Declared Plant Policy

Government of South Australia

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.*

three-cornered garlic (*Allium triquetrum*)

Three-cornered garlic occurs in South Australia mainly as a garden weed. Larger infestations are restricted to high rainfall areas, where it forms colonies in neglected perennial pastures, along streams and on shaded roadsides.

Management Plan for Three-Cornered Garlic

Outcomes

- Prevent the spread of three-cornered garlic into uninfested areas

Objectives

- To control high-priority infestations in high rainfall regions.
- To prevent any movement of three-cornered garlic seed or bulbs in produce.

Best Practice Implementation

- Regional landscape boards in the active control area and Green Adelaide to ensure high priority infestations are monitored and treated if threatening priority assets
- Within the active control area, infestations on road reserves to be controlled by these authorities.
- Regional landscape boards and Green Adelaide to monitor and prevent any movement of three-cornered garlic in produce or its sale as a garden plant.

Regional Implementation

Refer to regional management plans for further details.

Region	Actions
Alinytjara Wilurara	Limited action
Eyre Peninsula	Limited action
Green Adelaide	Limited action
Hills and Fleurieu	Limited action
Kangaroo Island	Monitor
Limestone Coast	Limited action
Murraylands and Riverland	Limited action
Northern and Yorke	Monitor
South Australian Arid Lands	Limited action

Declaration

To implement this policy, three-cornered garlic is declared under the *Landscape South Australia Act 2019* throughout the whole of the State of South Australia. Its movement or transport on a public road, by itself or as a contaminant, or sale by itself or as a contaminant, are prohibited.

Green Adelaide and the Hills and Fleurieu Landscape Board may require land owners to control three-cornered garlic plants growing on their land. These authorities are required to control plants on road reserves in their regions and may recover costs from the adjoining land owners.

Three-cornered garlic is declared in category 3 under the Act for the purpose of setting maximum penalties and for other purposes. Any permit to allow its road transport or sale can only be issued by the regional landscape board or Green Adelaide pursuant to section197.

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 three-cornered garlic on public roads. 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 three-cornered garlic. Note that certain produce or goods may be excluded from these general movement and sale exemptions by Gazettal Notice of the Chief Executive of the Department for Environment and Water.

The following sections of the Act apply to three-cornered garlic throughout each of the regions noted below:

Region / Sections of Act	AW	EP	GA	HF	KI	LC	MR	NY	SAAL
186(1) Prohibiting entry to area									
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									
192(1) Land owners to destroy the plant on their properties									
192(2) Land owners to control the plant on their properties			X	X					
194 Recovery of control costs on adjoining road reserves			X	X					

Review

This policy is to be reviewed by 2025 or in the event of a change in one or more regional management plans for three-cornered garlic.

Weed Risk

Invasiveness

Three-cornered garlic occurs in woodlands and shady places in high rainfall areas. It is known to establish in minor disturbed ecosystems (e.g. riparian, wetlands and woodlands), and pastures. It does not compete strongly with crops or improved pastures.

Three-cornered garlic produces viable seed, which is spread for a few metres by ants, and sometimes over longer distances downstream by water. However seed production is relatively low, no more than 50 seeds per bulb each year. Bulbs are spread when garden waste is dumped on roadsides and gullies, and may be moved in soil, hay or other agricultural produce.

Impacts

Experience in Victoria has shown that three-cornered garlic can completely replace native ground vegetation in poorly drained soils along watercourses, especially under deciduous trees, growing with introduced perennial grasses or in pure stands that leave soil bare in its summer dormant period.

Three-cornered garlic has little effect on agricultural yields, however it imparts a strong onion flavour and an unpleasant odour to dairy products and meat, making them unfit for sale.

Potential distribution

Three-cornered garlic is restricted to high rainfall areas, where it forms colonies in gardens, neglected perennial pastures, along streams and on shaded roadsides. Most of its potential habitat is in the Green Adelaide, Hills and Fleurieu and Limestone Coast regions, the southern end of Eyre Peninsula, and some sites in the Kangaroo Island, Murraylands and Riverland, and Northern and Yorke regions.

Feasibility of Containment

Control costs

Three-cornered garlic can be controlled by cultivation techniques and spot-spraying with an appropriate herbicide. The standard control strategy in pasture is to prevent seed production by mowing, slashing or heavy grazing, combined with pasture improvement using phalaris and clovers.

Infestations found in cropping paddocks can be controlled over a few years by repeated cultivations, and are also very sensitive to the sulfonyl-urea herbicides routinely used in these situations.

Persistence

Three-cornered garlic is a perennial that persists indefinitely by bulbs in suitable sites. It is not shaded out under deciduous trees as it makes most of its annual biomass growth while they are leafless. It is tolerant of waterlogging and the level of frosts that occur in South Australia.

Current distribution

The plant is locally common in the Hills and Fleurieu region, with scattered infestations in the Eyre Peninsula, Kangaroo Island and Limestone Coast regions.

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**
Grazing - southern	low 15	very high 12	monitor
Irrigated pastures	low 20	very high 5	monitor
Vegetables	negligible 11	very high 1	monitor
Native vegetation	low 13	very high 2	monitor

Considerations

Three-corner garlic was proclaimed for the whole State in 1939 because of fears that large infestations would taint dairy products and meat to the detriment of export markets.

Although weed risk assessment indicates monitoring at the State level, three-corner garlic is considered to be a local problem in parts of the Green Adelaide and Hills and Fleurieu regions, and for this reason monitoring programs include a commitment to enforced control. Outside the high rainfall regions of the State, only limited action is necessary.

Synonymy

Allium triquetrum L., Sp. Pl. 1: 300 (1753)

Taxonomic synonyms:

Allium medium G.Don, Mem. Wern. Nat. Hist. Soc. 6: 88 (1827)
Allium opizii Wolfner, Lotos 4: 176 (1854)

Other common names include angled onion, three-cornered leek, triangular-stalked garlic, triquetrous garlic and triquetrous leek.

Hon David Speirs MP
Minister for Environment and Water

Date: 28 March 2021