



Government
of South Australia

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.

alligator weed (*Alternanthera philoxeroides*)

Alligator weed is a perennial herb growing in water and on wet ground. It was cultivated as a vegetable in suburban Adelaide in the 1990s and may still persist in some backyards despite control and information programs.

Management Plan for Alligator Weed

Outcomes

- To maintain waterways free of blockages and keep streams and wetlands free of major weed threats.

Objectives

- Prevent introduction of alligator weed to waterways and wetlands.
- Destroy any alligator weed infestations as they occur

Best Practice Implementation

- Any infestation of alligator weed discovered to be treated as an incursion and destroyed by regional landscape boards and Green Adelaide.
- Regional landscape boards and Green Adelaide to inspect premises such as pet shops, aquarium suppliers, garden centres or nurseries for alligator weed.
- Sale and movement to be prohibited.
- Regional landscape boards and Green Adelaide to inspect waterways and wetlands for the presence of aquatic weeds.

Regional Implementation

Refer to regional management plans for further details.

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

Declaration

To implement this policy, alligator 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. Land owners are required to destroy any alligator weed plants growing on their land. Regional landscape boards and Green Adelaide are required to destroy plants on road reserves, and may recover costs from the adjoining land owners.

Alligator 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 (DEW) 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 alligator 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 alligator weed. Note that certain produce or goods may be excluded from these general movement and sale exemptions by Gazettal Notice of the Chief Executive of DEW.

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

Region	AW	EP	GA	HF	KI	LC	MR	NR	SAAL
Sections of Act									
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 new incursions of alligator weed in South Australia. This policy is to be reviewed by 2025 or in

the event of alligator weed being found naturalised in the State, or any change in its status as a Weed of National Significance.

Weed Risk

Invasiveness

Alligator weed grows readily from fragments that form roots in water and float as the hollow stems contain air cavities. Fragments can be transported by commercial and recreational vessels or move downstream, especially in floods. It can be moved between regions by trade, dumping of unwanted plants or deliberate planting, for example when it has been used as a leaf vegetable in mistake for *Alternanthera sessilis*.

Impacts

Alligator weed forms dense mats of vegetation, to 1 metre thick, that extend over the surface of shallow freshwater systems including rivers, permanent freshwater streams, ponds and dams. They degrade the habitat for native plants and aquatic fauna by reducing light levels, temperature and oxygen, block small boat access or irrigation intakes, and reduce water quality as they decay and deplete oxygen.

It can also establish on land that remains wet for much of the year, such as irrigated pastures where it competes with pasture species.

Potential distribution

Alligator weed tolerates a wide range of conditions on land and water, and makes optimum growth in nutrient-rich static or slow-moving fresh water. It also grows in brackish water and moderately saline waterways, such as rivers, lakes, reservoirs, rice fields, swamps, irrigation systems, and shallow drainage ditches. Once established on land, it can survive dry periods and regenerate from rhizomes in soil.

It is a potential threat to the River Murray and smaller streams in the Mount Lofty Ranges, Kangaroo Island and the south east of the State, as well as lands adjoining these streams.

Feasibility of Containment

Control costs

Control of infestations in water bodies is expensive, often requiring access by boat. Herbicide use would also be complicated by the close proximity of infestations to water resources used for irrigation, human and livestock consumption and to plants susceptible to off-target damage.

Persistence

Alligator weed is vulnerable to herbicides but has rhizomes in soil or below water with sufficient reserves for repeated regrowth. Live fragments remaining after herbicide treatment may also take root and regenerate. Repeated treatments are therefore necessary to eradicate an infestation.

Current distribution

Alligator weed is naturalised in Queensland, New South Wales and Victoria, but is present in all states, with infestations occurring in cool, warm temperate and subtropical climates. It is not known to be present in the wild in South Australia, but a few plants may persist in gardens.

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:

Land use	Weed Risk	Feasibility of control	Response at State Level
Irrigated pastures	medium 90	very high 2	contain spread alert
Vegetables	low 17	very high 1	monitor
Aquatic	medium 82	very high 2	contain spread alert

Considerations

Alligator weed is native to the Parana River floodplains of northern Argentina and adjacent countries in South America. It was first recorded in the 1940s in Newcastle in New South Wales where it was growing on ballast dumped by wartime shipping. It is one of the Weeds of National Significance, which are subject to a uniform prohibition on sale in all jurisdictions. In line with the national strategy on alligator weed, sale of the plant is prohibited in South Australia as in other jurisdictions.

For several years alligator weed was in cultivation as a backyard vegetable in a few suburban homes. It had been mistaken for *Alternanthera sessilis* (known as mukunuwenna in Sinhalese), which is used as food plant in southern Asia. Most or all of these occurrences have now been destroyed. Due to its medium weed risk, presence in this State only as a rare cultivated plant, and very high feasibility of control, alligator weed is regarded as a State Alert Weed and a high priority surveillance target to increase the likelihood of early detection.

Synonymy

Alternanthera philoxeroides (Mart.)Griseb., Abh. Königl. Ges. Wiss. Göttingen 24: 36. (1879).

Basionym:

Bucholzia philoxeroides Mart., 1825. Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur.13: 107. (1825).

Nomenclatural synonyms:

Telanthera philoxeroides (Mart.)Moq., Prodr. 13: 362. (1849).

Achyranthes philoxeroides (Mart.)Standl., J. Wash. Acad. Sci. 5: 74. (1915).

Taxonomic synonyms:

Alternanthera philoxerina Suess., Repert. Spec. Nov. Regni Veg. 38: 303 (1934)

Celosia amphibia Salzm. ex Moq., Prodr. (DC.) 13(2): 363 (1849)

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Other common names include pigweed.

References

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

Julien, M.H. (1995) *Alternanthera philoxeroides* (Mart.)Griseb. In Groves, R.H. et al., eds. *The Biology of Australian Weeds* 1: 1-12.

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