

# Aquatic weeds of South Australia

## Can you recognise them?

Aquatic weeds are relatively uncommon in South Australia. You can help us keep it that way by familiarising yourself with their appearance and reporting their presence. See inside for 20 species that may be encountered or are newly emerging threats.



Image by Rohan Wells



## Impacts

Aquatic weeds are those plants that grow in or on the edge of waterways, including rivers, creeks, lakes, wetlands, estuaries and dams or in damp, low lying areas. These weeds are fast growing, due to the ready availability of moisture and nutrients, and have environmental, economic and social impacts. Examples of such impacts include:

- Compromised aquatic habitats including reduced oxygen levels, restricted light and changes to water temperature.
- Displacement of native plant and animal species.
- Reduced access to waterways for recreational purposes such as fishing and boating.
- High costs of controlling weed outbreaks.
- Impeding infrastructure for irrigation or human consumption purposes.

In many instances aquatic weeds have been introduced into our waterways as a result of incorrect disposal of aquariums and ornamental pond plants. Further spread occurs via seeds or plant fragments and large, dense infestations become difficult and costly to manage.

## Identifying aquatic weeds

Aquatic weeds can be grouped according to their growth habit, including:

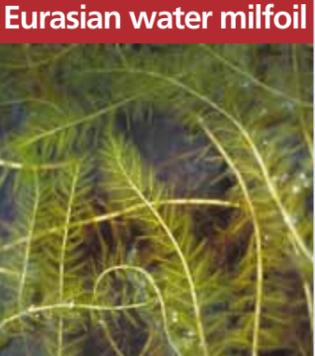
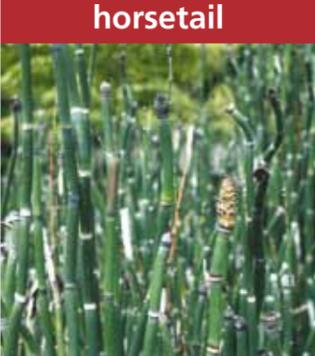
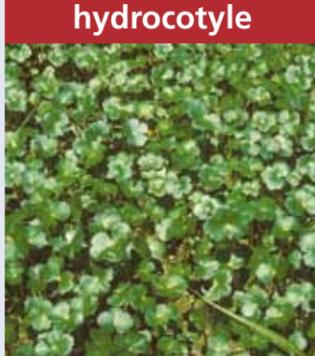
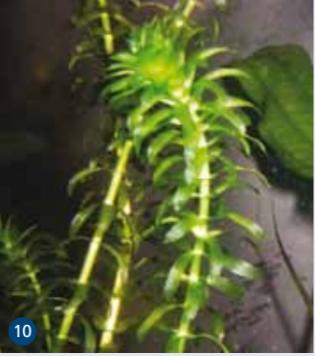
- F Floating** – these plants either float freely or have roots attached to leaves that float on the water's surface.
- S Submerged** – these plants grow beneath the water's surface, though flowers may appear above the water.
- E Emergent** – these plants grow above the water's surface in shallow areas such as lake edges and shorelines.

Look for the symbol under each of the accompanying photos to assist in identification of aquatic weeds.

Whilst this brochure acts as a guide it is important to correctly identify plants prior to undertaking control. Further information and advice can be obtained from your regional Natural Resources Management board.

