



**Shire of Denmark**

# **Weeds Strategy and Action Plan**

**2005 to 2010**



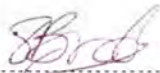
*Opus: an accomplished work,  
a creation, an achievement*



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Shire of Denmark  
Weed Strategy and Action Plan

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# 1 Introduction

## 1.1 General

This Strategy and Action Plan is to provide the Shire of Denmark with a framework for managing and reducing environmental weeds on Shire managed lands. This document outlines priority areas for weed management, priority species to be targeted in the next five years and a dedicated action plan for Shire crews and contractors to work to.

The development of this Strategy and Action Plan is aligned to:

- Environmental Weed Strategy Western Australia (CALM 1999)
- State Weed Plan (2001)
- National Weeds Strategy (Commonwealth of Australia, 1997)
- Regional Natural Resource Management Strategy (SCRIPT)
- Requirements as per the Agriculture and related Resources Protection Act 1976

This Strategy directly refers to these documents and procedures, and relevant sections are noted throughout this document.

Compilation of the Strategy and Action Plan was undertaken by Opus Consultants with content and management objectives provided by Emma Huxley, Natural Resource Management Officer, Shire of Denmark and Diane Harwood, Denmark Weed Action Group (DWAG).

## 1.2 Shire of Denmark

The Shire of Denmark has a population of approximately 5,000 people and is located on the south coast of Western Australia.

Denmark Town is approximately 50 kilometres west of Albany and 400 kilometres south of Perth. The Shire has an area of 1843 square kilometres, extending 70 kilometres from east to west along the south coast and approximately 30 kilometres inland.

The Shire is located in a Mediterranean climate receiving an average annual rainfall of 1135mm. Denmark is rapidly becoming a major tourism icon in the south west of Western Australia and it is one of the major industries for the Shire. Other industries include viticulture, horticulture, farming and agriculture (beef/dairy/sheep/pig/tree), and cottage industries.

The Shire of Denmark's Mission Statement is

***“Harmonious community and a great environment in which to live”.***

## **The Shire of Denmark's Goals are:**

1. Environmental Management - To help conserve the natural environment of Denmark and promote its responsible use.
2. Landuse and Town Planning - To devise and apply planning instruments which minimise the negative impacts of development.
3. Economic Development - To encourage economic activities, locally and in the region, which make appropriate use of Denmark's natural and human resources and its primary produce.
4. Services for the community - To support the provision of an equitable range of services and facilities.
5. The Organisation - To ensure that Council is able to serve.

### **1.3 Definitions**

The National Weed Strategy defines a weed as “a plant that requires or may require some form of action to reduce its negative effects.” More specifically; a weed is a plant which has, or has the potential to have a detrimental effect on economic, social or conservation values.

Weeds have many “costs” to the community such as:

- Loss of biodiversity – at a species level and plant community levels, affect native habitats and reduce native vegetation recruitment.
- Reduction in farm productivity – agriculture, horticulture, animal production and forestry.
- Affect human activity – hinder fishing, aquatic weeds block irrigation and drainage channels and streams, affect native habitats.
- Affect human and animal welfare – acute poisoning, hay fever, asthma.

In 1976 the Agriculture Protection Board introduced legislation to control weeds – the Agriculture and Related Resources Protection Act 1976. This legislation sets out “declared” plants and legal obligations to landowners in regards to these species. If a plant is declared then landowners are obliged to control that plant on their properties. The Control Strategies, as defined by Agriculture and Related Resources Protection Act 1976 are defined in Table 1.1.

**Table 1.1 Control strategies**

<b>Control Category</b>	<b>Definition</b>
Priority 1 (P1)	<b>Prevention:</b> Plants which cannot be introduced or spread. Most declared plants are under this category
Priority 2 (P2)	<b>Eradication:</b> Includes potentially serious weeds that are not yet widely distributed
Priority 3 (P3)	<b>Control:</b> Plant infestations should be reduced over time if eradication is not realistic.
Priority 4 (P4)	<b>Containment:</b> Plants should be prevented from further spread. Includes plants that are so well established that reducing the areas of infestation is not practical or economical. Also includes plants that cannot be controlled with existing technology
Priority 5 (P5)	<b>Special Attention on Public Land:</b> This provides for control on land under the control of local government, sale yards and roadsides

## 1.4 Weed Species

The Department of Agriculture publishes a list of 'declared plants' each year that must be controlled. The declared plants that are known to exist within the Shire of Denmark are listed in Table 1.2.

**Table 1.2 Declared weed species known to exist in the Shire of Denmark**

<b>Common Name</b>	<b>Botanical Name</b>	<b>Category</b>
Arum lily	<i>Zantedeschia aethiopica</i>	P1, P4
Blackberry	<i>Rubus sp.</i>	P1, P4
Bridal creeper	<i>Asparagus asparagoides</i>	P1
Cape Tulip	<i>Moraea flaccida, M.miniata.</i>	P1, P3
Golden dodder	<i>Cuscuta campestris</i>	P1, P4
Gorse	<i>Ulex europaeus</i>	P1, P3
Lantana	<i>Lantana camara</i>	P1

Environmental weeds are defined by CALM (1999), as “plants that establish themselves in natural ecosystems and proceed to modify natural processes, usually adversely, resulting in the decline of the communities they invade”.

The Shire of Denmark has 29 environmental weeds known to occur on Shire managed lands. These are listed in Table 1.3 on the following page.

**Table 1.3 – Environmental weeds known to occur in the Shire of Denmark**

Common Name	Botanical Name
African corn flag	<i>Chasmanthe floribuna</i>
Agapanthus	<i>Agapanthus praecox</i>
Annual veldt grass	<i>Ehrharta longiflora</i>
Asparagus fern	<i>Asparagus scandens</i>
Blackberry nightshade	<i>Solanum nigrum</i>
Blowfly grass	<i>Briza maxima</i>
Blue gum	<i>Eucalyptus globulus</i>
Blue periwinkle	<i>Vinca major</i>
Buddleia	<i>Buddleja spp</i>
Bull rush	<i>Typha orientalis</i>
Butterfly bush	<i>Polygala myrtifolia</i>
Cape honey flower	<i>Melianthus major</i>
Carrot weed	<i>Cotula australis</i>
Dock	<i>Rumex crispus</i>
Eastern States wattles	<i>Acacia baileyana,</i> <i>A. dealbata,</i> <i>A. decurrens,</i> <i>A. iteaphylla,</i> <i>A. melanoxylon,</i> <i>A. podalyriifolia,</i> <i>A. pycnantha.</i>
Flatweed	<i>Hypochaeris spp</i>

Common Name	Botanical Name
Genista	<i>Genista spp</i>
Holly-leaved senecio	<i>Senecio glastifolius</i>
Honeysuckle	<i>Lonicera japonica</i>
Hop tree	<i>Dodonea pupurea</i>
Inkweed	<i>Phytolacca octandra</i>
Kangaroo apple	<i>Solanum laciniatum</i>
Kikuyu	<i>Pennisetum clandestinum</i>
Morning glory	<i>Ipomoea indica</i>
Oxalis	<i>Oxalis spp</i>
Paramatta grass	<i>Sporobolus spp</i>
Penny royal	<i>Mentha peleginm</i>
Pine trees	<i>Pinus sp</i>
Plantain	<i>Plantago lanceolata</i>
Purple groundsel	<i>Senecio elegans</i>
Rose	<i>Rosa spp</i>
Slender thistle	<i>Carduus spp</i>
Spear thistle	<i>Cirsium vulgare</i>
Tagasaste	<i>Chamaecytisus palmensis</i>
Taylorina	<i>Psoralea pinnata</i>
Water couch	<i>Paspalum distichum</i>
Wavy gladiolus	<i>Gladiolus undulates</i>
Wild oats	<i>Avena spp</i>

Any plant other than a declared plant can be described as a pest plant, under Section 109 of the Agriculture and the Related Resources Protection Act 1976. Typically these are prescribed whereby the occurrence of these may adversely affect property values, comfort or convenience of the inhabitants of a particular district. Table 1.4 lists the pest plants that are known to occur in the Shire of Denmark.

