

## **Peyote post-harvest regrowth –**

## **Control group**

Summary of our observations – after four years



Untouched Lophophora williamsii in the regrowth study site population

Concerning data on regrowth involving multiple pups:

1) There is not necessarily a direct 1:1 correspondence between sequential figures for individual pups within a single plant.

2) It was not uncommon for some or all pups to be partly or entirely covered so some photos may reflect the pre-uncovery state.

Images of the tags can be viewed via the links in the column for the tag numbers and images of the actual plants can be viewed using the links in the column headed "Number of crowns".

A number of our tags and plants were completely buried and hence provided missing data in 2009. In 2010-2012, thanks to the use of a high-powered metal detector we located all of our tags, stakes and plants unless they were totally missing from the study site.

Data concerning the control group can be found below.

*nd* – No data. — – Missing data

## **Control group**

Plant Number	Number of crowns	Number of ribs	<b>Diameter of crowns</b> (in cm)	Comments
2008 2009 2010 2011 2012	22 Nov. 2008 7 Mar. 2009 6 Mar. 2010 15 Mar. 2011 13 Mar. 2012	22 Nov. 2008 missed 2009 data 6 Mar. 2010 15 Mar. 2011 13 Mar. 2012	22 Nov. 2008 7 Mar. 2009 6 Mar. 2010 15 Mar. 2011 13 Mar. 2012	
151	2 2 2 4 3	8,8 — 8,8 9*,8,7,9 7,5,6	3.8, 4.3 3.5, 4.7 3.0, 2.7 4.1*, 1.8, 2.0, 2.2 2.7, 2.1, 2.3	Both crowns broken off by hogs. Replanted 2010. See details below concerning control plant 151.
152	1 1 1 1	8  8 8 8 8	3.7 3.8 3.4 4.2 4.8	Post- uncovery photo missed in 2011.
153	1 1 1 1 1	8 	3.5 3.8 3.9 4.2 4.8	
154	4 (+4 pups) 4 (+4 pups) 9 9 8	13, 13, 13, 8 — 13x3, 7x1, 8x4 13x3, 6, 8x3, 9, 8 13x3, 8x2, 7, 8, 7	$\begin{array}{r} 3.4, 5.0, 6.1, 5.0, \\ 3.2, 5.8, 6.3, 5.6 \\ 6.1, 5.1, 5.5, 3.1, 2.0, 2.2, 1.9, \\ 1.7 \\ 6.5, 6.0, 5.5, 1.1, 2.5, 3.6, 2.0, \\ 2.3, 2.6 \\ 5.5, 5.5, 5.5, 3.5, 2.3, 2.7, 2.8, \\ 3.0 \end{array}$	9th crown was not measureable
155	1 1 1 1 1	8 	4.3 4.8 4.5 4.5 5.3	
156	2 2 2 2 2	8,8 — 8,8 8,8	$\begin{array}{r} 4.3, 4.9 \\ 4.8, 4.7 \\ 4.4, 4.8 \\ 4.8, 4.8 \end{array}$	

	2	8,8	5.3, 5.0	
	1	8	4.8	
	1	<u> </u>	5.5	
157	1	8	4.6	
	1	8	5.2	
	1	8	5.5	
	1	8	5.7	
1 - 0	1	_	5.8	
158	1	11	4.9	
	1	13	5.8	
	1	11	5.7	
	1	8	4.7	
159	1	_	5.0	
159	1	12	4.3	
	1	13	4.8	
	1	10	4.8	
	1	13	4.7	
160	1	_	5.2	
100	1	12	4.9	
	3	13, 6, 7	5.3, 0.7, 0.8	
	2	13,6	4.8, 1.8	
161	1 1 1 1 1	8  9 9 (transition) 8	5.1 5.2 4.7 5.5 5.0	Tag & plant not photographec in 2011 Tag & plant not photographec in 2012
	1	8	4.0	
162	1	_	5.2	
	1	8	4.4	
	1 1	8 8	5.6 5.8	
	1 1	13	6.1 6.5	
163	1	13	6.4	
	1	13	7.0	
	1	10	5.8	
	1	13	7.4	
	1		7.4	2 new pups
164	7	13, 7, 6, 7, 5	6.8, 2.2, 1.8, 1.6, 1.0	not
	6	13, 8, 8, 8, 8, 8	7.0, 1.8, 2.5, 2.5, 2.9, 2.5	measurable.
	6	13, 10, 9, 6, 8, 10	6.0, 2.5, 2.7, 3.0, 2.8, 0.8	
	3	8,8,8	5.8, 3.5, 3.2	
1.0	3		5.6, 3.9, 3.8	
165	3	13, 7, 8	4.7, 3.1, 3.1	
	4	13, 8, 8, 7	5.7, 1.8, 3.9, 3.5	
	2	13,7	5.3, 2.1	
166	1	13	6.0	
	1	1	5.6	1