## herb & fern

# herb & fern

<p><b>alligator weed</b></p>  <p><b>E</b> <i>Alternanthera philoxeroides</i> <b>Invades floodplains and waterways</b> Perennial. Creeping, hollow stems. Papery, white, ball-like flowers.</p>	<p><b>arrowhead</b></p>  <p><b>E</b> <i>Sagittaria montevidensis</i> <b>Invades wetlands and waterways</b> Perennial. Leaves on long, rounded stalks up to 1 m tall. Adult leaves arrow shaped. Flowers have 3 white petals.</p>	<p><b>cabomba</b></p>  <p><b>S</b> <i>Cabomba caroliniana</i> <b>Invades lakes, ponds and slow moving streams</b> Submerged. Fan like leaf arrangement. Floating white flowers with 6 petals.</p>	<p><b>Canadian pond weed</b></p>  <p><b>S</b> <i>Elodea canadensis</i> <b>Invades lakes, dams and slow moving streams</b> Submerged perennial. Small, white flowers float on surface. Leaves in whorls of 3.</p>
<p><b>Eurasian water milfoil</b></p>  <p><b>S</b> <i>Myriophyllum spicatum</i> <b>Invades lakes, ponds and slow moving streams</b> Submerged perennial. Feathery leaves in whorls of 3-4. Note: there are native <i>Myriophyllum</i> in SA.</p>	<p><b>horsetail</b></p>  <p><b>E</b> <i>Equisetum</i> spp. <b>Competitive, toxic to livestock</b> Perennial with creeping roots. Erect, hollow, finely ribbed shoots bear fruiting cones.</p>	<p><b>hydrocotyle</b></p>  <p><b>E</b> <i>Hydrocotyle ranunculoides</i> <b>Invades waterways</b> Emergent perennial. Floating leaves round to kidney shaped.</p>	<p><b>lagarosiphon</b></p>  <p><b>S</b> <i>Lagarosiphon major</i> <b>Invades lakes, dams and slow moving streams</b> Submerged plant. Leaves in alternate spirals along the stem.</p>
<p><b>leafy elodea</b></p>  <p><b>S</b> <i>Egeria densa</i> <b>Invades lakes, ponds and slow moving streams</b> Submerged. Leaves in whorls of 4-5.</p>	<p><b>poison buttercup</b></p>  <p><b>E</b> <i>Ranunculus sceleratus</i> <b>Competes with pastures. Toxic</b> Annual herb. Produces many small, yellow flowers. Highly poisonous.</p>	<p><b>sagittaria</b></p>  <p><b>E</b> <i>Sagittaria graminea</i> var. <i>platyphylla</i> <b>Invades wetlands and waterways</b> Perennial. Leaves on long triangular stalks up to 1.2 m tall. Flowers have 3 white petals.</p>	<p><b>salvinia</b></p>  <p><b>F</b> <i>Salvinia molesta</i> <b>Covers creeks and dams</b> Floating fern. Hairy, oval leaves.</p>
<p><b>Senegal tea plant</b></p>  <p><b>E</b> <i>Gymnocoronis spilanthoides</i> <b>Invades wetlands and slow moving waterways</b> Erect or scrambling bushy herb up to 1 m tall. Forms numerous, white, ball-shaped flowers.</p>	<p><b>water caltrop</b></p>  <p><b>F</b> <i>Trapa natans</i> <b>Covers creeks and dams</b> Floating. Oval or triangular shaped leaves. Woody, spiny fruit.</p>	<p><b>water hyacinth</b></p>  <p><b>F</b> <i>Eichhornia crassipes</i> <b>Covers creeks and dams</b> Floating. Lilac flowers. Swollen stem bases.</p>	<p><b>water soldier</b></p>  <p><b>E</b> <i>Stratiotes aloides</i> <b>Invades lakes, ponds and dams</b> Emergent. Long, triangular leaves with serrated edges extend from rosette. White flowers. Foul smelling.</p>

## athel pine



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**E** *Tamarix aphylla*

**Excludes native plants in riparian areas**

Droping, grey-green, needle-like foliage exuding salt. Small, pinkish-white flowers.

## grey sallow willow



6

**E** *Salix cinera*

**Excludes native plants in riparian areas**

Shrub 6–12 m high. Wider than it is high. Leaves oval shaped, hairy.

## primrose willow



13

**E** *Ludwigia peruviana*

**Invades wetlands and waterways**

Terrestrial or partly submerged shrub to 4 m tall. Yellow flowers with 4–5 petals.

## pussy willow



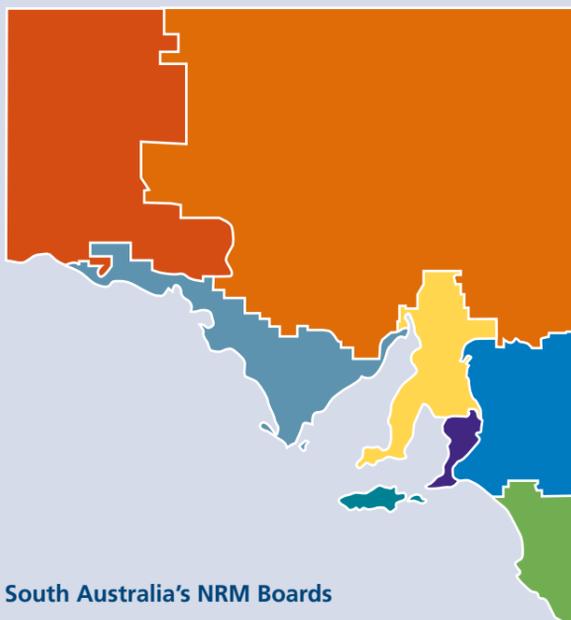
6

**E** *Salix x reichardtii*

**Excludes native plants in riparian areas**

Shrub 6–12 m high. Higher than it is wide. Leaves oval shaped, with pointy tips.