**Table 1.4 Known species of Pest Plants in the Shire of Denmark**

<b>Common Name</b>	<b>Botanical Name</b>
African love grass	<i>Eragrostis curvula</i>
Angels trumpet	<i>Datura suaveolens</i>
Caster oil tree	<i>Ricinus communis</i>
Coastal Victorian tea tree	<i>Leptospermum laevigatum</i>
Cotoneaster	<i>Cotoneaster spp.</i>
Dolichos pea	<i>Dipogon lignosus</i>
Doublegee	<i>Emex australis</i>
Fleabane	<i>Conyza spp.</i>
Inkweed	<i>Phytolacca octandra</i>
Onehunga	<i>Soliva pterosperma</i>
Pampas grass	<i>Cortaderia selloana</i>
Sweet pittosporum	<i>Pittosporum undulatum</i>
Sydney golden wattle	<i>Acacia longifolia</i>
Taylorina	<i>Psoralea pinnata</i>
Tree of heaven	<i>Ailanthus altissima</i>
Watsonia	<i>Watsonia spp.</i>

## 1.5 Reserves

Many reserves in the Shire have existing management plans which encompass weed management. Table 1.5 lists the bushland reserves that have existing management plans, and therefore are not covered in this Weed Management Strategy.



**Table 1.5 Bushland Reserves with existing management plans not covered in this plan**

<b>Reserve No</b>	<b>Site Name</b>
R14376 R36714 R28998 R12344 R28993 R34742 R26480 R25347 R24596	Western Foreshore Wilson Inlet
R12232 R41815 R43923 R23120	Northern Foreshore Wilson Inlet
R35647	Bow River Foreshore
R46618	Mount Hallowell Reserve

The following bushland reserves in Table 1.6 do not have existing management plans, therefore site specific Action Plans have been produced in Section 4, following the Roadside Reserves Operations Plan.

**Table 1.6 Bushland Reserves (in order as per Section 4)**

<b>Reserve No</b>	<b>Site Name</b>
R37391	Little River Reserve
R28922	Weedon Hill Reserve
R36026	Happy Valley Road Reserve
R18821	South Coast Highway/Kordabup Road Reserve
R20403	Morgan Street Reserve
R37702	Paterson Street Reserve
R37702	Buckley Street Reserve
R38440	Pioneer Park Reserve
R39066	Denmark River (East Bank) Reserve
R46256	Big Karri Reserve
R41224	Blue Wren Lane Reserve
R15513	Strickland Street Reserve Part 1
R15513	Strickland Street Reserve Part 2
R14376	Denmark River (West bank) Reserve
R37695	Beveridge Road Reserve
R46688	Peace Street Reserve

## **2 Weed Strategy**

### **2.1 Objectives**

The Shire of Denmark's Objectives for this Strategy and Action Plan are:

- To eliminate significant weed problems by reducing the overall abundance of weeds in the Shire of Denmark;
- To improve the aesthetic and ecological values of areas of remnant vegetation, by reducing the spread of weeds, and allowing for native plant recruitment;
- To restrict the movement of declared weeds from roadside reserves into farmland, reducing the likelihood of economic loss through weed invasion;
- To implement a seasonally based weed management schedule into the Shire of Denmark's operational program, enabling cost effective weed management;
- To facilitate an early detection – rapid response approach to future weed management within the Shire of Denmark; and
- To minimise the impact of civil works on the spread of weeds.

### **2.2 Stakeholders and Community Consultation**

The successful implementation of this Action Plan will heavily rely on consultation with the following stakeholders and community groups:

- Denmark Centre for Sustainable Living;
- Denmark Environment Centre;
- Denmark Weed Action Group;
- Department of Agriculture Western Australia;
- Department of Conservation and Land Management;
- Department of Environment;
- Department of Main Roads Western Australia (South Coast Highway);
- Friends of Community Park;
- Green Skills;
- Peaceful Bay Progress Association;
- Parry's Beach Management Group;
- Roadside Conservation Committee of Western Australia
- Walpole Nornalup National Parks Association
- Water Corporation;
- Western Australian Weeds Committee;
- Western Power; and
- William Bay National Parks Association.

## 2.3 Implementation, Monitoring and Evaluation

To ensure the objectives of this Strategy are met there needs to be measurable outcomes defined. A predefined and adopted method of evaluation is suggested in Table 2.1.

**Table 2.1 Action plan for objectives of this Strategy**

Objective	Suggested implementation	Recommended methods
<b>To eliminate significant weed problems by reducing the overall abundance of weeds in the Shire of Denmark</b>	<ul style="list-style-type: none"> <li>○ Adopt the strategies for weed control as outlined in individual reserve plans.</li> <li>○ Adopt the Operational Plan for target species along the roadside reserves.</li> <li>○ Utilise documented techniques and associated guidelines for eradication of weeds.</li> <li>○ Refer to code of practice for roadsides.</li> </ul>	<ul style="list-style-type: none"> <li>○ Detailed inventory conducted prior to implementation of the plan.</li> <li>○ Central database developed by the Shire of Denmark.</li> <li>○ Suggested techniques and relevant guidelines outlined through this document for control measures and early detection approaches.</li> <li>○ Make use of existing weed inventories as required.</li> </ul>
<b>To improve the aesthetic and ecological values of areas of remnant vegetation, by reducing the spread of weeds, and allowing for native plant recruitment.</b>	<ul style="list-style-type: none"> <li>○ Ensure the implementation of this strategy and action plan occurs holistically across the reserves and roadsides and not just on selective weed species.</li> <li>○ Digital collection of site inventory bi-annually.</li> <li>○ Methodology defined and adopted throughout life of strategy for site data collection.</li> </ul>	<ul style="list-style-type: none"> <li>○ Independent assessment of vegetation qualities and values be conducted prior to the Strategy and Action Plan implemented and conducted again in 2011.</li> <li>○ Code of Practise be adopted for Roadside Maintenance Operations in the Shire of Denmark.</li> <li>○ Development of digital inventory database.</li> </ul>
<b>To restrict the movement of declared weeds from roadside reserves into farmland, reducing the likelihood of economic loss through weed invasion.</b>	<ul style="list-style-type: none"> <li>○ Consultation to occur with adjacent land owners for collective efforts to reduce weed movement.</li> <li>○ Utilise stakeholders and community group contacts within the Shire of Denmark as in Section 2.2 of this document.</li> </ul>	<ul style="list-style-type: none"> <li>○ Education and awareness to adjacent landowners of Strategy and Action plans.</li> <li>○ Contact is made with adjacent landowners at commencement of the Strategy and Action Plan and on site visits.</li> </ul>
<b>To implement a seasonally based weed management schedule into the Shire of Denmark's operational program, enabling cost effective weed management.</b>	<ul style="list-style-type: none"> <li>○ Utilise action plans developed for bushland reserves and roadside reserves in this document.</li> <li>○ Labour and budgeting for implementation of this Strategy and Action Plan can be calculated for forward planning.</li> </ul>	<ul style="list-style-type: none"> <li>○ Education for Shire of Denmark employees on weed management and techniques of weed eradication.</li> <li>○ Utilise labour estimates for each bushland for forward budgeting and approvals process to ensure this Strategy and Action Plan can be implemented.</li> </ul>
<b>To facilitate an early detection – rapid response approach to future weed management within the Shire of Denmark.</b>	<ul style="list-style-type: none"> <li>○ Site assessment and inventory to be conducted on bi-annual site visits.</li> <li>○ Shire employees aware of the weed issues when visiting each bushland site, collect inventory and data for central database.</li> </ul>	<ul style="list-style-type: none"> <li>○ Develop response techniques as per suggested methods covered in each bushland management plan.</li> <li>○ Shire of Denmark utilise a central record keeping method.</li> <li>○ Responsibility of Shire personnel. A designated person to be allocated for the implementation of Strategy and Action Plan.</li> </ul>

