

Apple Hill Santa Cruz Tarplant Population 1993-1995

Year	1993	1994	1995
Surveyor	Vonarb	Vonarb	Smith
# Plants	248	81	700



Santa Cruz Tarplant - Apple Hill/Hwy 152 Site June/July 2000-2003 Counts (Edell & Ruggerone)

Plot #	Number of Plants			
	2000	2001	2002	2003
1	40	1	1	0
2	363	8	10	0
3	320	29	4	0
4	363	17	97	5
5	400	3	100	16
6	132	39	80	46
7	285	18	81	28
8	229	58	73	12
9	285	97	39	21
10	267	93	227	17
11	510	52	87	7
12	436	26	76	76
13	389	9	136	40
14	306	0	104	15
15	150	0	61	34
16	0	0	42	30
17	0	0	7	1
outside	123	27	109	3
Total	4598	477	1334	351

2000 - Number of *Holocarpha macradenia* present and percent plant cover by species (1m x 1m plots)



Plot #	Number of H. m. in Plot	Percent Coverage by Species									
		<i>Holocarpha macradenia</i>	<i>Trifolium hirtum</i>	<i>Danthonia californica</i>	<i>Juncus sp.</i>	<i>Convolvulus sp.</i>	<i>Plantago lanceolata</i>	<i>Baccharis Pilularis</i>	<i>Lolium sp.</i>	<i>Hordeum sp.</i>	Unid. Grass
1	40	0-5	50-75	25-50	trace	0-5	none	none	none	none	none
2	363	0-5	50-75	25-50	trace	none	none	none	none	none	none
3	320	0-5	50-75	25-50	trace	none	none	none	none	none	none
4	363	5-25	25-50	5-25	trace	none	trace	none	none	none	5-25
5	400	5-25	75-95	25-50	trace	none	trace	none	trace	none	5-25
6	132	0-5	50-75	25-50	trace	none	none	none	trace	none	0-5
7	285	0-5	50-75	5-25	0-5	none	trace	none	trace	none	0-5
8	229	5-25	50-75	0-5	none	0-5	trace	none	trace	none	none
9	285	5-25	50-75	5-25	trace	trace	0-5	none	none	none	0-5
10	267	5-25	50-75	5-25	trace	none	0-5	trace	none	0-5	none
11	510	5-25	25-50	5-25	0-5	none	0-5	none	0-5	0-5	none
12	436	5-25	25-50	0-5	none	none	0-5	none	trace	5-25	none
13	389	5-25	25-50	0-5	none	none	0-5	none	none	5-25	none
14	306	5-25	25-50	5-25	none	none	0-5	none	trace	0-5	none
15	150	5-25	50-75	5-25	none	none	0-5	none	trace	5-25	none
16	0	0	no <i>Holocarpha macradenia</i> , not sampled								
17	0	0	no <i>Holocarpha macradenia</i> , not sampled								
outside	123										
Total	4598										

Santa Cruz Tarplant - Apple Hill/Hwy 152 Site June/July 2000-2003 Counts (Edell & Ruggerone)



2001 - Number of *Holocarpha macradenia* present and percent plant cover by species (1m x 1m plots)

Plot #	Number of H. m. in Plot	Percent Coverage by Species													
		<i>Holocarpha macradenia</i>	<i>Trifolium hirtum</i>	<i>Danthonia Californica</i>	<i>Juncus sp.</i>	<i>Convolvulus sp.</i>	<i>Plantago sp.</i>	<i>Baccharis Pilularis</i>	<i>Lolium sp.</i>	<i>Hordeum sp.</i>	Unid. Grass	<i>Vicia sp.</i>	<i>Geranium dissectum</i>	<i>Picris eichoides</i>	<i>Erodium sp.</i>
1	1	0-5	50-75	5-25	0-5	0	0	0	50-75	0	0	0	0	0	0
2	8	0-5	25-50	25-50	0-5	0	0	0	50-75	0	0-5	0-5	trace	0	0
3	29	5-25	50-75	25-50	0-5	0	0	0	0	0	0	0	0	0	0
4	17	5-25	25-50	5-25	0-5	trace	trace	0	0	0	25-50	trace	0	0	0
5	3	0-5	5-25	25-50	0-5	0-5	trace	0	trace	0	50-75	0-5	0-5	0	0
6	39	0-5	75-95	5-25	trace	trace	0	0	25-50	0	0	0	0	0	0
7	18	0-5	50-75	5-25	0-5	0-5	0	trace	trace	0-5	0-5	0	0	0	0
8	58	5-25	50-75	0-5	0-5	0	trace	0	25-50	0-5	0	0	0	trace	0
9	97	5-25	50-75	5-25	trace	0	0	0	5-25	0-5	0	0-5	0	0	0
10	93	5-25	75-95	5-25	trace	0	0	trace	0	0-5	trace	0-5	0	0	0
11	52	5-25	50-75	5-25	0-5	0	0-5	0	5-25	0-5	0	0-5	0	0	0
12	26	5-25	50-75	25-50	0-5	0	0-5	0	5-25	5-25	0	0-5	0	trace	0
13	9	0-5	50-75	5-25	0-5	0	0-5	0	0	5-25	0	0-5	0	0-5	0
14	0	0	25-50	5-25	trace	0	0	0	25-50	5-25	0	trace	0	trace	trace
15	0	0	50-75	5-25	0	0	0-5	0	25-50	trace	0-5	0-5	0	0	trace
16	0	0	no <i>Holocarpha macradenia</i> , not sampled												
17	0	0	no <i>Holocarpha macradenia</i> , not sampled												
outside	27														
Total	477														

