Declared Plant Policy
under the Natural Resources Management Act 2004

gorse (Ulex europaeus)

Gorse is a spiny leguminous shrub that forms dense thickets. It impacts on permanent pasture and remnant native vegetation as it invades vegetation opened up by bushfires or partial clearing.

Management Plan for Gorse

Outcomes
- Maintain pasture production and the integrity of native vegetation.

Objectives
- NRM authorities to eradicate outlying satellite infestations of gorse
- NRM authorities to contain established infestations of gorse
- NRM authorities to develop and implement regional management plans to progressively reduce the extent and impact of gorse

Implementation

<table>
<thead>
<tr>
<th>NRM Region</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide and Mount Lofty Ranges</td>
<td>Protect sites</td>
</tr>
<tr>
<td>Alinytjara Wilurara</td>
<td>Limited action</td>
</tr>
<tr>
<td>Eyre Peninsula</td>
<td>Destroy infestations</td>
</tr>
<tr>
<td>Kangaroo Island</td>
<td>Destroy infestations</td>
</tr>
<tr>
<td>Northern and Yorke</td>
<td>Protect sites</td>
</tr>
<tr>
<td>South Australian Arid Lands</td>
<td>Limited action</td>
</tr>
<tr>
<td>South Australian Murray Darling Basin</td>
<td>Protect sites</td>
</tr>
<tr>
<td>South East</td>
<td>Destroy infestations</td>
</tr>
</tbody>
</table>

Declaration

To implement this policy, gorse 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 the sale by itself or as a contaminant is prohibited. Notification of infestations in the South East NRM region is necessary to ensure these are controlled. NRM authorities in the Adelaide and Mount Lofty Ranges, Eyre Peninsula, Kangaroo Island, Northern and Yorke, SA Murray Darling Basin and South East NRM regions may require land owners to control gorse plants growing on their land. NRM authorities in these regions are required to control plants on road reserves, and may recover costs from the adjoining landowners.

Gorse is declared in category 2 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
gorse policy

Chief Officer 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 gorse 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>KL</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>
<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>
<td>X</td>
</tr>
<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>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>182(1) Landowners to destroy the plant on their properties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>182(2) Landowners to control the plant on their properties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>185 Recovery of control costs on adjoining road reserves</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Review

This policy is to be reviewed by 2020, or in the event of a change in any regional management plan for gorse.

Weed Risk

Invasiveness

Gorse forms infestations on a wide range of soil types, and is very competitive on alkaline soils of low nutrient status.

Gorse reproduces by seeds, which are produced in large numbers, but due to their size are seldom dispersed more than a few metres from the parent plant. Seed germinates over a range of temperatures from 14 to 24°C. Due to its slow process of dispersal, gorse has not yet reached its limits in this State and is found mainly in areas where it was once planted as a hedge.

In its native habitat gorse evolved as a fire-climax plant, readily catching fire and burning to ground level but regenerating from the base after the fire. The seeds are also resistant to a moderate burn and adapted to germinate after scorching by fire.

Impacts

Gorse reduces the quality of pasture services in grazing land uses. Although young shoots or seedlings are palatable, the mature spiny foliage is not browsed. Seedlings germinating under the cover of older bushes are protected from grazing and can slowly encroach on pasture; old gorse infestations on neglected land prevent stock access and necessitate expensive control measures to restore the land to production.
It displaces native vegetation, and forms dense monocultures. The dense spiny thickets of gorse exclude regeneration, create a fire hazard and provide cover for rabbits. It does not establish in intact native vegetation, but invades vegetation opened up by bushfires or partial clearing. As in the case of blackberry, long-range dispersal is a rare event but once established the thickets are long-lived and continue to expand in size.

Potential distribution

Gorse still has potential to expand its current range and impacts. It has slow dispersal mechanisms, with many suitable areas at serious risk of infestation. Higher rainfall areas in particular are at increased risk.

Feasibility of Containment

Control costs

Control is possible but expensive, requiring considerable time to remove old infestations, and may be neglected unless enforced.