This Weed Strategy and Action Plan can only be effective with support and endorsement from the Denmark Shire and Council. The success of this plan will also require alliance with community groups and stakeholders as outlined in Section 2.

## **2.4 Review**

The Denmark Shire Weed Strategy and Action Plan is for the life of 5 years. To effectively monitor weed eradication methods it is recommended that a review occurs at 3 years during the life of this plan. A recommended review checklist is provided below.

### **Review 2009**

A monitoring and review program should occur in 2009 and include the following:

- Update of individual Reserve Maps to update new infestations or decline of weed presence;
- Review results and effectiveness of program - application and timing of management strategies;
- Possible addition of new reserves and management plans;
- Roadside operations plan - review of roadside applications, timing and results;
- Update of declared, environmental and pest weeds;
- Review data collection procedures; and
- Utilise or update new methods of weed eradication.

### **Review 2011**

A full review of the Action Plan and Strategy should occur in 2011. It is recommended that the following occur:

- Targets and objectives set for continuation of the plan for the next 5 years;
- Modifications to any of the reserves (additions/easements/land tenure changes);
- Update of declared, environmental and pest weeds;
- Continuation of the Weed Strategy and Action Plan for another 5 years; and
- Incorporation of updates from 2009 as above.

### 3 Operational Roadside Reserve Plan

An Operational Roadside Reserve Plan has been provided on page 11 of this document. This outlines the target weed species, control and eradication of the species, and the timing and methods recommended to apply. It should also be noted that individual populations should not necessarily be eradicated in isolation as re-invasion of another species can occur.

The Operational Roadside Reserve Plan aims to give a maintenance schedule, however this should not be adopted in isolation from other vegetation and aquatic management. Such management issues include:

- *Phytophthora cinnamomi* (Dieback) management and hygiene methods along roadsides;
- Minimised impacts of civil engineering works by adhering to codes of practice;
- Water catchments, management and protection schemes;
- Roadside rehabilitation areas;
- Bushland corridors; and
- Declared Rare Flora (DRF) populations – contact local CALM Office for further advice.

The Operational Roadside Reserve Plan lists all weed species known to occur throughout the Shire of Denmark along roadsides. This list should be reviewed as part of the monitoring and review, as outlined in Section 2.4.

\* Insert Operational Roadside Plan here

## 4 Action Plans

### 4.1 R37391 Little River

**Location:** The Reserve runs from Ocean Beach Road to the Wilson Inlet.

**Access:** Access to the Reserve is either from Ocean Beach Road, Maraveen Place or through walkways from Karri Bay Estate.

**Condition:** R37391 is in good condition – most of the Reserve is in excellent condition however small sections are in poor condition.

**Weeds:** There is a very large isolated patch of Blackberry, and the beginnings of small outbreaks of Watsonia (1 to 2 plants). There are a few Pittosporum seedlings west of Maraveen Place.

**Main Issues:** The patch of Blackberry is large and immediately adjacent to the Little River, spraying may lead to water contamination. River adjacent properties in Karri Bay Estate have gardens with exotic plants such as Agapanthus, which are likely to escape into the Reserve.

**Recommended Action:** Notify the Department of Agriculture WA Officer in Denmark of the Blackberry infestation to ensure that appropriate spraying is carried out. The small beginnings of Watsonia and Pittosporum infestations should be removed by hand by qualified bush regenerators. Monitoring of the boundaries between the Reserve and adjoining properties should occur regularly to check for garden escapees.

Weed	Recommended Action	Labour	When
Blackberry	Dept of Agriculture and Food WA spray program	2 hours	Annually in June
Watsonia	Hand pull Watsonia plants	1 hour	Annually in June
Pittosporum	Hand pull seedlings	2 hours	Anytime

**Equipment Needed:** Weed killer, spray backpacks

**Community Involvement:** Community members actively involved in the weed management within this reserve include Bibbulmun track volunteers Jennifer Robinson, Kerry Clark and Steve Hawkes and DWAG members.


Figure 4.1 Little River Reserve

## R37391 Little River Reserve



### Legend



 Access

**W** Watsonia

**B** Blackberry

**Pi** Pittosporum



## 4.2 R28922 Weedon Hill

**Location:** The Reserve is located to the south of Gilbert Avenue (See Figure 4.2).

**Access:** Both fire and general access is a one lane easy but steep four-wheel drive track with entry from Gilbert Avenue and from Adams Road.

**Condition:** R28922 is in excellent condition, with minimal disturbance and weeds.

**Weeds:** Blowfly grass, Thistle, and Flatweed in extremely small numbers.

**Main Issues:** A minor issue is safety in regards to weeds management. The very few weeds in the Reserve are located on the top of the large granite rocks in the south east of the Reserve. Access to the rocks is by a narrow goat track, the rocks need to be scaled to get to the top.

**Recommended Action:** Hand weeding only. Due to the very small amount of weeds they would be able to be efficiently eradicated with hand weeding. Spraying would leave a bare area which would encourage more weeds to grow back. There is also the access difficulty, which would be exacerbated if trying to climb while carrying chemicals and spray equipment.

Weed	Recommended Action	Labour	When
Blowfly grass	Pull by hand	1 hour	Annually June to Sept
Flatweed	Pull by hand	1 hour	Annually June to Sept
Thistle	Pull by hand	0.25 hours	Annually June to Sept

**Equipment Needed:** Gloves, plus extra thick gloves or welders gloves for removing the thistles and bags for removing weeds from the site.

### Community Involvement:

Community members actively involved in the weed management within this Reserve include DWAG members and individual volunteers such as Alison Batten.

Figure 4.2 Weedon Hill Reserve

# R28922 Weedon Hill



## Legend



**Bf**

Access  
Blowfly grass

**Th**

**F**

Thistle  
Flatweed

### 4.3 R36026 Happy Valley Road.

**Location:** The Reserve is located north of the South Coast Hwy along Happy Valley Road. The Reserve is on the east side of the road (Figure 4.3).