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Appeared
3         13,7,7         6.0,2.8,3.0           2         13,10         4.2,5.3           2         -         5.3,5.9           2         13,11         4.8,5.5           2         13,10         5.2,6.1	
167         2         13, 10         4.2, 5.3           2         -         5.3, 5.9           2         13, 11         4.8, 5.5           2         13, 10         5.2, 6.1	
167         2         -         5.3, 5.9           2         13, 11         4.8, 5.5           2         13, 10         5.2, 6.1	
167         2         -         5.3, 5.9           2         13, 11         4.8, 5.5           2         13, 10         5.2, 6.1	
107         2         13, 11         4.8, 5.5           2         13, 10         5.2, 6.1	
2         13,10         5.2,6.1           2         13,10         5.1,6.2	
2 13,10 5.1,6.2 2 13,10	
168         2         10, 11         5.2, 5.1         5.3, 4.7         5.3, 4.7         5.3, 4.7         5.3, 4.7         5.3, 9.0         1000000000000000000000000000000000000	diseased in March; found dead in July 2010. No trace in 2012.
1 8 3.2	
<b>169</b> $1$ $ 4.7$ $2.0$	
1 12 5.9	
1 13 4.0	
1 13 4.5	
1 10 5.2	
1 56	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
1 13 5.0	
1   13   5.2	
1 13 7.5	
1 7.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
1 13 7.0	
1 13 5.0	
172 1 - 5.5	Hogs moved
1 12 5.0	tag; plant
1 13 5.4	was OK.
1 13 5.0	
1 8 4.8	
1 40	
1 8 4.0	
1 8 5.5	
1 10 5.2	
<b>174</b> 1 - 5.9	
1 12 3.2	
1 13 6.5	
1 13 6.0	
<b>175</b> 1 8 3.6	
1/3 1 – 4.1	
1 8 3.1	

	1			
	1	8 8	4.0	
	1		3.5	
	1	8+ (transition)	5.0	
176	1	- 12	5.0	
	1	13	4.7	
	1 1	13 13	5.5 5.0	
	1	15	5.0	
	1	8	6.0	Dead.
177	1	—	5.2	Compare to
	0	nd	nd	July 2010
	0	nd	nd	photo of
	0	nd	nd	#168.
	1	13	5.8	
178	1	-	5.9	
	1	13	5.8	
	1	13	6.2	
	1	13	6.7	
	1	8	4.5	
179	1	-	4.2	
	1	8 8	3.3	
	$\frac{1}{2}$		4.3	
	2	uncountable, 5	4.0, 1.5	
	1	13	7.2	12 ribs with
180	1	_	7.3	another
100	1	12	6.3	intercalating
	1	13*	7.4	from base.
	1	13	7.5	Plant
				blooming!
	1	5	2.5	
15.	1		2.9	
181	1	5	2.8	
	1	555	3.2	
	1	7	3.2	
	1	8 (barely)	2.8	
100	1	_	4.0	Ribs not
182	1	7	3.2	countable.
	1	nd*	4.1	Plant stepped
	0	nd	nd	on (by
				ungulate?).
	1	8	3.8	
183	1	_	4.2	Hogs
	nd	nd	nd	11082
	0	nd	nd	

