



Government
of South Australia

Declared Plant Policy

Gazania (*Gazania* spp.)

Gazania is a tough, low-growing perennial with brightly coloured daisy flowers, native to South Africa. It is widely grown and naturalised in South Australia.

Management Plan for Gazania

Outcomes

- Displacement of native ground cover species from native vegetation by gazania prevented.

Objectives

- Reduce the spread of gazania within coastal and mallee areas.
- Protect key native vegetation sites from invasion by gazania.

Implementation

- Biosecurity SA to publicise the status of gazania as a declared plant, and its impacts.
- Natural Resources Management (NRM) authorities and Chief Officer to enforce the prohibition on sale of gazanias.
- NRM authorities that have site protection programs to identify native vegetation sites requiring protection, and develop partnerships with local and state government agencies to protect these sites.

Regional Implementation

Refer to regional management plans for further details.

NRM Region	Actions
Adelaide and Mount Lofty Ranges	Manage sites (in coastal areas)
Alinytjara Wilurara	Contain spread
Eyre Peninsula	Contain spread
Kangaroo Island	Protect sites
Northern and Yorke	Limited action
South Australian Arid Lands	Limited action
South Australian Murray-Darling Basin	Monitor
South East	Protect sites

Declaration

To implement this policy, gazania is declared under the *Natural Resources Management Act 2004* throughout the whole of the State of South Australia so that movement of contaminated produce can be prevented. The movement or transport of the plant on a public road by itself or

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as a contaminant, its entry to South Australia, or sale by itself or as a contaminant are prohibited.

NRM authorities in the Adelaide and Mount Lofty Ranges and South East regions may require land owners to control gazania plants growing on their land. NRM authorities in these regions are required to control plants on road reserves and may recover costs from the adjoining land owners.

Gazania is declared in category 3 under the Act for the purpose of setting maximum penalties and for other purposes. Any permit to allow its sale or road transport can only be issued by the regional NRM Board 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 gazania throughout each of the NRM regions noted below:

Sections of Act	Region							
	AMLR	AW	EP	KI	NY	SAAL	SAMDB	SE
175(1) Prohibiting entry to area	X	X	X	X	X	X	X	X
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
185 Recovery of control costs on adjoining road reserves	X							X

The following cultivars, all subject to Plant Breeders Rights in Australia, are exempt from the declaration:

GT20 (marketed as Double Gold™)
 Sugaja (marketed as Sunset Jane™)
 Sugamo (marketed as Montezuma™)

Other cultivars may be granted exemption on application by their owners if adequate evidence of their sterility is presented.

Review

This policy is to be reviewed by 2020 or in the event of a change in one or more regional management plans for gazania.

Weed Risk

Invasiveness

Gazanias produce abundant wind-blown seeds and spread rapidly when there is suitable bare habitat for establishment such as graded roadsides. They generally grow from seed

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that germinates in March or April, after autumn rains but before the coldest months of the year. Under favourable conditions in the wild they are able to flower within a year of germination

They also spread vegetatively, often in garden waste as it can be propagated from stem cuttings or the stolons produced by the coastal forms that were formerly called *Gazania rigens*.

Some modern cultivars may be sterile, but this would need to be confirmed for each one by name before their exemption from any section of the Act could be considered.

Impacts

Gazania competes with dry coastal vegetation, heathland, woodland and grassland, coastal scrub and inland Mallee. It is often found on coastal cliffs, sand dunes, wasteland, stream banks, open grassland and on disturbed soil. In some coastal habitats it can form monoculture groundcovers.

It is also one of the weeds that occupy bare ground under perennial horticulture, and summer fallows in no-till agricultural systems, where it can impede sowing in autumn. The impact of gazania in these systems has yet to be quantified.

Potential distribution

Given the known current distribution in Australia, the plant could grow across a wide area of South Australia. Gazania is adapted to sandy and other well-drained soils, and is tolerant to salt-laden winds and the levels of frost that occur in southern SA.

The rainfall requirements of gazania are generally unknown; the current distribution would appear to suggest that the arid areas of South Australia are too dry to support significant infestations. Current known infestations are generally confined to coastal regions, riparian environments and pastures within the arable areas of the state. It is also frequent on roadsides in towns and outside properties in many areas including the Murray Mallee.