**Access:** One access track, easy four-wheel drive track heading east-west through reserve, just south of centre.

**Condition:** R36026 is in excellent condition, with minimal disturbance and weeds.

**Weeds:** Sydney golden wattle and Watsonia.

**Main Issues:** 3 large Sydney golden wattles need to be felled. The trees can be left on site as they will decompose relatively quickly. The area will need to be monitored regularly to pull up the seedlings. The Watsonias are clumped together and should be sprayed with Dalapon.

Weed	Recommended Action	Labour	When
3 large Sydney golden wattles	Fell trees with a chainsaw, cut below any leaves, leave on site.	4 hours	June
Anticipated Wattle growth	Hand pull or spray Wattle regrowth	1 hour	Annually in June
Watsonia	Spray with Dalapon	1 hour	Annually in Sep to Dec

**Equipment Needed:** Dalapon, chainsaw, personal protective equipment (PPE).

#### **Community Involvement:**




Community members actively involved in the weed management within this Reserve include DWAG members and individual volunteers such as Nadine Lapthorne.

Figure 4.3 Happy Valley Road Reserve

# R36026 Happy Valley Road Reserve



**Legend**

 N	 Access	 Sydney golden wattle
		 Watsonia

#### 4.4 R18821 South Coast Hwy/Kordabup Road

**Location:** Reserve R18821 is located on the east corner of South Coast Highway and Kordabup Road.

**Access:** Vehicle access can be gained from Kordabup Road adjacent to the Western Power substation.

**Condition:** R18821 is in good to excellent condition, with minimal disturbance and weeds.

**Weeds:** Watsonia and Kikuyu.

**Main Issues:** There are infestations of Watsonia and Kikuyu around the Western Power substation, otherwise the Reserve is in good condition.

**Recommended Action:** Due to the high density of the Kikuyu and Watsonia infestations it is recommended that these areas are sprayed.

It is important to be aware that spraying will leave a bare area which is likely to encourage more and/or possibly harder to control weeds to grow to grow back. Once initial spraying commences, the area will require regular spraying and careful monitoring to ensure that the Kikuyu and Watsonia are completely eradicated before revegetation takes place.

If funds do not permit the regular spraying and monitoring of the site then it is recommended that the Kikuyu and Watsonia infestations are regularly monitored to ensure that the weeds are contained and not spreading further into the reserve. Spraying a buffer zone is an option to contain the weeds, but is recommended only if it can be followed up annually.

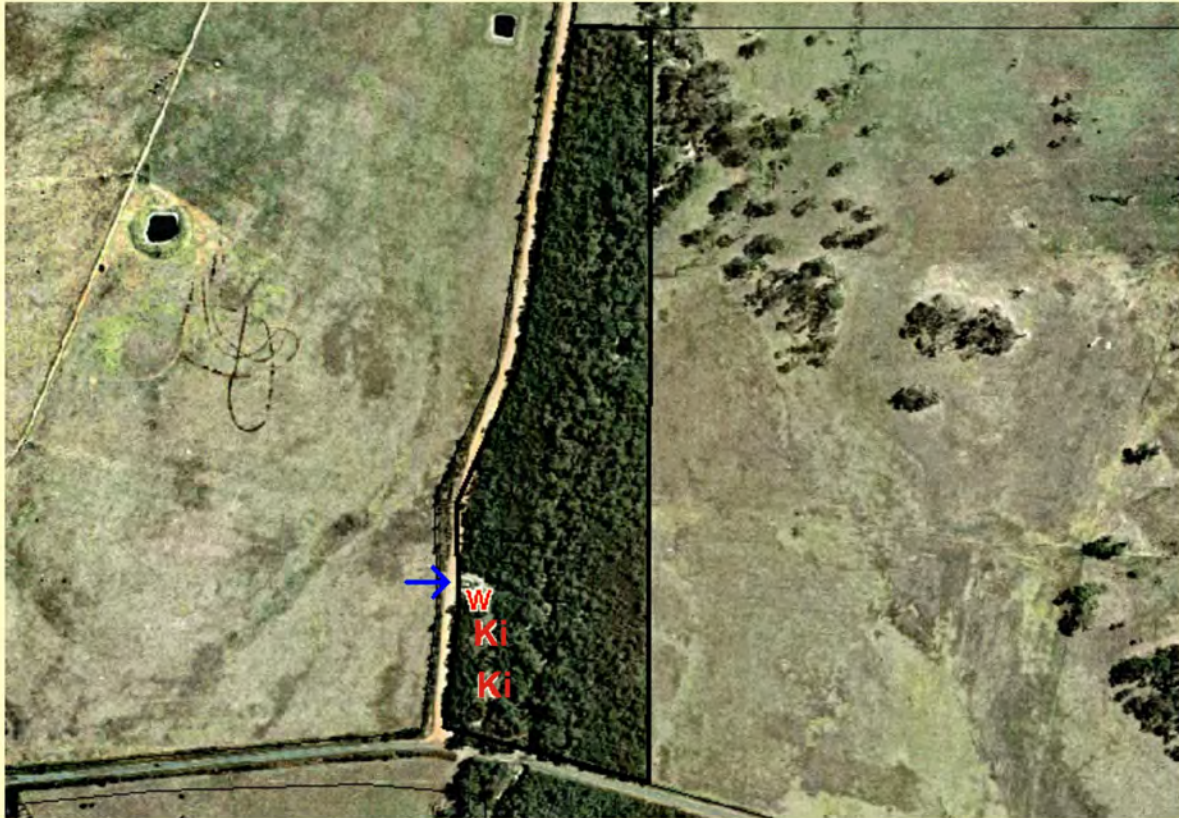
Weed	Recommended Action	Labour	When
Kikuyu	Spray buffer around infestation	1 hour	Annually in spring
Watsonia	Spray buffer around infestation	1 hour	Annually in spring

**Equipment Needed:** Dalapon and Roundup, spray pack, PPE.

**Community Involvement:** There is none recorded at the time of writing.

Figure 4.4 Highway Kordabup

## R18821 Highway Kordabup



### Legend



**W** Watsonia

**Ki** Kikuyu

## 4.5 20403 Morgan Street Reserve

**Location:** Located between South Coast Highway and Morgan Road.

**Access:** Access to the Reserve is by foot, and vehicles can be parked adjacent to Morgan Road.

**Condition:** R20403 is in poor to good condition. The Reserve is in good condition adjacent to the South Coast Highway, and in poor condition due to weed infestation along Morgan Road.

**Weeds:** Agapanthus, Honeysuckle, Vinca (blue periwinkle), Watsonia and Dolichos.

**Main Issues:** Morgan Street Reserve forms part of the Karri lined entrance into town, therefore it is important that the Reserve is in good condition. The Reserve is at risk from a variety of garden escapees, especially Agapanthus.

**Recommended Action:** Hand weeding is the recommended course of action due to the proximity of good quality vegetation in the reserve.