## Advice on managing aquatic weeds



### South Australia's NRM Boards

- Adelaide and Mount Lofty Ranges
- Alinytjara Wilurara
- Eyre Peninsula
- Kangaroo Island
- Northern and Yorke
- South Australian Arid Lands
- South Australian Murray-Darling Basin
- South East

Contact your regional Natural Resources Management (NRM) board office to report a suspected outbreak of any of the weeds featured in this brochure and to receive advice on how to manage them:

### Adelaide and Mount Lofty Ranges NRM Board

[www.amlnrm.sa.gov.au](http://www.amlnrm.sa.gov.au)  
 E [reception@adelaide.nrm.sa.gov.au](mailto:reception@adelaide.nrm.sa.gov.au)  
 Adelaide (head office) 8273 9100  
 Gawler 8523 7700  
 Lobethal 8389 6166  
 Willunga 8550 3400

### Alinytjara Wilurara NRM Board

[www.awnrm.sa.gov.au](http://www.awnrm.sa.gov.au)  
 E [eo@aboriginalnrm.com.au](mailto:eo@aboriginalnrm.com.au)  
 Adelaide (head office) 8357 3880  
 Ceduna 8625 3706

### Eyre Peninsula NRM Board

[www.epnrm.sa.gov.au](http://www.epnrm.sa.gov.au)  
 E [admin@epnrm.com.au](mailto:admin@epnrm.com.au)  
 Port Lincoln (head office) 8682 7775  
 Tumby Bay 8688 2610  
 Elliston 8687 9330  
 Streaky Bay 8626 1108  
 Ceduna 8625 3060  
 Wudinna 8680 2653  
 Cleve 8628 2077  
 Whyalla 8640 3480

### Kangaroo Island NRM Board

[www.kinrm.sa.gov.au](http://www.kinrm.sa.gov.au)  
 E [info@kinrm.com.au](mailto:info@kinrm.com.au)  
 Kingscote 8553 4300



## How you can help

South Australia has relatively few aquatic weeds and we need your help to keep it that way. Following are some general guidelines to avoid aquatic weed spread.

- Seek advice at point of purchase. Ask about the plant's ability to become weedy and request non-weedy alternatives.
- Always follow correct disposal procedures. Dry and incinerate or secure in plastic bags and place in rubbish bins.
- Don't empty aquariums (including water) into drains or waterways.
- Notify your regional Natural Resources Management board if you suspect you have seen aquatic weeds.
- Know and understand your responsibilities to manage aquatic weeds. All of these aquatic weeds are declared plants under the *Natural Resources Management Act 2004*.
- Employ hygiene practices after exiting waterways – clean down boats, trailers and vehicles to prevent weed spread.

### Photo credits key:

- |  |   |
|--|---|
| 1 Anderson, Tom  | 9 Randall, John M. (The Nature Conservancy, Bugwood.org)                            |
| 2 Fischer, Christian   | 10 Schütte, Ernst   |
| 3 Fox, Alison (University of Florida, Bugwood.org)                         | 11 Shepherd, Ben  |
| 4 Harvey, Adrian   | 12 Stahel, Walter (Environmental Bay of Plenty, Bugwood.org)                        |
| 5 Murray, A. (University of Florida, IFAS Center for Aquatic and Invasive) | 13 Starr, Forest & Kim  |
| 6 National Willows Program   | 14 Storey, Malcolm  |
| 7 Novak, Janet   | (© 2003, <a href="http://www.bioimages.org.uk">www.bioimages.org.uk</a> )           |
| 8 Ramey, Vic (University of Florida, IFAS Center for Aquatic and Invasive) | 15 Wells, Rohan (National Institute of Water and Atmospheric Research, Bugwood.org) |

### Northern & Yorke NRM Board

[www.nynrm.sa.gov.au](http://www.nynrm.sa.gov.au)  
 E [board@nynrm.sa.gov.au](mailto:board@nynrm.sa.gov.au)  
 Crystal Brook (head office) 8636 2361  
 Riverton 8847 2544  
 Minlaton 8853 2795  
 Orroroo 8658 1086

### South Australian Arid Lands NRM Board

[www.saalnrm.sa.gov.au](http://www.saalnrm.sa.gov.au)  
 E [aridlands@saalnrm.sa.gov.au](mailto:aridlands@saalnrm.sa.gov.au)  
 Port Augusta (head office) 8648 5977

### South Australian Murray-Darling Basin NRM Board

[www.samdbnrm.sa.gov.au](http://www.samdbnrm.sa.gov.au)  
 E [enquiries@samdbnrm.sa.gov.au](mailto:enquiries@samdbnrm.sa.gov.au)  
 Murray Bridge (head office) 8532 1432  
 Berri 8582 4477  
 Burra 8892 3033  
 Lameroo 8576 3400  
 Mt Barker 8391 7500

### South East NRM Board

[www.senrm.sa.gov.au](http://www.senrm.sa.gov.au)  
 E [reception@senrm.sa.gov.au](mailto:reception@senrm.sa.gov.au)  
 Mt Gambier (head office) 8724 6000

### Information on declared plant management can also be obtained from:

#### Department of Water, Land and Biodiversity Conservation

NRM Biosecurity Unit  
[www.dwlbc.sa.gov.au/biosecurity](http://www.dwlbc.sa.gov.au/biosecurity)  
 E [nrmbiosecurity@sa.gov.au](mailto:nrmbiosecurity@sa.gov.au)  
 Adelaide 8303 9620

[www.nrm.sa.gov.au](http://www.nrm.sa.gov.au)

## State Alert weeds

Plants indicated in red are State Alerts – if you see one of these plant species then please report it immediately to your regional NRM board.

