

Declared Plant Policy

under the Natural Resources Management Act 2004



hydrocotyle (*Hydrocotyle ranunculoides*)

Hydrocotyle ranunculoides is an aquatic plant with floating leaves. It became a local problem on the Canning River in Western Australia where it still persists, raising concern that it would be a potentially serious weed of wetlands if it became established in this State.

Management Plan for Hydrocotyle

Outcomes

- Maintain waterways free of blockages and keep wetlands free of major weeds.

Objectives

- Prevent the establishment of *Hydrocotyle ranunculoides* in SA.

Implementation

- NRM authorities to inspect premises such as pet shops, aquarium suppliers and garden shops for hydrocotyle plants.
- NRM authorities to ensure any plants found are destroyed.
- To assist local control programs, any sale and movement to be prevented.
- Any hydrocotyle infestation found to be destroyed.
- NRM authorities to inspect waterways and wetlands for the presence of water weeds.

Regional Implementation

Refer to regional management plans for further details.

NRM Region	Actions
Adelaide and Mount Lofty Ranges	prevent entry or sale; destroy if detected
Alinytjara Wilurara	prevent entry or sale; destroy if detected
Eyre Peninsula	prevent entry or sale; destroy if detected
Kangaroo Island	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
South Australian Murray Darling Basin	prevent entry or sale; destroy if detected
South East	prevent entry or sale; destroy if detected

hydrocotyle policy

Declaration

To implement this policy, hydrocotyle 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, its entry to South Australia, or the sale by itself or as a contaminant are prohibited. Notification of infestations is necessary to ensure these are destroyed. Land owners are required to destroy any hydrocotyle plants growing on their land. NRM authorities are required to destroy plants on road reserves, and may recover costs from the adjoining land owners.

Hydrocotyle is declared in category 1 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.

The following sections of the Act apply to hydrocotyle throughout each of the 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	X	X	X	X	X	X	X	X
182(1) Landowners to destroy the plant on their properties	X	X	X	X	X	X	X	X
182(2) Landowners to control the plant on their properties								
185 Recovery of control costs on adjoining road reserves	X	X	X	X	X	X	X	X

Review

This policy is to be reviewed by 2020 or in the event of hydrocotyle being found established in SA.

Weed Risk

Invasiveness

It is not known whether hydrocotyle ever produces seeds in Australia. It increases by vegetative growth across the water surface, and the dispersal of fragments as the mats break up and are moved by water flow. Movement between separate bodies of water would probably depend on human action, either by deliberate release or accidental movement on boats etc.

Impacts

Hydrocotyle invades shallow freshwater systems including rivers, permanent freshwater streams, ponds and dams, growing on the wet banks and out over the water surface. It may replace native plants, and creates an unfavourable habitat for aquatic fauna by shading and eutrophication of water (as the plant decays).

Potential distribution

It could grow in the River Murray system, and in stream or wetlands in the South-East and Mount Lofty Ranges.

Feasibility of Containment

Control costs

As all the foliage is above water level, hydrocotyle can be controlled by nonselective herbicides such as glyphosate or diquat. Western Australia uses these herbicides on hydrocotyle under APVMA permits that could be extended to other jurisdictions. However, control would be labour-intensive and may be limited by risks of off-target damage to native species. Glyphosate with a sulfonyl-urea herbicide added is very effective for terrestrial infestations but cannot be used over water.

Persistence

Control actions may need to be repeated for more than two years because of regrowth from rhizomes underground or underwater.

Current distribution

Not present in South Australia.

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	medium 82	very high 0	contain spread, alert

Considerations

Hydrocotyle ranunculoides is native to South America and naturalised in Western Australia. It may be in cultivation in this State, but it is not common or widely available. Because it is a floating plant but anchored in soil, it would have little appeal for use in aquarium tanks and is not sufficiently attractive to be popular for outdoor ornamental ponds. Prohibiting its sale it does not significantly inconvenience the nursery trade.

Risk assessment indicates containment as a management action. However, since the species is absent from SA, containment is best implemented by preventing its entry to and establishment in the State. Due to its medium weed risk, absence from the State and very high feasibility of control, hydrocotyle is regarded as a State Alert Weed and a high priority surveillance target to increase the likelihood of early detection.

Synonymy

Hydrocotyle ranunculoides L.f., Suppl. 177 (1782)

Taxonomic synonyms:

Hydrocotyle batrachioides DC., Prodr. (DC.) 4: 667 (1830)

Hydrocotyle natans Cirillo, Pl. Rar. Neapol. 1: 20 (1788)

Other common names include floating marsh pennywort, water pennywort, floating pennywort, buttercup pennywort or marsh pennywort.

References

Klemm, V.V., Siemon, N.L. & Ruiz-Avila, R.J. (1993) *Hydrocotyle ranunculoides*: A control strategy for the Canning River Regional Park. Swan River Trust Report No. 6.

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