Weed	Recommended Action	Labour	When
Agapanthus	Pull by hand	2 hrs	Annually April to Dec
Honeysuckle	Pull by hand	2 hrs	Annually April to Dec
Vinca	Pull by hand	2 hrs	Annually April to Dec
Watsonia	Pull by hand	2 hrs	Annually April to Dec
Dolichos	Pull by hand	2 hrs	Annually April to Dec

**Equipment needed:** Gloves, pitchfork, sturdy bags to carry away seed heads and Watsonia bulbs.

**Community Involvement:** Community members actively involved in the weed management within the Reserve include TAFE Conservation and Land Management students, DWAG members and individual volunteers such as Sue Mills.

Figure 4.5 Morgan Street Reserve

## R20403 Morgan Street Reserve



### Legend



**W** Watsonia  
**D** Dolichos

**A** Agapanthus  
**Vi** Vinca  
**H** Honeysuckle



#### 4.6 R37702 Paterson Street (A)

Reserve R37702 consists of 2 separate locations – one is on Paterson Street (A, Figure 4.6), the other is on Buckley Street (B, Figure 4.7).

**Location:** The Reserve is located south of Paterson Street, east of Middleton Street, west of Hodgson Street, and north of industrial lots on Industrial Road.

**Access:** By foot from Paterson Street, Middleton Street and Hodgson Street.

**Condition:** R37702 is in good condition, with most of the weed infestations located along the north-east boundary.

**Weeds:** Watsonia, Silver wattle, Myrtle-leaved milkwort and Tagasaste.

**Recommended Action:** The Watsonia should be contained by hand pulling the plants annually from July to December. The other weeds – the Silver wattle, Myrtle-leaved milkwort and the Tagasaste – should be removed in stages as per the recommended actions in the table below.

Weed	Recommended Action	Labour	When
Watsonia	Hand pull Watsonia plants	1 hr	Annually from July to Dec
Silver wattle	Chainsaw then monitor for seedlings	0.5 hr	Annually – anytime
Myrtle-leaved milkwort	Lop at ground level then monitor for seedlings	1 hr	Annually – anytime
Tagasaste	Chainsaw at ground level then monitor for seedlings	1 hr	Annually – anytime

**Equipment Needed:** Chainsaw, PPE, loppers, bags for removal of seeds and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this Reserve include DWAG members and individual volunteers such as Margaret Whittle.

Figure 4.6 Paterson Street Reserve (A)

## R37702 Paterson St



### Legend



**W** Watsonia

**De** Silver wattle

**P** Myrtle-leaved milkwort

**T** Tagasaste

#### 4.7 R37702 Buckley Street (B)

Reserve R37702 consists of 2 separate locations – one is on Paterson Street (A, Figure 4.6), the other is on Buckley Street (B, Figure 4.7).

**Location:** The Reserve is located south of Buckley Street, east of Clarke Close and west of Middleton Street.

**Access:** By foot from Buckley Street.

**Condition:** R37702 is in good condition, with most of the weed infestations located along the north and west boundary.

**Weeds:** Kikuyu, Taylorina, and Watsonia.

**Main Issues:** The Kikuyu is located in an inundated area and will need to be slashed rather than sprayed. This Reserve is a buffer between the industrial area and a residential area and access needs to be maintained.

**Recommended Action:**

- Slash Kikuyu
- Contain Watsonia
- Remove Taylorina

Weed	Recommended Action	Labour	When
Kikuyu	Slash under dry conditions	2 hrs	Annually when dry
Taylorina	Lop at ground level and hand pull seedlings	1 hr	Annually anytime
Watsonia	Hand pull and remove seed heads	1 hr	Annually between July to Dec

**Equipment Needed:** Loppers, brushcutter, PPE, bags to remove seed heads and bulbs.

**Community Involvement:**

Community members actively involved in the weed management within this Reserve include DWAG members and individual volunteers such as Margaret Whittle.

Figure 4.7 Buckley Street Reserve

## R37702 Buckley St Reserve



### Legend



**W** Watsonia

**Ki** Kikuyu

**Ta** Taylorina

## 4.8 R38440 Pioneer Park

**Location:** R38440 is adjacent to the following roads – South Coast Highway, Buckley Street and Ocean Beach Road (See Figure 4.8).

**Access:** By foot from either South Coast Highway, Buckley Street or Ocean Beach Road.

**Condition:** R38440 is in good condition – the Reserve is a bench mark site for Dolichos and Watsonia control.

**Weeds:** There is a very large isolated patch of Blackberry, and the beginnings of small outbreaks of Watsonia (1 to 2 plants).

**Main Issues:** There is a dense infestation of Dolichos in the north west corner of the Reserve. The Reserve is adjacent to the proposed visitors centre for Denmark. The presence of 5 tree species (Karri, Jarrah, Marri, Tingle and Casuarina) and their associated understories within the Reserve provides the potential for interpretive walks to be constructed through the Reserve. The eradication of weeds from the site would enhance the tourism, aesthetic and biodiversity values of the Reserve.

**Recommended Action:** Continue to hand weed the Dolichos and Watsonia from the site. The presence of these weeds has been greatly reduced since 1989, which is when initial weed management began.

Weed	Recommended Action	Labour	When
Watsonia	Hand pull and remove seed heads.	10 hrs	Annually – anytime
Dolichos	Hand pull seedlings	5 hrs	Biannually in Feb and Sep

**Equipment Needed:** Gloves, sturdy bags for removing seed heads and bulbs from the site.

**Community Involvement:** Community members actively involved in the weed management within this Reserve include DWAG members and individual volunteers such as Joan Stacy and Diane Harwood.

Figure 4.8 Pioneer Park

## R38440 Pioneer Park



### Legend



**W** Watsonia

**D** Dolichos pea

## 4.9 R39066 Denmark River (East Bank)

**Location:** The Reserve is along the east bank of the Denmark River, running from just south of the South Coast Highway to the Rail Bridge over the Denmark River (Figure 4.9).

**Access:** There is a walkway running the length of the Reserve. Vehicle access can be gained from Beveridge Road.

**Condition:** The southern part of the Reserve is in good to excellent condition, with little weed infestation. The northern part of the Reserve in good condition, with weed infestations limited to the boundaries of the Reserve.

**Weeds:** Pittosporum, Sydney golden wattle, Watsonia, Honeysuckle, Asparagus fern, Kings Park special, African corn flag, Blue periwinkle, 1 Pampas grass, Cotoneaster and Blackwood wattle.

**Main Issues:** The weed infestations are spreading from the northern boundaries of the Reserve further into the bushland. It is important that the weeds are reduced in number, or at the least contained, to prevent further degradation of the Reserve.