Control of new infestations is easier and more cost effective. Isolated juvenile plants may be mechanically removed, or treated with herbicides. Some NRM regions have implemented integrated weed management programs using herbicides, mechanical, and biological control programs, achieving control of dense established infestations.

Where mechanical removal is necessary, control costs may be high in the short term, but reduce in the medium term. This has been trialled successfully in combination with revegetation in a number of locations.

Biological control offers a cost effective means to reduce seed set significantly in dense established infestations. Gorse spidermites have been successfully used in a number of locations in SA, in combination with mechanical & herbicide control techniques.

Persistence

There is a very large seedbank with high seed viability. The seeds are hard and long-lived in soil, germinating in large numbers following a fire or more slowly after clearing of the bushes.

However, the seed bank is almost entirely in the top 20 cm of soil and seed will not establish from depths of more than 10 cm.

To be effective, control programs need to include follow up control and monitoring for at least 25 years to prevent regeneration from buried seed or reinfestation from nearby plants.

Current distribution

Due to its lack of adaptations for long-range dispersal, gorse is restricted in its distribution to areas where it was formerly used for hedges. The main infestations occur in the Adelaide and Mount Lofty Ranges, Northern and Yorke, and South East NRM regions. Small isolated infestations occur in the Eyre Peninsula, Kangaroo Island, and SA Murray Darling Basin NRM regions.
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>high 101</td>
<td>high 18</td>
<td>contain spread</td>
</tr>
<tr>
<td>Forestry</td>
<td>medium 45</td>
<td>very high 10</td>
<td>contain spread</td>
</tr>
<tr>
<td>Native vegetation</td>
<td>medium 63</td>
<td>high 21</td>
<td>protect sites</td>
</tr>
</tbody>
</table>

Considerations

Gorse was introduced as a hedge plant around 1840 and deliberately dispersed through most of its present range for this purpose. It was proclaimed for parts of the State under the Weeds Act, 1956, and placed on schedule three under the Pest Plants Act, 1975.

Risk assessment indicates manage weed as the action in permanent grazing land, protect sites in rotational paddocks and irrigated pasture, and limited action in other land uses. While sale and movement are prohibited uniformly across the State, regional actions vary according to the land uses in each region.

Gorse is a Weed of National Significance, with priority given to eradication of outlying infestations. Five NRM regions have participated in management efforts supported through the WoNS program and are committed to 25-year memoranda of understanding to ensure the destruction of targeted infestations. These NRM Boards are committed to:
- Delimit and map gorse their infestations
- Facilitate the destruction of gorse plants within 12 months
- Prevent movement of seed
- Inspect the sites annually and report to Biosecurity SA

Gorse is localised and delimited in the Kangaroo Island, Eyre Peninsula and South East regions, and these NRM Boards are committed to the destruction of all gorse infestations in their regions. The South Australian Murray Darling Basin, and Northern and Yorke NRM Boards are committed to the destruction of certain outlying infestations only. The management action in these regions, and in the Adelaide and Mount Lofty Ranges region, is protect sites. Gorse does not occur in the Alinytjara Wilurara and South Australian Arid Lands regions, where only limited action is required.
Synonymy

_Ulex europaeus_ L., Sp. Pl. 2: 741 (1753)

Taxonomic synonyms:

_Ulex armoricanus_ Mabille, Actes Soc. Linn. Bordeaux 25: 524 (1864)
_Ulex compositus_ Moench, Methodus (Moench) 289 (1794)
_Ulex floridus_ Salisb., Prodr. Stirp. Chap. Allerton 829 (1796)
_Ulex strictus_ J.Mackay, Trans. Roy. Irish Acad. 14: 166 (1824)
_Ulex hibernicus_ G.Don, Gen. Hist. 2: 148 (1832)
_Ulex major_ Thore, Essai Chloris 299 (1803)
_Ulex vernalis_ Thore, Essai Chloris 299 (1803)

Other common names include furze, furse and whin.