



Declared Plant Policy

This policy relates to natural resources management under section 9(1)(d) of the Landscape South Australia Act 2019 (the Act), enabling co-ordinated implementation and promotion of sound management programs and practices for the use, development or protection of natural resources of the State. Specifically, this policy provides guidance on the use and management of natural resources relating to the prevention or control of impacts caused by pest species of plants that may have an adverse effect on the environment, primary production or the community, as per object s7(1)(f) of the Act.

parthenium weed (*Parthenium hysterophorus*)

Parthenium weed is a rapidly growing and unpalatable annual widespread in the tropics and now established in Queensland and New South Wales, but absent from South Australia. It has been declared a Weed of National Significance because of the major problem it causes in grazing and summer cropping areas of central Queensland.

Management Plan for Parthenium Weed

Outcomes

- Maintain pasture production and minimise respiratory problems and dermatitis in humans and livestock.

Objectives

- To prevent the establishment of parthenium weed in South Australia.

Best Practice Implementation

- Movement of fodder or machinery from Queensland (and, in the event of the weed becoming established in New South Wales, from that State) to be monitored by regional landscape boards and Green Adelaide.
- Any infestations of parthenium weed found to be destroyed.
- In the event of an incursion in South Australia, movement of machinery or fodder from infested properties to be monitored to prevent contamination.

Regional implementation

Refer to regional management plans for further details.

Region	Actions
Alinytjara Wilurara	Prevent entry; destroy if detected
Eyre Peninsula	Prevent entry; destroy if detected
Green Adelaide	Prevent entry; destroy if detected
Hills and Fleurieu	Prevent entry; destroy if detected
Kangaroo Island	Prevent entry; destroy if detected
Limestone Coast	Prevent entry; destroy if detected
Murraylands and Riverland	Prevent entry; destroy if detected
Northern and Yorke	Prevent entry; destroy if detected
South Australian Arid Lands	Prevent entry; destroy if detected

Declaration

To implement this policy, parthenium weed is declared under the *Landscape South Australia Act 2019* throughout the whole of the State of South Australia. Its entry to the State, movement or transport on a public road by itself or as a contaminant, or sale by itself or as a contaminant are prohibited. Notification of infestations is necessary to ensure these are destroyed. Land owners are required to destroy any parthenium weed plants growing on their land. Landscape boards and Green Adelaide are required to destroy plants on road reserves in their regions, and may recover costs from the adjoining land owners.

Parthenium weed is declared in category 1 under the Act, for the purpose of setting maximum penalties and for other purposes. Any permit to allow its entry, road transport or sale can only be issued by the Chief Executive of the Department for Environment and Water or their delegate pursuant to section 197.

Under the *Landscape South Australia (General) Regulations 2020*, Regulation 27 specifies the conditions under which a person is exempt from the operation of section 186 and may transport wool, grain or other produce or goods carrying parthenium weed on public roads, or bring them into the State. Regulation 28 specifies conditions under which a person is exempt from the operation of section 188(2) and may sell wool, grain or other produce or goods carrying parthenium weed. Note that certain produce or goods may be excluded from these general movement and sale exemptions by Gazettal Notice of the Chief Executive, DEW.

The following sections of the Act apply to parthenium weed throughout each of the regions noted below:

Sections of Act	Region								
	AW	EP	GA	HF	KI	LC	MR	NY	SAAL
186(1) Prohibiting entry to area	X	X	X	X	X	X	X	X	X
186(2) Prohibiting movement on public roads	X	X	X	X	X	X	X	X	X
188(1) Prohibiting sale of the plant	X	X	X	X	X	X	X	X	X
188(2) Prohibiting sale of contaminated goods	X	X	X	X	X	X	X	X	X
190 Requiring notification of presence	X	X	X	X	X	X	X	X	X
192(1) Land owners to destroy the plant on their properties	X	X	X	X	X	X	X	X	X
192(2) Land owners to control the plant on their properties									
194 Recovery of control costs on adjoining road reserves	X	X	X	X	X	X	X	X	X

Review

Success of the program will be measured by its effectiveness in preventing any outbreaks of parthenium weed in South Australia. This policy is to be reviewed by 2025, or in the event of parthenium weed becoming established in South Australia, or any change in its status as a Weed of National Significance.