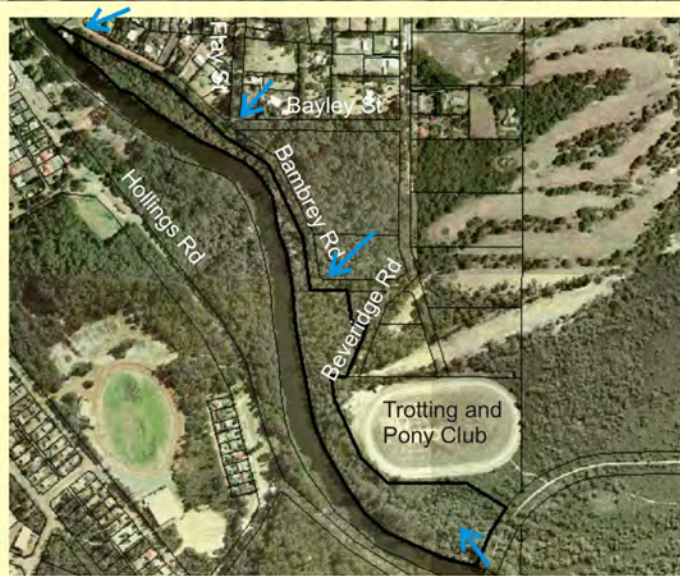
Weed	Recommended Action	Labour	When
Pittosporum	Lop at ground level, paint stump, hand pull seedlings	1 hr	Annually anytime
Sydney golden wattle	Lop at ground level, hand pull seedlings	1 hr	Annually anytime
Watsonia	Hand remove, remove seed heads	1 hr	Annually July to Dec
Honeysuckle	Hand remove	1 hr	Annually anytime
Asparagus fern	Sprayed with glyphosate	0.5 hr	Annually in Spring
Kings Park special	Hand pull	0.5 hr	Annually anytime
African corn flag	Hand pull	1 hr	Annually anytime
Blue periwinkle	Hand pull	1 hr	Annually anytime
Pampas grass	Grub out then monitor for regrowth	1 hr	Annually anytime
Cotoneaster	Cut at ground level and paint stump and monitor for seedlings	0.5 hr	Annually anytime
Blackwood wattle	Hand pull seedlings and suckers	1 hr	Annually anytime

**Equipment Needed:** Glyphosate, PPE, loppers, gloves and bags for removal of seed heads and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this reserve include DWAG members and individual volunteers such as Bob Fenwick and Tim Gordon.

Figure 4.9 Denmark River East Bank Reserve

# R39066 Denmark River East Bank Reserve



## Legend

- Access
- Pi** Pittosporum
- Ch** African cornflag
- S** Sydney golden wattle
- K** Bottlebrush - Kings Park Special
- M** Blackwood wattle
- W** Watsonia
- C** Cotoneaster
- H** Honeysuckle
- Pa** Pampas grass
- As** Asparagus fern
- Vi** Blue periwinkle



#### 4.10 R46256 Big Karri Reserve – Teesdale Street

**Location:** Located between Mt Shadforth Road and South Coast Highway (See Figure 4.10).

**Access:** Access to the Reserve is by foot from Mt Shadforth Road, South Coast Highway and Teesdale Street.

**Condition:** R46256 is in good condition – most of the Reserve is in excellent condition however small sections are in poor condition.

**Weeds:** There are patches of Blackberry, Dolichos, Watsonia and Taylorina, all are located on the perimeters and there is one mature Silver wattle at the northern end.

**Main Issues:** This Reserve is an important component of the urban landscape. The reserve contains a large stand of mature Karri trees, Yellow Tingle and Red Flowering Gum, which are clearly visible from the centre of town and surrounds. It is therefore important the vegetation within the Reserve is effectively managed and monitored.

The large strip of Dolichos that runs along the eastern boundary is a high potential fire risk and requires removing twice a year to minimise this hazard.

#### **Recommended Action:**

There are many patches of Watsonia that should be hand removed due to the sensitivity of the surrounding native plants. However there is one large patch of Watsonia that it would be more labour and time efficient to spray. The Blackberry occurs within the reserve only in small patches and is therefore more cost-effective to hand remove rather than spray. The mature Silver Wattle will require removal by a qualified tree lopper due to its size.

Weed	Recommended Action	Labour	When
Watsonia	Small patches hand removed	30 hours	July to Dec annually
Watsonia	Large patch sprayed	2 hours	Sept to Dec annually
Dolichos	Hand remove	20 hours	Biannually - Feb and Sept
Blackberry	Hand remove	4 hours	June to Aug
Taylorina	Hand remove	2 hours	June to Aug
Silver wattle	Removal by tree lopper	1 hour	Any time

**Equipment Needed:** Gloves, secateurs, garden forks, bags for removal of seed heads and bulbs, chemical and personal protective equipment.

**Community Involvement:** Community members actively involved in the weed management within this reserve include DWAG members and individual volunteers.

Figure 4.10 Big Karri Reserve

# R46256 Big Karri Reserve



## Legend

**W** Watsonia

**D** Dolichos

**De** Silver wattle

**Ta** Taylorina

**B** Blackberry



#### **4.11 R41224 Blue Wren Lane**

**Location:** The Reserve is located to the east of Anning Road and Braidwood Elbow and north of Crowea Road (See Figure 4.11).

**Access:** Vehicle access through the Reserve is from Anning Road and Crowea Road.

**Condition:** R41224 is in excellent condition.

**Weeds:** There are no weed infestations within the Reserve. However there are Sydney golden wattle trees located adjacent to the reserve along the northern boundary. There is Dolichos in the easement between the Red Gum Lane and the eastern boundary of Reserve.

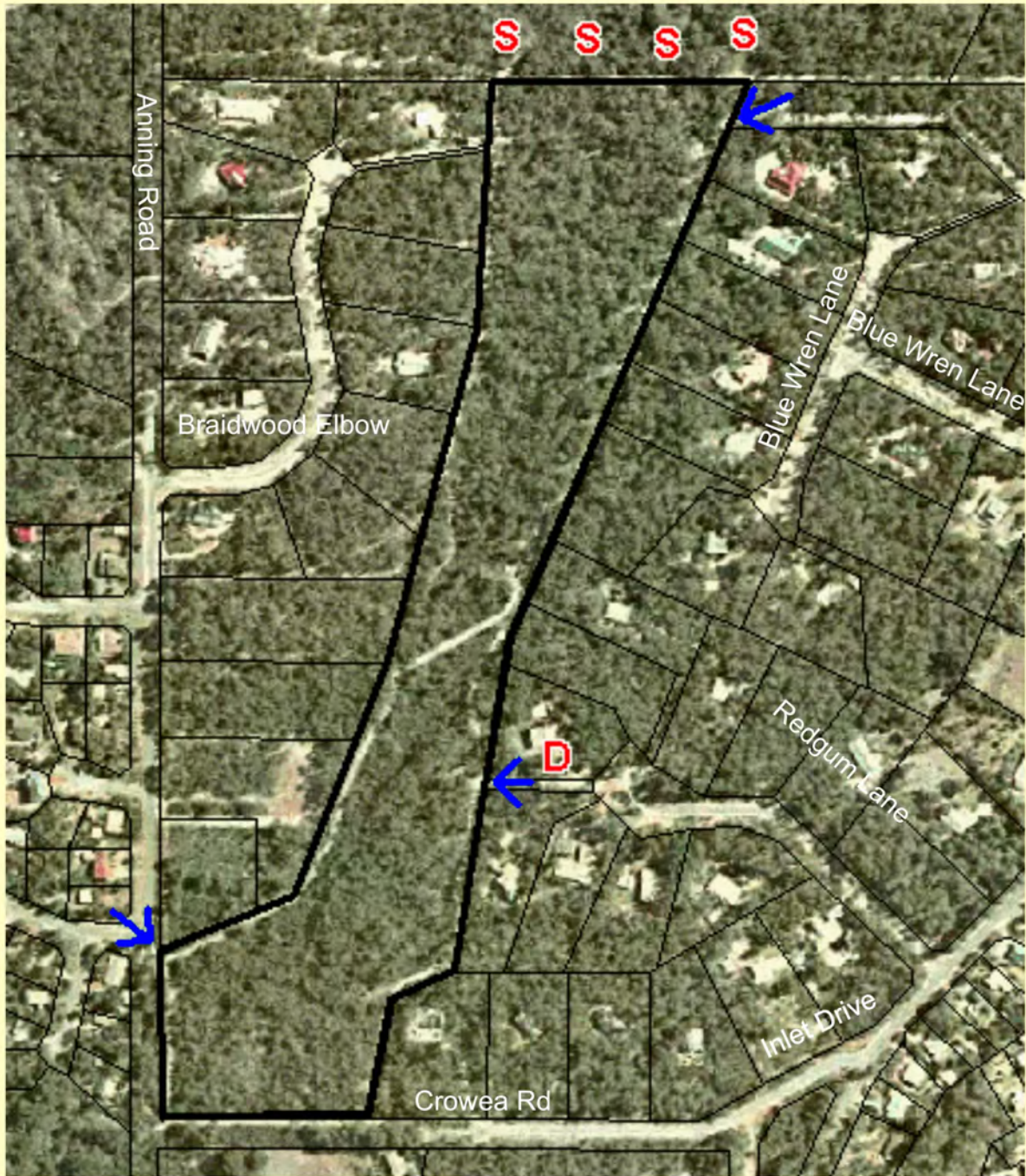
**Main Issues:** The Reserve is in excellent condition but requires annual monitoring to ensure that the nearby Sydney golden wattle and Dolichos do not invade the Reserve.