Santa Cruz Tarplant - Apple Hill/Hwy 152 Site June/July 2000-2003 Counts (Edell & Ruggerone)



2002 - Number of Holocarpha macradenia present and percent plant cover by species (1m x 1m plots)

Plot #	Number of H. m. in Plot	Percent Coverage by Species										
		Holocarpha macradenia	Trifolium hirtum	Danthonia Californica	Juncus sp.	Convolvulus sp.	Plantago sp.	Lolium sp.	Baccharis Pilularis	Hordeum sp.	Aria caryophyllea	bare ground
1	1	trace	25-50	25-50	trace	5-25	0	0	trace	25-50	0	0
2	10	0-5	50-75	25-50	trace	0-5	0	0	0	25-50	0	0-5
3	4	0-5	50-75	50-75	trace	0	0	0	0	25-50	0	0
4	97	5-25	50-75	50-75	trace	0	0	0	0	25-50	0	0
5	100	5-25	50-75	25-50	trace	0	0	0	0	50-75	0	0
6	80	5-25	50-75	5-25	trace	0	0	0	0	50-75	0-5	0
7	81	0-5	50-75	5-25	trace	0	0	0-5	0	5-25	0	0
8	73	5-25	50-75	0-5	0-5	0-5	trace	0-5	0	0	0-5	0
9	39	5-25	50-75	5-25	0-5	trace	0-5	25-50	0	0-5	0-5	0
10	227	5-25	50-75	5-25	trace	0-5	0-5	0	0	0-5	0	0
11	87	5-25	50-75	5-25	trace	0	0-5	0-5	0	25-50	0	0
12	76	5-25	25-50	0-5	trace	0	0	5-25	0	5-25	0	0
13	136	5-25	25-50	0-5	0	0	0	5-25	0	0-5	0	0
14	104	5-25	25-50	0-5	0	0	0	trace	0	5-25	0	0
15	61	5-25	50-75	5-25	0	0	0-5	0-5	0	5-25	0	0
16	42	5-25	25-50	0	0	0	trace	5-25	0	5-25	0	0
17	7	5-25	50-75	5-25	trace	0	0-5	0-5	0	5-25	0	0
outside	109											
Total	1334											

Santa Cruz Tarplant - Apple Hill/Hwy 152 Site June/July 2000-2003 Counts (Edell & Ruggerone)



2003 - Number of Holocarpha macradenia present and percent plant cover by species (1m x 1m plots)

Plot #	Number of H. m. in Plot	Percent Coverage by Species											
		Holocarpha macradenia	Danthonia Californica	Trifolium hirtum	Juncus sp.	Convolvulus sp.	Plantago sp.	Unid. Grass	Lolium sp.	Baccharis Pilularis	Hordeum sp.	Vicia sp.	Picris echoides
1	0	0	50-75	25-50	trace	0-5	0	0	0	0	25-50	0-5	0
2	0	0	25-50	50-75	0	0	0	0	0	0	25-50	0	0
3	0	0	25-50	25-50	trace	0	0	0	0	0	25-50	trace	0
4	5	0-5	50-75	25-50	0-5	0	0	0	0	0	25-50	0-5	0
5	16	0-5	25-50	25-50	0-5	0	0	0	0	0	50-75	0-5	0
6	46	0-5	5-25	25-50	0-5	0	0	0	0	5-25	50-75	0	0
7	28	0-5	25-50	25-50	0-5	0	0	0	0	5-25	5-25	0	0
8	12	0-5	0-5	25-50	0-5	0	0	25-50	0-5	0	5-25	0	0
9	21	0-5	5-25	50-75	0-5	0-5	trace	50-75	0	0	0-5	0	0
10	17	0-5	5-25	50-75	0-5	0-5	0-5	25-50	0	0	5-25	0	0
11	7	0-5	5-25	50-75	0	trace	0-5	25-50	trace	trace	50-75	0	0
12	76	5-25	5-25	25-50	0-5	0	0-5	5-25	0	0	25-50	0	0
13	40	0-5	5-25	5-25	0-5	0	0-5	25-50	0	0	5-25	0-5	0
14	15	0-5	5-25	5-25	0-5	0	trace	0	trace	0	25-50	0-5	0
15	34	0-5	5-25	5-25	0	0	0-5	0	0	0	25-50	0	0
16	30	0-5	5-25	5-25	trace	0	trace	5-25	0	0	25-50	trace	0
17	1	0-5	5-25	5-25	trace	0	0-5	5-25	0	0	25-50	0	5-25
outside	3												
Total	351												