Weed Risk

Invasiveness

Parthenium weed is a fast-maturing annual (or short-lived perennial) that can germinate and set seed in four weeks under ideal conditions. Experience in the eastern States has shown that it establishes readily on roadsides, fencelines and disturbed ground. Parthenium weed

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produces large numbers of small seeds that are easily spread in contaminated fodder and pasture seed, and also move on vehicles, machinery (particularly grain harvesters) and livestock. It can rapidly colonise sites with sparse groundcover or bare soil.

It is a strong competitor in pasture, excluding desirable species in neglected or overstocked paddocks, but is not likely to invade well-managed pastures or cropped land.

Impacts

The plant is a serious allergen, causing respiratory problems and dermatitis in humans as well as skin reactions in stock grazing infested paddocks. It is toxic to cattle, and meat from livestock that eat it can become tainted.

It allelopathically inhibits the germination and growth of some plants including valuable pasture grasses.

Although it is not primarily a weed of crops, the potential loss of export markets due to parthenium weed seed contamination is emerging as an issue for some industries in the eastern States.

Potential distribution

Its potential distribution in South Australia extends from the Riverland to the Port Augusta area especially on alkaline, clay-loam to heavy clay soils. There is also potential for parthenium weed to enter South Australia along the Warburton and Coopers Creeks in wet years if it becomes established in the Channel Country of Queensland.

Feasibility of Containment

Control costs

Control in pasture requires improved pasture management. Broadacre applications of a knockdown herbicide combined with a residual can greatly reduce infestations if applied at the appropriate time, and final eradication of the weed from a paddock requires spot herbicide treatment followed up for several years to catch seedling regrowth.

Persistence

Parthenium weed forms a large seedbank in the soil, with a percentage of its seeds entering dormancy and persisting for several years.

Current distribution

Not yet found in South Australia, but infests over 8 million hectares of central Queensland with isolated infestations in southern Queensland. Incursions into New South Wales, which are subject to eradication programs, have been as far south as the Victorian border.

State Level Risk Assessment

Assessment using the Biosecurity SA Weed Risk Management System gave the following comparative weed risk and feasibility of containment scores by land use:

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Land use	Weed Risk	Feasibility of control	Response at State Level
Grazing - southern	medium 88	very high 0	contain spread, alert
Irrigated pastures	medium 51	very high 0	contain spread, alert
Vegetables	negligible 11	very high 0	monitor
Urban	negligible 4	very high 0	monitor

Considerations

Parthenium weed is native to the Caribbean region and has spread as a weed around the tropics of the world. It has been established in Queensland since 1955 and is rapidly spreading in that State; it reached New South Wales in 1982.

It is a major problem in grazing and summer cropping areas of Queensland. It has a serious impact on the pastoral industry, costing farmers and graziers in Queensland over \$22 million a year in reduced production and increased management costs.

Risk assessment indicates containment as a management action. However, since parthenium weed is still absent from South Australia, containment is best implemented by preventing its entry to and establishment in the State. Due to its medium weed risk, absence from the State and very high feasibility of control, parthenium weed is regarded as a State Alert Weed and a high priority surveillance target to increase the likelihood of early detection.

Synonymy

Parthenium hysterophorus L., Sp. Pl. 2: 988. (1753).

Taxonomic synonyms:

Argyrochaeta bipinnatifida Cav., Icon. [Cavanilles] 4: 54. I. 378 (1791)

Echetosis pentasperma Phil., Anales Univ. Chile 129 (1873)

Parthenium glomeratum Rollins, Contr. Gray Herb. 172: 59 (1950)

Parthenium lobatum Buckley, Proc. Acad. Nat. Sci. Philadelphia 1861 457 (1862)

Other common names include bitterweed, carrot grass, congress grass, false ragweed, ragweed parthenium, whitetop, bitter broom, carrot grass, santa maria, santa maria feverfew, whitehead, ragweed parthenium

References

Agriculture & Resource Management Council of Australia & New Zealand Australia & New Zealand Environment & Conservation Council and Forestry Ministers (2001) 'Weeds of National Significance Parthenium Weed (*Parthenium hysterophorus*) Strategic Plan.' (National Weeds Strategy Executive Committee: Launceston)

Chamberlain, J. & Gittens, A. (2004) 'Parthenium Weed Management'. (Department of Natural Resources, Mines and Energy: Brisbane).

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Date: 28 March 2021