**Recommended Action:** Annual monitoring should be conducted, particularly along the northern and eastern boundary near Red Gum Lane.

**Equipment needed:** Not applicable

Figure 4.11 Blue Wren Lane Reserve

# R41224 Blue Wren Lane



**Legend**

 N	 Access	 Sydney golden wattle
		 Dolichos pea

## 4.12 R15513 Strickland Street Reserve Part One

**Location:** This part of the Reserve is bounded by Barnett Street to the north, Holling Road to the east, Haire Street to the south and Brazier Street to the west.

**Access:** The Reserve is accessible by foot from all of the above surrounding roads.

**Condition:** R15513 varies from excellent to poor condition. The north west corner contains stands of Jarrah, Marri and Banksia but has weed sections to the east and south. The seasonally inundated area of Paperbarks is also in excellent condition. There are 2 highly degraded areas within the Reserve that have had a history of garden refuse dumping and now contain a variety of weeds.

**Weeds:** There is a variety of weeds within the reserve including Lantana, Watsonia, Dolichos, Pittosporum, Myrtle-leaved milkwort, Bluegums, Pine trees, Sydney golden wattle, Taylorina and Blackberry.

**Main Issues:** It is of concern that the Reserve contains a weed of national significance – Lantana. *Lantana camara* is a weed that spreads rapidly and has cost thousands of dollars to attempt to contain in the eastern states. Because Lantana only occurs on a few sites in Denmark, it is highly recommended that this weed is eradicated while it is still possible to do so.

**Recommended Action:** Eradicate *Lantana*. This should be done by hand because if it is sprayed a large dead mass remains and provides protection for not only Lantana regrowth, but for Blackberry which occurs in the vicinity.

Weed	Recommended Action	Labour	When
Lantana	Hand remove	50 hrs	Annually when not in seed.
Blackberry	Department of Agriculture and Food WA spray program	2 hrs	Annually in Dec
Watsonia	Hand pull Watsonia plants	20 hrs	Annually July to Dec
Dolichos	Hand remove	20 hrs	Biannually - Feb and Sep
Pittosporum	Pull seedlings	2 hrs	Annually - anytime
Myrtle-leaved milkwort	Pull seedlings	2 hrs	Anytime
Blue gums	Chainsaw and paint stumps, then monitor for seedlings annually	3 hrs	Anytime
Pine trees	Chainsaw then monitor for seedlings annually	3 hrs	Anytime
Sydney golden wattle	Only seedlings remain – hand pull	1hr	Annually - anytime
Taylorina	Hand remove	3 hrs	Annually - anytime
Kikuyu	Keep trimmed back from the path	3 hrs	Every 2 months

**Equipment Needed:** Roundup, PPE, paintbrush, chainsaw, loppers, bags for removing seed heads and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this reserve include DWAG members and individual volunteers such as John Schindler and Janet Marsh.

Figure 4.12 Strickland Street Reserve Part One

# R15513 Strickland Street Reserve

(Part One)



Legend

- S** Sydney golden wattle
- W** Watsonia
- D** Dolichos pea
- Ki** Kikuyu
- Pn** Pine

- Bg** Blue Gum
- L** Lantana
- B** Blackberry
- Pi** Pittosporum
- Ta** Taylorina
- P** Myrtle leaved Milkwort



#### 4.13 R15513 Strickland Street Reserve Part Two

**Location:** This part of the reserve is bounded by Haire Street to the north, Holling Road to the east, Crellin Street to the south and Brazier Street to the west (See Figure 4.13).

**Access:** There is a locked gate on the Brazier Street entrance, otherwise the Reserve is accessible by foot from all the previously stated surrounding roads.

**Condition:** R15513 varies from good to excellent, apart from the former gravel pit in the centre of the Reserve which is in a highly degraded condition.

**Weeds:** There is a variety of weeds within the reserve including Watsonia, Dolichos, Blackwood wattle, African love grass, and Myrtle leaved milkwort.

**Main Issues:** The gravel pit in the centre of the Reserve is in a highly degraded condition and is infested with Watsonia.

**Recommended Action:** Contain Watsonia to the gravel pit area and aim to control it in the excellent condition areas of the Reserve.

Weed	Recommended Action	Labour	When
Watsonia	Hand pull Watsonia plants	10 hrs	Annually July to December
Dolichos	Hand remove	10 hrs	Biannually – in Feb and Sep
Myrtle leaved milkwort	Pull seedlings	2 hrs	Annually - anytime
Blackwood wattle	Chainsaw, paint stumps then monitor seedlings and suckers	1 hr	Annually – anytime
African love grass	Spray	1 hr	Annually – before seed set

**Equipment Needed:** Roundup, PPE, paintbrush, chainsaw, loppers, bags for removing seed heads and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this Reserve include DWAG members and individual volunteers such as John Schindler and Janet Marsh.

Figure 4.13 Strickland Reserve Part Two

# R15513 Strickland Street Reserve (Part Two)



## Legend

**AI** African lovegrass

**W** Watsonia

**M** Blackwood wattle

**P** Myrtle leaved milkwort

**D** Dolichos pea



#### 4.14 R14376 Denmark River West Bank

**Location:** This Reserve is located along the west bank of the Denmark River between the South Coast Highway and the old railway bridge (See Figure 4.14).

**Access:** There is a walk trail along the river that extends the length of the Reserve, which can also provide vehicle access for maintenance.

**Condition:** R14376 is in excellent condition with only isolated weed outbreaks.

**Weeds:** The weeds within the Reserve include Watsonia, Dolichos, Pittosporum, Blackwood wattle and Silver wattle.

**Main Issues:** This is a highly utilised reserve due to its location in the centre of town. The Reserve is an important recreational asset for both locals and tourists and therefore should be managed accordingly.