Feasibility of Containment

Control costs

Grazing normally provides control in paddocks. Herbicide trials have been carried out to find optimum treatments on coastal dunes. In general, surfactants are necessary to get herbicide into the leaves, which are protected by a waxy cuticle and appressed hairs.

Gazania tolerates occasional mowing or slashing, and moderate shading by taller vegetation. Hand weeding is not an efficient method of control because all the stem and rhizome must be destroyed to prevent regrowth.

Persistence

Gazanias are extremely hardy plants, being fire resistant, highly tolerant of frost, salinity and drought. They are not, however, tolerant of water logging.

The plant is able to regenerate from a soil seedbank following control, but it is not known if these seeds can remain dormant in soil for more than five years.

Current distribution

Gazania is grown in gardens throughout South Australia. Wild populations are widespread and common in coastal areas near former plantings from the west coast to the lower South East, and also inland mainly in Mallee areas.

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
Native vegetation	medium 54	high 23	protect sites

Considerations

Gazania is a very common garden plant due to its ease of growth, attractiveness and low maintenance. Its stress-tolerant characteristics, and its wide genetic base, allow it to grow in many native vegetation types.

Risk assessment indicates site protection as the appropriate action at State level in native vegetation. For this reason, the sale of gazania is prohibited uniformly across the State to minimise future spread to new areas. Any named cultivars proven by the industry to be sterile might be exempted from this declaration in the future.

Regional management plans for gazania vary according to its presence and the type of regional habitats. The Eyre Peninsula and Alinytjara Wilurara NRM regions contain its spread, and Kangaroo Island protects sites, in each case without a need for enforced control. The distribution of gazania is monitored in the South Australian Murray-Darling Basin NRM region, and there is limited action in the South Australian Arid Lands and Northern and Yorke regions.

Two NRM Boards have management plans that require enforced control for their implementation. Adelaide and Mount Lofty Ranges aims to manage coastal sites, and the South East aims to protect native vegetation sites. In these regions, section 182(2) is applied as necessary to achieve the management aims, and gazanias cultivated in private gardens are not targeted.

Synonymy

Gazania Gaertn., De Fructibus et Seminibus Plantarum (1791).

Taxonomic synonyms:

- Gazania hirtella* DC., Prodr. (DC.) 6: 511 (1838)
- Gazania krebsiana* Less., Syn. Gen. Compos. 44 (1832)
- Gazania leiopoda* (DC.) Roessler, Mitt. Bot. Staatssamml. München 3: 388 (1959)
- Gazania leucolaena* DC., Prodr. (DC.) 6: 509 (1838)
- Gazania linearis* (Thunb.) Druce, Rep. Bot. Exch. Cl. Brit. Isles 1916: 624 (1917)
- Gorteria linearis* Thunb., Prodr. Pl. Cap. 162 (1800)
- Gazania longiscapa* DC., Prodr. (DC.) 6: 513 (1838)
- Gazania maritima* Levyns, J. S. African Bot. 8: 260 (1942)

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- Gazania pavonia* R.Br., Hortus Kewensis 5 (1813)
Gazania pectinata Spreng., Syst. Veg. (ed. 16) 3: 607 (1826)
Gazania rigens (L.) Gaertn., De Fructibus et Seminibus Plantarum (1791)
Othonna rigens L., Pl. Rar. Afr. 24 (1760)
Gazania rigida (Burm.f.) Roessler, Mitt. Bot. Staatssamml. München 3: 397 (1959).
Arctotis rigida Burm.f., Prodr. Fl. Cap. 28 (1768)
Gazania serrata DC., Prodr. (DC.) 6: 510 (1838)
Gazania splendens Hend. & A.A.Hend., Ill. Bouquet 1: t. 29, f. 1 (1859)
Gazania uniflora (L.f.) Sims, Bot. Mag. 48: t. 2270 (1821)
Gorteria uniflora L.f., Suppl. Pl. 382 (1782)

These names have been given to populations in South Africa that have diverged only within the last half million years, and consequently are still interbreeding. The gazanias introduced to Australia are of mixed parentage across this complex, and in recent decades have been selectively bred for improved flowers.

Other common names include treasure flower, coastal gazania, trailing gazania and clumping gazania.

Reference

Howis, S., Barker N.P. & Mucina, Ladislav (2009) Globally grown, but poorly known: species limits and biogeography of *Gazania* Gaertn. (Asteraceae) inferred from chloroplast and nuclear DNA sequence data. Taxon 58: 871–882.

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