	0	nd	nd	
184	1	8	4.0	
	1	0	4.7	
	1	8 8	3.7 4.2	
	1 1	8 8	4.2	
		5		
	1	3	2.7	
185	1		3.0 2.5	
	1 1	6 9	2.5 3.6	
	1	8	3.7	
	3			
		8,8,8	3.6, 2.4, 3.0 3.8, 2.1, <i>nd</i>	
186	2 3	6,7,9	1.0, 1.9, 3.9	
	3	10, 5, 7	4.8, 1.6, 2.4	
	3	10, 5, 8	5.1, 2.0, 2.8	
	2	8,8	4.3, 5.0	
	2	0,0	4.5, 5.0	
187	$\frac{2}{2}$	11,9	4.7, 4.6	
	2 2	8,10	5.2, 5.8	
	2	8,8	5.2, 5.7	
	1	8	4.4	
	1	0	4.4	
188	1	8	4.4	
	1	8	5.0	
	1	8	5.3	
	1	8	3.6	
	1		4.0	
189	1	8	3.0	
	1	8	4.6	
	1	8	4.0	
	2	13,13	6.4, 6.0	
100	2	_	5.8, 5.5	
190	2	13, 13	6.0, 5.0	
	2	13, 13	6.8.6.1	
	2	13, 13	6.5, 6.0	
	1	8	3.8	
101	1	_	3.3	
191	1	8	3.0	
	1	8	4.3	
	1	8	4.5	
	1	5	2.6	
192	1	—	2.8	
172	1	5	2.1	
	1	5	3.3	
	1	5	3.5	
	3	10, 10, 10	4.5, 4.5, 5.0	
193	3	-	4.0, 4.4, 4.7	
193	3	10, 9, 10	3.5, 3.7, 4.2	
	3	10, 10, 10	5.0, 4.5, 4.5	
	3	10, 10, 10	5.0, 4.8, 4.7	
194	2	8,8	4.1, 3.2	
1 / 1		- , -		
	2 2 2	8,8	3.9, 3.3 2.2, 3.2	

