Declared Plant Policy
under the Natural Resources Management Act 2004

Wild artichoke (Cynara cardunculus)

Wild artichoke is a crop plant gone wild, a large perennial thistle conspicuous by its size. It is rarely a weed of arable land but may encroach on neglected pastures in high rainfall, red-brown earth areas.

Management Plan for Wild Artichoke

Outcomes

- Prevent degradation of southern perennial pastures and associated native vegetation remnants by artichoke incursion.

Objectives

- To control any high-priority wild artichoke infestations.
- To contain spread from large infestations and prevent reinvasion of lands cleared of wild artichoke in high rainfall areas.

Implementation

In high rainfall areas with suitable soils (e.g. red brown earths) where regional management plans include enforced control:

- NRM authorities to ensure high priority infestations, as determined by the authority, on public or private land are destroyed.
- NRM authorities to destroy high priority infestations on road reserves and recover costs from adjoining landholders.
- NRM authorities to develop a plan to control or contain large infestations and to implement the plan progressively.
- NRM authorities to ensure flower heads are not collected and distributed or sold for floral arrangements.

Regional Implementation

Refer to regional management plans for further details.
wild artichoke policy

<table>
<thead>
<tr>
<th>NRM Region</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide and Mount Lofty Ranges</td>
<td>Manage sites</td>
</tr>
<tr>
<td>Alinytjara Wilurara</td>
<td>Limited action</td>
</tr>
<tr>
<td>Eyre Peninsula</td>
<td>Manage sites - regional alert</td>
</tr>
<tr>
<td>Kangaroo Island</td>
<td>Contain spread</td>
</tr>
<tr>
<td>Northern and Yorke</td>
<td>Manage sites</td>
</tr>
<tr>
<td>South Australian Arid Lands</td>
<td>Limited action</td>
</tr>
<tr>
<td>South Australian Murray Darling Basin</td>
<td>Manage sites</td>
</tr>
<tr>
<td>South East</td>
<td>Monitor</td>
</tr>
</tbody>
</table>

Declaration

To implement this policy, wild artichoke 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, or sale by itself or as a contaminant are prohibited. An exemption is made for cultivated artichokes sold or transported as a vegetable. NRM authorities in the Adelaide and Mount Lofty Ranges, Northern and Yorke, and Kangaroo Island regions may require land owners to control artichoke on their land unless it is cultivated as a commercial crop or in a domestic vegetable garden. NRM authorities in these regions are required to control plants on road reserves, and may recover costs from the adjoining land owners.

Wild artichoke is 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. Under the Natural Resources Management (General) Regulations 2005, the transport or movement of grain for milling or wool for cleaning is exempt from the operation of sections 175 and the sale of wool or grain is exempt from section 177(2) if at the time of the sale the person believes on reasonable grounds that the purchaser will remove the plant from the wool or grain before any re-sale.

The following sections of the Act apply to artichoke, unless planted and maintained for commercial or domestic use, throughout each of the NRM regions noted below:

<table>
<thead>
<tr>
<th>Sections of Act</th>
<th>Region 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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<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>
<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>
<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>
</tr>
<tr>
<td>180 Requiring notification of infestations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>182(1) Landowners to destroy the plant on their properties</td>
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<tr>
<td>182(2) Landowners to control the plant on their properties</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>185 Recovery of control costs on adjoining road reserves</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Sections 175(2) and 177(1) do not apply to artichokes harvested for use as a vegetable.

Sections 182(2) and 185 do not apply to artichokes planted as a commercial crop or in domestic vegetable gardens.
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Review

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

Weed Risk

Invasiveness

Wild artichoke rarely flowers in the first year of growth but if allowed to survive it will flower and seed annually from the second summer. The seed has a pappus of feathery hairs but is not adapted for wind dispersal because the pappus easily breaks away from the heavy seed. Most falls within 18 metres of the parent plant. Small seed-eating birds may disperse them for more than 200 metres, and flood waters can carry them much further downstream. Cut pieces of the perennial taproot can produce new plants but this is important only where infested areas are cultivated.

