salvinia (*Salvinia adnata*)

Salvinia is a floating aquatic fern that has been spread by its use in ornamental garden ponds and aquaria. It has been the subject of a major control program in NT and Qld, but is only known as a cultivated plant in ponds, dams or aquaria in South Australia.

**Management Plan for Salvinia**

**Outcomes**

- Maintain waterways free of blockages and keep streams and wetlands free of major weed threats.

**Objectives**

- Prevent the establishment of salvinia in waterways and wetlands in South Australia.

**Implementation**

- NRM authorities to inspect premises such as pet shops, aquarium suppliers and garden shops for salvinia plants.
- Any infestation of salvinia discovered to be treated as an incursion and destroyed by NRM authorities.
- All sale and movement to be prohibited.
- NRM authorities to inspect waterways and wetlands for the presence of waterweeds.

**Regional Implementation**

Refer to regional management plans for further details.

<table>
<thead>
<tr>
<th>NRM Region</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide and Mount Lofty Ranges</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>Alinytjara Wilurara</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>Eyre Peninsula</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>Kangaroo Island</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>Northern and Yorke</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>South Australian Arid Lands</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>South Australian Murray Darling Basin</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
<tr>
<td>South East</td>
<td>prevent entry or sale; destroy if detected</td>
</tr>
</tbody>
</table>
Declaration

To implement this policy, salvinia 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 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 salvinia plants growing on their properties.

Salvinia 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 salvinia throughout each of the NRM regions noted below:

<table>
<thead>
<tr>
<th>Sections of Act</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>175(1) Prohibiting entry to area</td>
<td>X</td>
</tr>
<tr>
<td>175(2) Prohibiting movement on public roads</td>
<td>X</td>
</tr>
<tr>
<td>177(1) Prohibiting sale of the plant</td>
<td>X</td>
</tr>
<tr>
<td>177(2) Prohibiting sale of contaminated goods</td>
<td>X</td>
</tr>
<tr>
<td>180 Requiring notification of infestations</td>
<td>X</td>
</tr>
<tr>
<td>182(1) Landowners to destroy the plant on their properties</td>
<td>X</td>
</tr>
<tr>
<td>182(2) Landowners to control the plant on their properties</td>
<td>X</td>
</tr>
<tr>
<td>185 Recovery of control costs on adjoining road reserves</td>
<td>X</td>
</tr>
</tbody>
</table>

Review

This policy is to be reviewed by 2020, or in the event of a change in the status of salvinia as a Weed of National Significance.

Weed Risk

Invasiveness

Movement of salvinia depends on human intervention, especially by the dumping of aquarium contents into water bodies. Its high growth rate under ideal conditions would allow it to rapidly increase while these conditions last and spread downstream by fragmentation and movement of floating fragments.

Impacts

Where it has established in other States, salvinia forms continuous mats over the surface of lakes and streams that impact on native submerged plants, algae and animals by shading and eutrophication of the water as they decay. In South Australia it would be seasonal, with the mats building up over summer and dying off in winter.
Potential distribution

Salvinia could grow in the River Murray system and in streams, dams or ponds across the southern part of South Australia.

Feasibility of Containment

Control costs

As all the foliage is above water level, salvinia can be controlled by herbicides such as glyphosate and diquat. Booms or fences are used to contain large infestations and prevent their downstream movement until they can be killed. However, control of large infestations would be labour-intensive and may be limited by risks of off-target damage to native species.

Persistence

In South Australia, salvinia may persist over winter in sheltered habitats, or may depend on new releases from illegal cultivation each year. Occurrences in the wild have so far been small and short-lived, but are expected to re-appear as long as the species is in cultivation.

Current distribution

Salvinia is not naturalised in South Australia, but is still sometimes grown in ornamental ponds and offered for sale illegally. It has become naturalised in water bodies in NSW, Queensland and the Northern Territory.

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:

<table>
<thead>
<tr>
<th>Land use</th>
<th>Weed Risk</th>
<th>Feasibility of control</th>
<th>Response at State Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic</td>
<td>medium 91</td>
<td>very high 2</td>
<td>contain spread alert</td>
</tr>
</tbody>
</table>

Considerations

Salvinia is one of the Weeds of National Significance, which are subject to a uniform prohibition on sale in all jurisdictions as agreed by the Natural Resource Management Ministerial Council. In line with the national strategy on salvinia, sale of the plant is prohibited in South Australia as in other jurisdictions.

Risk assessment indicates containment as a management action; since salvinia is not naturalised in South Australia, containment is best implemented by preventing its establishment or further entry to the State. Due to its medium weed risk, presence only as a rare cultivated plant and very high feasibility of control, salvinia is regarded as a State Alert Weed and a high priority surveillance target to increase the likelihood of early detection.
Synonymy


References