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$					
195         3         8, 8, 13         44, 4, 4, 0, 3, 0         44, 1, 1, 18, 3, 7, 2.9         41, 1, 18, 3, 7, 2.9         41, 1, 18, 3, 7, 2.9         41, 1, 18, 3, 7, 2.9         41, 13, 5, 7, 8, 8         50, 1, 7, 4, 0, 3, 0         41, 13, 5, 8, 8         50, 1, 7, 4, 0, 3, 0         41, 13, 5, 8, 8         50, 1, 7, 4, 0, 3, 0         41, 18, 3, 7, 2.9         41, 18, 3, 7, 2.9         41, 18, 3, 7, 2.9         41, 13, 5, 5, 8, 8         50, 1, 7, 4, 0, 3, 0         41, 18, 3, 7, 2.9         41, 19, 3, 3, 4         41, 19, 3, 3, 4         41, 19, 3, 3, 4         41, 19, 3, 3, 4         41, 19, 3, 3, 4         41, 19, 4, 7         41, 19, 4, 7         41, 19, 4, 7         41, 19, 4, 7         41, 19, 4, 7         41, 14, 4, 7         41, 14, 4, 7         41, 14, 4, 7         41, 14, 4, 7         41, 14, 4, 7         41, 14, 4, 7         41, 14, 4, 7         41, 14					
195       4       -       4.1, 1.8, 3.7, 2.9         4       12, 8, 8, 5       3.8, 2.1, 3.3, 1.3         4       13, 5, 8, 8       5.0, 1.7, 4.0, 3.0         4       10, 5, 8, 8       4.2, 1.5, 3.4, 2.9         196       1       8       3.0         1       8       3.0         1       8       3.0         1       8       3.6         1       8       3.6         1       8       3.4         197       2       -       4.5, 1.2         197       2       -       4.5, 1.2       Tag not photograph in 2009.         197       3       9, 5, 5       3.8, 2.0, 1.0       in 2009.         197       1       10       4.9       Tag not photograph in 2009.         198       1       -       4.1, 1.       4.7         198       1       -       4.1       Hogs. Dug up by hogs.         0       nd       nd       nd       nd         0       nd       nd       nd       hogs.         198       1       -       4.6       4.5         199       1       10       4.8       4.5			8,8	3.4, 2.9	
195       4       -       4.1, 1.8, 3.7, 2.9         4       12, 8, 8, 5       3.8, 2.1, 3.3, 1.3         4       13, 5, 8, 8       5.0, 1.7, 4.0, 3.0         4       10, 5, 8, 8       4.2, 1.5, 3.4, 2.9         196       1       -       3.0         1       8       3.0         1       8       3.0         1       8       3.6         1       8       3.4         197       2       -         1       10       4.9         197       2       -         1       8       3.4         197       2       -         1       10       4.9         197       3       9, 5, 5         3.8, 2.0, 1.0       11, 5, 5         1.1       11         1       11         1       4.7         198       1       -         1       8       4.2         198       1       -         10       1.4       8         11       1.5       5         12, 5       3.8, 2.0, 1.0         13       1.1       1.1		3	8, 8, 13	4.4, 4.0, 3.0	
195         4         12, 8, 8, 5 $3.8, 2.1, 3.3, 1.3$ $3.0$ $4$ $13, 5, 8, 8$ $5.0, 1.7, 4.0, 3.0$ $4$ $10, 5, 8, 8$ $5.0, 1.7, 4.0, 3.0$ $4$ $10, 5, 8, 8$ $4.2, 1.5, 3.4, 2.9$ $11$ $8$ $3.0$ $3.0$ $11$ $8$ $3.0$ $3.0$ $11$ $8$ $3.0$ <t< th=""><th>105</th><th>4</th><th>_</th><th></th><th></th></t<>	105	4	_		
4         13, 5, 8, 8         5.0, 1.7, 4.0, 3.0           4         10, 5, 8, 8         4.2, 1.5, 3.4, 2.9           1         8         3.0           196         1         -           1         8         3.0           1         8         3.0           1         8         3.6           1         8         3.6           1         8         3.6           1         8         3.6           1         8         3.4           197         2         -         4.5, 1.2           3         9, 5, 5         3.8, 2.0, 1.0         in 2009.           3         11, 5, 5         4.7, 2.0, 1.1         in 2009.           1         11         4.7         Hogs.           198         1         -         4.1           0         nd         nd         nd           0         nd         nd         nd           0         nd         nd         nd           100         4.8         -         4.6           199         1         -         4.6           199         1         9         4.5 </th <th>195</th> <th></th> <th>12, 8, 8, 5</th> <th></th> <th></th>	195		12, 8, 8, 5		
4         10, 5, 8, 8         4.2, 1.5, 3.4, 2.9           1         8         3.0           196         1         -         3.0           1         8         2.5           1         8         3.6           1         8         3.6           1         8         3.6           1         8         3.6           1         8         3.4           197         2         -         4.5, 1.2           3         9, 5, 5         3.8, 2.0, 1.0         photograph in 2009.           3         11, 5, 5         4.7, 2.0, 1.1         1000.           1         11         4.7         Hogs.           198         1         -         4.1           198         1         -         4.1           10         nd         nd         nd           0         nd         nd         nd           0         nd         nd         nd           198         1         -         4.6           199         1         10         4.8           199         1         9         4.5					
196       1        3.0       3.0         1       8       2.5       3.6         1       8       3.6       3.6         1       8       3.6       3.6         1       8       3.6       3.6         1       8       3.4       7         197       2        4.5, 1.2       Tag not photograph in 2009.         3       11, 5, 5       3.8, 2.0, 1.0       100.         3       11, 5, 5       4.7, 2.0, 1.1       100.         1       11       4.7       4.7         198       1       -       4.1         nd       nd       nd       nd         0       nd       nd       nd         0       nd       nd       nd         198       1       -       4.6         199       1       10       4.8         199       1       -       4.6         199       1       9       4.5		4			