Control of wild artichoke can be difficult because it is a perennial weed, but it does not readily spread into competing vegetation. It will slowly take over neglected pastures in high rainfall, red-brown earth areas.

Impacts

Wild artichoke can come to dominate permanent pastures, where it reduces yields by competing for space with more palatable plants, and competing for moisture. Its spines deter sheep and cattle from grazing on heavy infestations but, when hungry, animals will eat the leaves and survive on them. It has low nutrient value and may cause stomach impaction and mechanical injuries, but is not poisonous and was promoted as a forage plant in the early 20th century.

Wild artichoke may invade native grasslands, grassy woodlands, and riparian vegetation where it forms large dense stands in disturbed areas. In parts of the mid-north it is a weed of lucerne.

Potential distribution

Wild artichoke is common in the higher rainfall areas receiving over 450 mm per annum, with heavy red-brown earths. There is scope for local spread in the higher rainfall areas although it is unlikely that the externalities caused by it are high in these areas.

Feasibility of Containment

Control costs

Wild artichoke is a relatively simple weed to control. An integrated management program is the key to successful thistle management. The use of a range of tools such as the maintenance of a strong perennial pasture and strategic herbicide application is very successful in controlling this plant. Herbicide control can be very effective and is an essential part of the overall management of this plant. When there is a low density of wild artichoke spot spraying is cheap and effective.

Grazing by goats can substantially reduce flowering of wild artichoke and thus restrict seed production.
Persistence

Seeds may germinate at any time of the year but most do so after autumn rains. Seedlings develop slowly through winter before making rapid growth in spring. Plants may flower in the first year but generally flowering does not occur until the second summer. A deep taproot develops in the first year.

Current distribution

Wild artichoke is found wherever there is a suitable soil type on east and west slopes of the Mount Lofty Range, extending north to the Lower Flinders region. It also occurs as scattered infestations on Eyre Peninsula, Yorke Peninsula, Kangaroo Island, the Murray Mallee and upper South East.

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 - southern</td>
<td>medium 69</td>
<td>medium 36</td>
<td>manage sites</td>
</tr>
<tr>
<td>Native vegetation</td>
<td>low 20</td>
<td>high 23</td>
<td>monitor</td>
</tr>
</tbody>
</table>

Considerations

Artichoke is a native of southern Europe and North Africa, introduced to South Australia as a vegetable by 1839. Its primary dispersal was due to cultivation, but before 1903 it had established as a wild plant.

Cultivars of artichoke are grown commercially and in home gardens for their flower heads which are eaten as the vegetable "globe artichoke" and sometimes for its leaf bases which are the vegetable "cardoon". The declaration is worded to allow these uses of the plant to continue.

Risk assessment at State level indicates site management to prevent wild artichoke establishing in pasture, and monitoring infestations in native vegetation. Regional management plans vary according to regional habitats and presence of the weed. In the Adelaide and Mount Lofty Ranges NRM region where the largest and longest-established infestations occur, high priority infestation sites are managed and control may be enforced. The Eyre Peninsula, Northern and Yorke and South Australian Murray Darling Basin NRM regions also aim to manage sites but through voluntary management by land owners. Kangaroo Island NRM aims to contain spread, and South East NRM monitors the weed.
Synonymy

*Cynara cardunculus* L., Sp. Pl. 2: 827 (1753)

Taxonomic synonyms:

*Carduus cynara* E.H.L.Krause, Deutschl. Fl. (Sturm), ed. 2. 14: 61 (1906)
*Cnicus communis* Lam., Fl. Franç. (Lamarck) 2: 15 (1779)
*Cynara horrida* Aiton, Hortus Kew. (W. Aiton) 3: 148 (1789)
*Cynara scolymus* L., Sp. Pl. 2:827 (1753)
*Cynara spinosissima* J.Presl & C.Presl, Delic. Prag. 109 (1822)
*Cynara sylvestris* Lam., Encycl. (Lamarck) 1(1): 277 (1783)

Other common names include alcachofa, artichoke thistle, cardoon, globe artichoke, Scotch thistle and Spanish artichoke.