

# NSW Weed Risk Management assessment: *Parthenium hysterophorus*

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		<i>Parthenium</i>		
		<i>hysterophorus</i>		
		Parthenium weed		
		Asteraceae		
	Area considered:	Western NSW (North West Slopes, Central West Slopes, South West Slopes, North West Plains, South West Plains, North Far West Plains, South Far West Plains)		
	Landuse:	Grazing modified pastures (dryland agriculture)		
	Density:	High density in landuse		
		Standard weed management is limited. Varied stocking rates most common. Fire used in some instances. Very little use of broad-scale herbicide applications.		
Invasiveness			Do not know	
Q1	score	0	0.0	Virtue <i>et al.</i> (2004)
Q2	score	2	0.0	Virtue <i>et al.</i> (2004)
Q3	a	2	0.0	Virtue <i>et al.</i> (2004)
	b	2	0.0	Virtue <i>et al.</i> (2004)
	c	0	0.0	Virtue <i>et al.</i> (2004)
	total	4		
Q3	score	2		
Q4	a	0	0.0	Navie <i>et al.</i> (1996)
	b	0	0.0	Navie <i>et al.</i> (1996)
	c	2	0.0	Navie <i>et al.</i> (1996)
	d	1	0.0	Navie <i>et al.</i> (1996)
	total	3		
Q4	score	2		
Q5	a	0	0.0	Virtue <i>et al.</i> (2004)
	b	2	0.0	Virtue <i>et al.</i> (2004)
	c	1	0.0	Virtue <i>et al.</i> (2004)
	d	1	0.0	Virtue <i>et al.</i> (2004)
	total	4		
Q5	score	2		
<b>Invasiveness score</b>		8		

*Parthenium hysterophorus* (cont.)

Impacts				
Q1	score	2	0.0	Virtue <i>et al.</i> (2004) and Navie <i>et al.</i> (1996)
Q2	score	3	0.0	Virtue <i>et al.</i> (2004) and Navie <i>et al.</i> (1996)
Q3	score	3	0.0	Virtue <i>et al.</i> (2004)
Q4	score	0	0.0	Virtue <i>et al.</i> (2004)
Q5	score	2	0.0	Virtue <i>et al.</i> (2004)
Q6	a	0	0.0	Virtue <i>et al.</i> (2004)
	b	0	0.0	Virtue <i>et al.</i> (2004)
	c	0	0.0	Virtue <i>et al.</i> (2004)
	d	0	0.0	Virtue <i>et al.</i> (2004)
	e	0	0.0	Virtue <i>et al.</i> (2004)
	f	0	0.0	Virtue <i>et al.</i> (2004)
	total	0		
Q6	score	0		
<b>Impacts score</b>		10		
<b>Potential distribution</b>				
	score	8	0.0	Estimate
Comparative weed risk and Uncertainty scores				
<b>Corrected Invasiveness</b>		5.3		
<b>Corrected Impacts</b>		5.3		
<b>Corrected Potential distribution</b>		8.0		
<b>Comparative Weed Risk</b>		225		
		Very high		
Uncertainty Invasiveness		0.0		
Uncertainty Impacts		0.0		
Uncertainty Potential Distribution		0.0		
Control costs				
Q1	a	1	0.0	Navie <i>et al.</i> (1996)

*Parthenium hysterophorus* (cont.)

	<i>b</i>	2	0.0	Navie <i>et al.</i> (1996)
	<i>c</i>	1	0.0	Navie <i>et al.</i> (1996)
	<i>d</i>	0	0.0	Navie <i>et al.</i> (1996)
	<i>total</i>	4		
<b>Q1</b>	<b>score</b>	<b>2</b>		
<b>Q2</b>	<b>score</b>	<b>0</b>	0.0	Pers. obs.
Q3	<i>a</i>	0	0.0	Navie <i>et al.</i> (1996)
	<i>b</i>	0	0.0	Navie <i>et al.</i> (1996)
	<i>c</i>	0	0.0	Navie <i>et al.</i> (1996)
	<i>total</i>	0		
<b>Q3</b>	<b>score</b>	<b>0</b>		
<b>Q4</b>	<b>score</b>	<b>0</b>	0.0	P. Blackmore pers. comm.
<b>Control costs score</b>		2		
Persistence				
<b>Q1</b>	<b>score</b>	<b>1.5</b>	1.5	do not know
<b>Q2</b>	<b>score</b>	<b>3</b>	0.0	Navie <i>et al.</i> (1996)
<b>Q3</b>	<b>score</b>	<b>2</b>	0.0	Navie <i>et al.</i> (1996)
Q4	<i>a</i>	1	0.0	Navie <i>et al.</i> (1996)
	<i>b</i>	2	0.0	Navie <i>et al.</i> (1996)
	<i>total</i>	3		
<b>Q4</b>	<b>score</b>	<b>2</b>	0.0	
<b>Persistence score</b>		8.5		
Current Distribution				
<b>Q1</b>	<b>score</b>	<b>0</b>	0.0	P. Blackmore pers. comm.
<b>Q2</b>	<b>score</b>	<b>0</b>	0.0	P. Blackmore pers. comm.
<b>Current Distribution score</b>		0		
Comparative Feasibility of Coordinated Control and Uncertainty scores				
<b>Corrected Control costs</b>		1.7		

*Parthenium hysterophorus* (cont.)

<b>Corrected Persistence</b>	7.7		
<b>Corrected Current distribution</b>	0.0		
<b>Comparative Feasibility of Coordinated Control</b>	<b>0</b>		
	<b>Alert</b>		
Uncertainty Control costs	0.0		
Uncertainty Persistence	25.0		
Uncertainty Current distribution	0.0		
Overall Uncertainty score	4		
Positive impacts	None currently known		
Other comments	None		

Determining priorities

Weed risk is Very high

Feasibility of Coordinated control is Alert (Very high)

On the Management action matrix the weed falls into the 'Alert' section (adjacent to Eradicate) at the bottom right of the matrix

Suggested Management actions of 'Alert'

**Aims to prevent the species arriving and establishing in the management area being considered**

Prevention of entry to geographic area

Ongoing surveillance for incursions of the species, for example nursery inspections.

Training and awareness activities for the community to enable early detection

and when incursions are detected

Suggested Management actions of 'Eradicate'

**Aims to remove the weed species from the geographic area being considered**

Detailed surveillance and mapping to locate all infestations.

Destruction of all infestations including seed banks.

*Parthenium hysterophorus* (cont.)

Prevention of entry to geographic area, and movement and sale within.

Must not grow and all cultivated plants removed.

Monitor progress towards eradication.

**References**

Navie, S. C., McFadyen, R. E., Panetta, F. D. and Adkins, S. W. (1996). The Biology of Australian Weeds 27. *Parthenium hysterophorus* L. *Plant Protection Quarterly*, 11, 76-88.

Virtue, J. (2004). 'Crop-pasture rotations'. Weed Risk Assessment Microsoft Excel spreadsheet. Online at [http://www.dwlbc.sa.gov.au/assets/files/wra\\_2004.xls](http://www.dwlbc.sa.gov.au/assets/files/wra_2004.xls) Access date 6 July 2007.