196       1       8       2.5         1       8       3.6         1       8       3.4         197       1       10       4.9       Tag not photograph in 2009.         197       2       -       4.5, 1.2       Tag not photograph in 2009.         3       9, 5, 5       3.8, 2.0, 1.0       n0 009.         3       11, 5, 5       4.7, 2.0, 1.1       n2009.         198       1       -       4.1       4.7         198       1       -       4.1       Hogs. Dug up by nd         0       nd       nd       nd       nd         0       nd       nd       nd       hogs.         199       1       10       4.8       4.5         199       1       9       4.5       4.5		1	8	3.0	
1       8       2.5         1       8       3.6         1       8       3.4         197       1       10       4.9       Tag not photograph in 2009.         197       2       -       4.5, 1.2       Tag not photograph in 2009.         3       9, 5, 5       3.8, 2.0, 1.0       1000.         3       11, 5, 5       4.7, 2.0, 1.1       4.7         198       1       -       4.1       Hogs. Dug up by nod nd nd nd         0       nd       nd       nd       nd       nd         198       1       -       4.6       4.5       Hogs. Dug up by hogs.         199       1       10       4.8       4.5       4.5	107	1	_	3.0	
1         8         3.4           197         1         10         4.9         Tag not photograph in 2009.           3         9,5,5         3.8,2.0,1.0         In 2009.           3         11,5,5         4.7,2.0,1.1         In 2009.           198         1         8         4.2           198         1         -         4.1           100         nd         nd         nd           101         11         4.7         Hogs.           198         1         -         4.1           100         nd         nd           0         nd         nd         nd           0         nd         nd         nd           198         1         -         4.6           199         1         9         4.5	190	1		2.5	
197		1	8	3.6	
197       2       -       4.5, 1.2       photograph         3       9, 5, 5 $3.8, 2.0, 1.0$ in 2009.         3       11, 5, 5 $4.7, 2.0, 1.1$ in 2009.         198       1       - $4.1$ $4.7$ 198       1       - $4.1$ $4.7$ Hogs.         198       1       - $4.1$ $10$ $10$ $10$ 198       1       10 $14.8$ $10$ $14.6$ $10$ 199       1       9 $4.5$ $4.5$ $4.5$		1	8	3.4	
197       2       -       4.5, 1.2       photograph         3       9, 5, 5 $3.8, 2.0, 1.0$ in 2009.         3       11, 5, 5 $4.7, 2.0, 1.1$ in 2009.         1       11 $4.7$ Hogs.         198       1       -       4.1       Hogs.         198       1       -       4.1       Hogs.         0       nd       nd       nd       hd       hogs.         0       nd       nd       nd       hogs.       hogs.         198       1       -       4.6       -       hogs.         199       1       9       4.5       -       -					
3       11, 5, 5       4.7, 2.0, 1.1         1       11       4.7         198       1       8       4.2         1       -       4.1         nd       nd       nd       nd         0       nd       nd       nd         0       nd       nd       nd       Hogs.         199       1       10       4.8       hogs.         199       1       9       4.5       4.5			10	4.9	Tag not
3       11, 5, 5       4.7, 2.0, 1.1         1       11       4.7         198       1       8       4.2         1       -       4.1         nd       nd       nd       nd         0       nd       nd       nd         0       nd       nd       nd       Hogs.         199       1       10       4.8       hogs.         199       1       9       4.5       4.5	107	2	_	4.5, 1.2	photographed
3       11, 5, 5       4.7, 2.0, 1.1         1       11       4.7         198       1       8       4.2         1       -       4.1         nd       nd       nd       nd         0       nd       nd       nd         198       1       -       4.1       Hogs.         198       1       -       4.1       Hogs.         199       1       10       4.8       1         199       1       -       4.6       4.5	197	3	9, 5, 5		in 2009.
1       11       4.7         198       1       8       4.2       Hogs.         198       1       -       4.1       Hogs.         nd       nd       nd       nd       nd       by hogs.         0       nd       nd       nd       nd       hogs.         198       1       -       4.1       Hogs.       Dug up by hogs.         199       1       10       4.8       4.6       Hogs.         199       1       9       4.5       4.5       Hogs.		3	11, 5, 5	4.7, 2.0, 1.1	
1981-4.1Hogs. Dug up by hogs.198 $nd$ $nd$ $nd$ $nd$ 0 $nd$ $nd$ $nd$ $hogs.$ 0 $nd$ $nd$ $nd$ 1104.81991-4.6194.5		1	11	4.7	
1981-4.1Hogs. Dug up by hogs.198 $nd$ $nd$ $nd$ $nd$ 0 $nd$ $nd$ $nd$ $hogs.$ 0 $nd$ $nd$ $nd$ 1104.81991-4.6194.5		1	Q	4.2	
198         nd         nd         nd         nd         nd         Hogs.         Dug up by         Dug up by         hogs.         Dug up by         hogs.         Dug up by         hogs.         Dug up by         hogs.         Hogs.         Hogs.         Hogs.         Hogs.         Dug up by         hogs.         Hogs.         Hogs.         Dug up by         hogs.			o		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	198				Hogs.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					Dug up by
1         10         4.8           199         1         -         4.6           1         9         4.5					hogs.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		0	па	па	
<b>199</b> 1 9 4.5		1	10	4.8	
1 9 4.5	100	1	_	4.6	
1 8 5.0	199	1	9	4.5	
		1	8	5.0	
1 9 5.5		1	9	5.5	
1 11 (transition) 5.4		1	11 (transition)	5.4	
200 1 - 5.5	200	1	_		
1 12 5.4	200	1			
1 10 5.8		1	10	5.8	
1 10 6.0		1	10	6.0	

## **Comments concerning control plant #151**

In March 2010 we discovered that plant number 151 had been decapitated by passing porcine traffic. Its two broken heads were replanted by us near their tag. In a late summer visit that same year we found that one of the heads had again been kicked out of the ground and was badly shriveled. It was once again replanted.

In March of 2011 we found the head that had taken root in 2010 was quite healthy and growing whereas the shrivelled one was nowhere to be found. More interestingly the original plant #151 was located by virtue of it sending up new pups.

On 13 March 2012, neither broken crown we had replanted could be located. The original plant was still present showing new growth.



Sunset at the study site on 13 March 2012