Declared Plant Policy
under the Natural Resources Management Act 2004

Tamarisks (Tamarix ramosissima and T. parviflora)

These two species are smaller tamarisks than the athel pine, trees adapted to dry saline habitats where water is available in the deep subsoil. They have been widely planted in South Australia and are now beginning to impact on coastal vegetation, the Riverland and the southern the pastoral zone.

Management Plan for Tamarisks

Outcomes

- Maintain integrity of watercourses and native vegetation by preventing invasion by tamarisks.

Objectives

- Protect coastal vegetation, riparian zones and other native vegetation from tamarisk infestations.
- Control and contain priority tamarisk infestations in accordance with NRM Board Regional Management Plans.

Implementation

- Biosecurity SA to publicise the new status of tamarisks as a declared plant.
- NRM authorities to increase community awareness of the environmental damage caused by tamarisks, through extension and publicity.
- Prohibiting sale and movement to discourage further planting of tamarisk in high-risk sites.
- Control the spread of tamarisk from cultivated trees, especially those in close proximity to priority assets or within 100 metres of riparian zones.

Regional Implementation

Within the regions where tamarisk is declared for enforced control,

- NRM authorities to survey and map infestations of tamarisk.
- NRM authorities to identify key sites and assets within board area for protection.
- Land owners to control existing infestations in close proximity to key sites and assets as prioritised at regional level.

Refer to regional management plans for further details.
Declaration

To implement this policy, tamarisks are 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, or the sale by itself or as a contaminant is prohibited. NRM authorities in the Northern and Yorke, SA Arid Lands and SA Murray-Darling basin regions may require land owners to control tamarisks growing on their land. NRM authorities in these regions are required to control plants on road reserves, and may recover control costs from the adjoining land owners.

Tamarisks are declared in category 3 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 regional NRM Board pursuant to section 188.

The following sections of the Act apply to tamarisks throughout each of the NRM regions noted below:

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

Review

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

Weed Risk

Invasiveness

Tamarisks reproduce by seed and vegetatively. Infestations are never far from old plantings, very slowly growing by vegetative spread and occasional seedling regeneration at some sites.
A single mature tamarisk may produce hundreds of thousands of seeds between per year. The tiny seeds are widely dispersed by wind and water. They have no dormancy or after-ripening requirements, are capable of germinating within 24 hours and only remain viable for about a week.

Early seedling growth is slow, but older seedlings may grow up to 30cm a month when conditions are favourable. Tamarisk can also establish from cuttings buried in moist soil.

**Impacts**

Tamarisk affects the pastoral industry by forming dense thickets along inland waterways, including ephemeral streams and lakes impacting on stock mustering. Tamarisks consume large amounts of water which reduces its availability for stock and the environment. Due to tamarisk's affects on the hydrology of an area it can alter the course of rivers and increases sedimentation rates in invaded riparian areas.

The stems and leaves of mature plants secrete salt, forming a crust above and below ground that inhibits other plants such as native pasture grasses and other salt-sensitive plants, thus reducing biodiversity.

**Potential distribution**

Tamarisks are tolerant of submergence, high salinity and drought. They can grow on most of the coast of SA as well as watercourses and saline land receiving run-on water in the inland pastoral zone to at least 31°S.

**Feasibility of Containment**

**Control costs**

Because of tamarisk's ability to re-sprout from roots, many mechanical methods alone are largely unsuccessful. One-off control efforts will not control tamarisks completely. They can regrow vigorously after cutting or clearing and this regrowth must be killed in turn. To achieve eradication of this weed, an integrated approach is needed.

**Persistence**

Individual tamarisks are long-lived, generally surviving from 50 to 100 years. They re-sprout vigorously from roots if the top portion of the plant is damaged or removed. Tamarisks will produce roots from buried or submerged stems, stem fragments and snapped tap and lateral roots. This allows them to produce new plants vegetatively following floods from stems torn from the parent plant and buried by sediment. The plant will also produce lateral growth from fallen or horizontal limbs.

Once tamarisk is established, not even dramatic changes in soil moisture will completely eliminate it, as long as abundant ground water is available.

**Current distribution**

*Tamarix ramosissima* is scattered around the coast from the Lower South-East to the Nuyts Archipelago, and localised in the Eyre Peninsula, Northern and Yorke regions. It is most abundant in the Riverland of the SA Murray-Daring Basin region, but outliers occur as far north as Mulga View and Manna Hill Stations.
**Tamarix parviflora** is less common in South Australia. It is naturalised at coastal sites where it had been planted in the 20th century. A few larger infestations occur on streams flowing into the lower reaches of the Murray due to local plantings as a hedge or windbreak species. It is also found in creek lines at the southern end of the Flinders Ranges.

Neither species has been recorded north of about 31°S, unlike *Tamarix aphylla*.

**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>Grazing - rangeland</td>
<td>low 25</td>
<td>very high 25</td>
<td>monitor</td>
</tr>
<tr>
<td>Native vegetation</td>
<td>medium 85</td>
<td>high 24</td>
<td>protect sites</td>
</tr>
</tbody>
</table>

**Considerations**

These two tamarisk species are native to Eurasia, from southern Europe and North Africa through the Middle East and south Asia to China and Japan. They were introduced to Australia around 1930 and widely planted under various names.

Tamarisks are salt tolerant and drought resistant. They were seen as useful windbreak, shade and ornamental trees, with timber that could be used for fence posts and firewood. Tamarisks have also been used to stabilise sand dunes and to revegetate disturbed arid areas, notably at Broken Hill, NSW.

Risk assessment indicates a management action at State level of protecting sites in native vegetation. However, the actions at regional level vary according to the presence of athel pine as a naturalised species and the occurrence of habitats vulnerable to invasion. The SA Murray Darling Basin and SA Arid Lands regions aim to protect sites; in the Northern and Yorke region the management action is destroy infestations. All other regions prevent the sale and transport of tamarisks.
Synonymy

*Tamarix parviflora* DC, Prodr. 3: 97 (1828).

Taxonomic synonyms:


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