth	7.33	Dead	0.08
Total	24.57 ✓	Total in Open	0.76
		Under Brush	
<i>Antennaria tridentata</i>		Live	0.30
Live	8.50	Dead	0.00
Dead	3.12	Total under brush	0.30
Total	11.62 ✓	Total	1.06 ✓
<i>Chrysothamnus</i>		<i>Stipa occidentalis</i>	
Live	0.29	In Open	
Dead	0.09	Live	0.11
Total	0.39 ✓	Dead	0.00
<i>Pinus ponderosa</i>		Total in open	0.11
(Live limbs within 4' of ground)	4.28 ✓	Under Brush	
(Live limbs above 4' of ground)	20.68	Live	0.0
		Dead	0.0
		Total under brush	0.0
		Total	0.11 ✓
<i>Festuca Idahoensis</i>		<i>Carex lasiocarpa</i>	
In Open		In Open	
Live	1.35	Live	1.17
Dead	0.72	Dead	1.35
Total in open	2.07	Total in open	2.52
Under Brush		Under Brush	
Live	1.11	Live	0.49
Dead	0.29	Dead	0.22
Total under brush	1.40	Total under brush	0.71
Total	3.47 ✓	Total	3.23 ✓
		Total brush cover	40.86 %
		Total grass cover	7.87 %
		Rock	1.57 %

April 11/63

Size relations old and new crowns
of bitterbrush

Hormay

Inside Enclosure 1952 Survey					
Intercepts by plants					
Transect No	old crown 1933	1952 crown	Transect No	1933	1952
1	14	21	15	26	26
	10	52		39	65
	16	36	17	20	35
	10	12		15	24
	8	27		18	24
3	15	57		118	174
	33	60			
	18	30	Grand total	835	1428
	20	37			
	18	47	Percent	58.5	100
	35	50			
5	40	62			
	60	80			
	22	34			
	27	46			
7	25	29			
	19	46			
	20	29			
	27	63			
9	20	34			
	12	23			
11	26	36			
13	17	48			
	32	46			
	34	43			
	28	28			
	40	47			
	29	52			
	10	33			
	28	46			
	717	1254			

July 11/63
Hormay

Old dead crown measurements 1952
by intercept method

Inside enclosure only

Total inches measured 835 - Adjusted to 860
Total inches of line on plot 10,752 Basis 1963 measurements.

Percent of plot $\frac{860}{10,752} = 8.00$

No of sq. inches on plot. $144 \times 100 \times 200 = 2,880,000$

Total sq. inches of dead crown on plot

$$2,880,000 \times 8.00\% = \underline{230,400 \text{ sq}''}$$

$$\frac{230,400}{762} = 302.4'' \text{ size of average crown}$$

Diameter of average crown

$$\sqrt{302.4 \times 1.773} = \sqrt{384} = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 19.6 \\ \sqrt{384} \\ \hline 1 \\ 29 \quad 284 \\ \hline 261 \\ 386 \quad 2300 \\ \hline 2316 \end{array}$$