Declared Plant Policy
under the Natural Resources Management Act 2004

two-leaf Cape tulip (*Moraea miniata*)

Government of South Australia

Two-leaf Cape tulip is a winter-growing geophyte, introduced as ornamental bulb, and now locally important as a toxic pasture weed in higher rainfall regions of SA.

Management Plan for two-leaf Cape tulip

Outcomes

- Losses to grazing industry from two-leaf Cape tulip minimised.

Objectives

- Prevent spread of two-leaf Cape tulip to uninfested pastures.
- Eradicate high priority outbreaks in generally uninfested areas.
- Contain large infestations and reduce their density.

Implementation

- NRM authorities to ensure that all priority infestations on private or public land are destroyed.
- NRM authorities to destroy all priority infestations on road reserves.
- Promote techniques including rotations and herbicides for the reduction of large Cape tulip infestations.
- To assist local control programs, the sale and movement of Cape tulip is prohibited.

Regional Implementation

Refer to regional management plans for further details.

NRM Region	Actions
Adelaide and Mount Lofty Ranges	Destroy infestations
Alinytjara Wilurara	Limited Action
Eyre Peninsula	Monitor
Kangaroo Island	Destroy infestations – regional alert
Northern and Yorke	Manage weed
South Australian Arid Lands	Monitor
South Australian Murray Darling Basin	Protect sites
South East	Contain spread by control

Declaration

To implement this policy, two-leaf Cape tulip is declared under the *Natural Resources Management Act, 2004* throughout the whole of the State of South Australia. The movement or transport of the plant on a public road, by itself or as a contaminant, or the sale by itself or as a contaminant is prohibited. NRM authorities in all regions except the SA Arid Lands may require land owners to control two-leaf Cape tulip plants growing on their land. NRM authorities in these regions are responsible for the control of infestations on road reserves and may recover costs from the adjoining land owners.

Two-leaf Cape tulip is declared in category 2 under the Act for the purpose of setting maximum penalties and for other purposes. Any permit to allow its movement or sale can only be issued by the Chief Officer pursuant to section 188. Under the *Natural Resources Management (General) Regulations 2005*, the transport or movement of grain for milling or wool for cleaning is exempt from the operation of sections 175 and the sale of wool or grain is exempt from section 177(2) if at the time of the sale the person believes on reasonable grounds that the purchaser will remove the plant from the wool or grain before any re-sale.

The following sections of the Act apply to two-leaf Cape tulip throughout each of the NRM regions noted below:

Region / Sections of Act	AMLR	AW	EP	KI	NY	SAAL	SAMDB	SE
175(1) Prohibiting entry to area								
175(2) Prohibiting movement on public roads	X	X	X	X	X	X	X	X
177(1) Prohibiting sale of the plant	X	X	X	X	X	X	X	X
177(2) Prohibiting sale of contaminated goods	X	X	X	X	X	X	X	X
180 Requiring notification of infestations								
182(1) Landowners to destroy the plant on their properties								
182(2) Landowners to control the plant on their properties	X	X	X	X	X		X	X
185 Recovery of control costs on adjoining road reserves	X	X	X	X	X		X	X

Review

This policy is to be reviewed by 2020, or in the event of a change in one or more regional management plans for two-leaf Cape tulip.

Rationale

The form of two-leaf Cape tulip naturalised in Australia is a sterile triploid that reproduces by large numbers of seed-sized cormils, and has also become a widespread weed within its native range in South Africa.

The discontinuous and scattered distribution within the potential habitat probably reflects its initial dispersal as a garden plant. Cape tulips invade cleared land on soils ranging from sands to heavy waterlogged clays but cannot compete under dense tree or shrub cover, and are poorly adapted to lower rainfall areas.

Weed Risk

Invasiveness

The weedy form of two-leaf Cape tulip produces hundreds of tiny cormils in the leaf axils. These function like seeds that remain viable for a single year, germinating at the first autumn break after shedding. It has no effective strategy of long-range dispersal, which depends on movement with fodder, soil or machinery.

Impacts

Two-leaf Cape tulip contains toxic cardiac glycosides; however, poisoning of stock is rare, occurring mainly in hungry cattle lacking experience of the plant. The unpalatability leads to increased abundance under grazing with a corresponding decline in carrying capacity.

Potential distribution

Because of its slow rate of spread, two-leaf Cape tulip has not reached its ecological limits in this State. It invades cleared land on soils ranging from sands to heavy waterlogged clays but cannot compete under dense tree or shrub cover. It requires winter rainfall, and is poorly adapted to lower rainfall areas.

Its potential distribution extends across the agricultural zone from the west side of Eyre Peninsula to the South East including the southern end of the Flinders. The main sites open to infestation are pasture paddocks on heavy soils.

Feasibility of Containment

Control costs

Cape tulips are not easily killed by herbicides. Their corms may remain dormant through a whole year, enabling a population to persist even if it were possible to kill all growing plants. A planned program over several years is therefore needed to destroy a population.

Persistence

The proportion of corms remaining dormant is higher in years when the autumn break arrives late, but can be reduced by burning at this time.

Current distribution

The distribution of two-leaf Cape tulip is disjunct due to its dependence on accidental transport between properties, but extends from southern Eyre Peninsula, Yorke Peninsula, Mount Lofty Ranges to the South East with scattered infestations in the lower Flinders ranges and the Murray mallee. It is absent from Kangaroo Island.

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	high 118	high 27	contain spread
Grazing - rangeland	negligible 2	very high 2	monitor
Native vegetation	low 22	very high 2	monitor

Considerations

Risk assessment indicates contain spread as the action in southern permanent pastures, and monitoring in other land uses. While sale and movement are prohibited uniformly across the State, regional actions vary according to the land uses in each region.

Two-leaf Cape tulip is localised in the Adelaide and Mount Lofty Ranges region, where infestations are prioritised for control and eventual destruction. As this weed is absent from Kangaroo Island, it is treated as a regional alert with any infestations to be destroyed. In the South Australian Murray Darling Basin, key sites and assets are protected from the weed. In the South East NRM region spread is contained by control of infestations. In the Eyre Peninsula and the SA Arid Lands regions infestations are monitored.

Synonymy

Moraea miniata Andrews, Bot. Rep. 6: t.404 (1804).

Nomenclatural synonym:
Homeria miniata (Andrews)Sweet, Brit. Fl. Gard. 2: t.152 (1826)

Taxonomic synonyms:
Homeria albida L.Bolus, J. Bot. 69: 258 (1931)
Homeria lineata Sweet, Brit. Fl. Gard. 2: t.178 (1826)
Moraea gigantea Klatt, Linnaea 35: 381 (1867)
Moraea lineata (Sweet) Steud., Nomencl. Bot. ed. 2. 2: 160 (1841)

Other common names include poison tulip, rooitulp and wild eschallot.

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Minister for Sustainability, Environment and Conservation

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