



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.

spiny rush (*Juncus acutus*)

Spiny rush is a rush that forms large long-lived tussocks. It is native to Europe, Africa and North America. In South Australia spiny rush is scattered in areas near the coast.

Management Plan for Spiny Rush

Outcomes

- Protect the integrity of native riparian vegetation from the impacts of spiny rush.
- Maintain water flow in watercourses.

Objectives

- Prevent further spread of spiny rush in the Hills and Fleurieu Limestone Coast, and adjoining outlier riparian areas of the Murraylands and Riverland regions.

Best Practice Implementation

- Regional landscape boards and Green Adelaide to control infestations in active control areas according to regional priorities.
- Regional landscape boards and Green Adelaide to promote awareness of the impacts of spiny rush.
- Regional landscape boards and Green Adelaide to prevent any sale and distribution of spiny rush.

Regional Implementation

Refer to regional management plans for further details.

Region	Actions
Alinytjara Wilurara	Limited action
Eyre Peninsula	Limited action
Green Adelaide	Contain spread
Hills and Fleurieu	Contain spread
Kangaroo Island	Limited action
Limestone Coast	Protect sites
Murraylands and Riverland	Manage weed
Northern and Yorke	Limited action
South Australian Arid Lands	Limited action

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Declaration

To implement this policy, spiny rush is declared under the *Landscape South Australia Act 2019* throughout the whole of the State of South Australia to minimise further spread. Its entry to South Australia, movement or transport on a public road by itself or as a contaminant, or sale by itself or as a contaminant, are prohibited.

The Hills and Fleurieu, Limestone Coast and Murraylands and Riverland Landscape Boards, and Green Adelaide, may require land owners to control spiny rush plants on their land. These authorities are required to control plants on road reserves in their regions and may recover costs from adjoining land owners.

Spiny rush is declared in category 3 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 regional Landscape Board or Green Adelaide 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 spiny rush 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 spiny rush. 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 spiny rush 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									
192(1) Land owners to destroy the plant on their properties									
192(2) Land owners to control the plant on their properties			X	X		X	X		
194 Recovery of control costs on adjoining road reserves			X	X		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 spiny rush.

Weed Risk

Invasiveness

Spiny rush invades saline or brackish to freshwater wetlands on calcareous soils. It is principally dispersed via water, along drainage channels and creek lines although the small seeds can readily contaminate agricultural produce and adhere to machinery and vehicles in mud and soil.

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The seed can germinate at almost any time of the year. Each seed capsule or fruit can hold up to 200 seeds and each plant produce up to 100,000 seeds. The seed has high rates of germination (up to 75%) but the seedlings are tiny at first and availability of light is a major limiting factor for germination. Wet, sandy and open substrates are favoured sites for establishment of new populations. Fire creates optimum conditions (abundant light and open bare ground) for germination of seed and establishment of new populations.

The rhizomes may be spread by cultivation, road maintenance and other soil moving activities.

Impacts

Spiny rush forms larger tussocks than other *Juncus* species in South Australia, up to 1.5 metres tall. It has the capacity to exclude pasture plants, reduce carrying capacity, injure animals and humans and restrict movements of animals, machinery and humans. It is not readily eaten by grazing animals and can restrict their access to water due to the leaf tips that form very sharp, hard spines.

Dense infestations out-compete all other vegetation including native perennial native rushes and sedges, increase the potential for floods due to restricted water flow, act as harbour for vermin such as rabbits and foxes and can prevent management actions such as ripping of warrens.

It is commonly found as a weed of coastal flats, mine dumps and disturbed saline areas. Once firmly established, it completely covers an area and eliminates almost all other ground vegetation.

When growing in drains and watercourses, spiny rush restricts the flow of water which can result in serious flooding.

Potential distribution

Spiny rush tolerates a high level of salinity. It persists in moist habitats in temperate regions, including pastures, waterways, swamps, estuaries, disturbed sites, waste areas and coastal saltmarshes.

Feasibility of Containment

Control costs

Due to the lack of accessibility for dense infestations, mechanical control is often the most effective method of control. Machinery is used to cut spiny rush just below the ground surface. After physical removal, plants are heaped and burnt, and then the soil is cultivated to encourage the growth of seedlings. Follow-up cultivations over the following two summers are necessary to destroy seedlings, although some seed will remain to germinate in following years.

Burning or slashing and then spraying or wiping new growth with herbicide can increase herbicide uptake, making the treatment more effective.

Spiny rush can be mistaken for some of the native rushes, particularly sea rush (*Juncus kraussii*) and pale rush (*J. pallidus*), but it is recognisable by its needle-sharp leaf tips.

Persistence

Plants do not flower until at least two years old. The rhizomes and associated fibrous root system enables regeneration after cutting or clearance. Seed may persist for many years in the soil.

Many established plants will also resprout following a fire.

Current distribution

In South Australia spiny rush is naturalised on the Adelaide Plains, near Mount Pleasant, on the lower Eyre Peninsula, at Mount Remarkable, on Kangaroo Island, along the River Murray floodplain, in the Riverland (including Loveday Swamp) along the Coorong and near Kingston, Beachport and in the Limestone Coast region.

It is also common and widespread in eastern and southern New South Wales, the ACT, Victoria, south-eastern South Australia and south-western Western Australia. It is a threat to arid wetlands in the Northern Territory where populations have spread along the Finke River between Ormiston and Finke Gorge.

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
Aquatic (riparian)	medium 51	very high 14	contain spread
Native vegetation	negligible 10	high 20	limited action
Grazing (southern)	medium 39	high 15	protect sites

Considerations

Spiny rush was introduced to Victoria in the nineteenth century and to Western Australia between 1920 and 1950. The earliest record in South Australia is dated 1940. More recently spiny rush has been offered for sale in the Hills and Fleurieu region either as a landscape plant or mistakenly as a native rush species for revegetation.

Risk assessment indicates a management action at State level of containment in native riparian vegetation, with a lower risk in other native vegetation and permanent pastures. Regional management plans vary according to regional habitats and presence of the weed.

Its weed risk is higher and feasibility of control is lower in the Hills and Fleurieu region, where a strategy of containment by enforced control in some situations is justified. There is a strategy of site protection in the Limestone Coast where larger infestations occur. The Murraylands and Riverland region has a strategy of managing new and emerging spiny rush infestations in riparian zones near its western boundary.

Synonymy

Juncus acutus L., Sp. Pl. 325 (1753).

Taxonomic synonyms:

Juncus karelinii Steud., Syn. Pl. Glumac. 2: 297 (1855).

Juncus multibracteatus Tineo, Fl. Sicul. Prodr. Suppl.: 105 (1832).

Juncus spinosus Forssk., Fl. Aegypt.-Arab. 75 (1775).

Juncus variegatus Caruel, Nuovo Giorn. Bot. Ital. 2: 276 (1870).

All the naturalised populations belong to the subspecies *acutus*.

Other common names include sharp rush, sharp-pointed rush and sharp sea rush.

Hon David Speirs MP

Minister for Environment and Water

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