**Recommended Action:** Aim to remove the Dolichos, Pittosporum and Blackwood wattle. Contain the Watsonia and prevent it from spreading further.

Weed	Recommended Action	Labour	When
Watsonia	Hand pull Watsonia plants and remove seed heads	10 hrs	Annually July to Dec
Dolichos	Hand remove	5 hrs	Biannually in Feb and Sept
Pittosporum	Pull seedlings	2 hrs	Annually - anytime
Blackwood wattle	Chainsaw, paint stumps then monitor seedlings and suckers	1 hr	Annually – anytime
Silver wattle	Chainsaw, paint stumps then monitor seedlings and suckers	1 hr	Annually – before seed set

**Equipment Needed:** Roundup, PPE, paintbrush, chainsaw, loppers, bags for removing seed heads and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this reserve include DWAG members and individual volunteers such as John Schindler and Janet Marsh.

Figure 4.14 Denmark River West Bank

## R14376 Denmark River West Bank



### Legend



**W** Watsonia

**Pi** Pittosporum

**De** Silver wattle

**M** Blackwood wattle

**D** Dolichos pea

#### 4.15 R37695 Beveridge Road Reserve

**Location:** This Reserve is located between the east bank of the Denmark River and Beveridge Road. The north and south boundaries are vested as road reserves (Figure 4.15).

**Access:** There is no vehicle access within the Reserve however there is vehicular access around the outside of all the boundaries.

**Condition:** R37695 is in excellent condition. Apart from having minimal weeds, it contains the only stand of old growth Karri and Marri in the urban area.

**Weeds:** There are small amounts of *Watsonia* on the western boundary and small amounts of *Kikuyu* on the eastern boundary. These weeds have been carried to the Reserve through drainage.

**Main Issues:** This is an important reserve because as well as containing the only stand of old growth Karri and Marri in the urban area, 96 bird species have been recorded here (Tina Smith, personal communication, 2005).

**Recommended Action:** The *Watsonia* should be contained by hand pulling the plants and removing the seed heads. The *Kikuyu* should be sprayed with Glyphosate until it is eradicated.

Weed	Recommended Action	Labour	When
Watsonia	Hand pull Watsonia plants and remove seed heads	10 hrs	Annually July to Dec
Kikuyu	Spray with Glyphosate	1 hr	Biannually

**Equipment Needed:** Glyphosate, PPE, paintbrush, secateurs and bags for removing seed heads and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this reserve include DWAG members and individual volunteers such as Tina Smith.

Figure 4.15 Beveridge Road

## R37695 Beveridge Road



### Legend



**W** Watsonia

**Ki** Kikuyu

#### 4.16 R46688 Peace Street Reserve

**Location:** This Reserve is comprised of ten locations. Four locations are situated to the north of Peace Street and six locations are to the south, with Christina Crescent as the southern boundary (See Figure 4.16a, 4.16b).

**Access:** There is vehicle access through the Reserve on an unformed road reserve.

**Condition:** R46688 is in excellent condition and contains stands of Yellow Tingle.

**Weeds:** There are small weed infestations throughout the Reserve including Watsonia, Blackberry, Dolichos, Sydney golden wattle, Cotoneaster, and Pine tree seedlings.

**Main Issues:** This is an important reserve because of its proximity to town, stands of Yellow Tingle and its excellent condition.

**Recommended Action:** The Watsonia should be contained by hand pulling the plants and removing the seed heads. The Blackberry should be managed as per the Department of Agriculture WA program. The Dolichos, Cotoneaster, Pine tree seedlings and Sydney golden wattle (all seedlings, no mature trees remain) should all be removed by hand.

Weed	Recommended Action	Labour	When
Watsonia	Hand pull Watsonia plants and remove seed heads	10 hrs	Annually July to Dec
Blackberry	As per Department of Agriculture and Food WA spray program		
Dolichos	Hand remove	2 hrs	Biannually Feb and Sept
Sydney golden wattle	Hand pull seedlings (no mature trees remain)	0.5hr	Biannually - anytime
Cotoneaster	Hand pull seedlings (no mature trees remain)	0.5hr	Biannually - anytime
Pine tree seedlings	Hand pull seedlings (no mature trees remain)	0.5hr	Biannually - anytime

**Equipment Needed:** Secateurs and bags for removing seed heads and bulbs.

**Community Involvement:** Community members actively involved in the weed management within this Reserve include DWAG members. It is recommended that a Friends of Peace Street group be formed.

Figure 4.16(a) Peace Street Reserve Southern

# R46688 Peace Street Southern



## Legend



**W** Watsonia

**D** Dolichos pea

**S** Sydney golden wattle

Figure 4.16 (b) Peace Street Reserve Northern

# R46688 Peace Street Northern



## Legend



- |          |                      |           |            |
|----------|----------------------|-----------|------------|
| <b>W</b> | Watsonia             | <b>B</b>  | Blackberry |
| <b>S</b> | Sydney golden wattle | <b>Pn</b> | Pine       |
| <b>C</b> | Cotoneaster          |           |            |

## 5 References

Agriculture and Resource Management Council of Australia and New Zealand, Australian and New Zealand Environment and Conservation Council Forestry Ministers, (1999). *The National Weed Strategy: A strategic approach to weed problems of national significance*. Commonwealth of Australia.

Department of Agriculture Western Australia, (2004). *Declared Plants and other Weeds*. State Government of Western Australia. 2004.

Department of Conservation and Land Management (1999). *Environmental Weeds Strategy for Western Australia*. Government of Western Australia. Perth, Western Australia.

Moore, J., and Wheeler, J. (2005). *Southern Weeds and their Control*. (Unpublished)

Peirce, John R., & Pratt, Rachel A. (2002) *Declared Plant Control Handbook*. Department of Agriculture. Western Australia.

Smith, Tina (2005). Personal Communications.



## **Appendices**

## **Appendix A**

### **Key for weed species on maps 4.1 to 4.16**

**Table 5.4 Key for weed species on maps**

<b>Symbol</b>	<b>Common Name</b>	<b>Botanical Name</b>
A	Agapanthus	<i>Agapanthus praecox</i>
Al	African love grass	<i>Eragrostis curvula</i>
Ar	Arum lily	<i>Zantedeschia aethiopica</i>
As	Asparagus fern	<i>Asparagus scandens</i>
B	Blackberry	<i>Rubus fruticosus</i>
Bf	Blowfly grass	<i>Briza maxima</i>
Bg	Blue gum	<i>Eucalyptus globulus</i>
Bu	Bullrush	<i>Typha orientalis</i>
C	Cotoneaster	<i>Cotoneaster spp.</i>
Ch	African cornflag	<i>Chasmanthe floribuna</i>
D	Dolichos pea	<i>Dipogon lignosus</i>
De	Silver wattle	<i>Acacia dealbata</i>
F	Flatweed	<i>Hypochaeris sp.</i>
G	Gladiolus (Wavy)	<i>Gladiolus undulatus</i>
H	Honeysuckle	<i>Lonicera japonica</i>
I	Ink weed	<i>Phytolacca octandra</i>
K	Kings Park Special (Bottlebrush)	<i>Callistemon myrtaceae</i>
Ki	Kikuyu	<i>Pennisetum clandestinum</i>
L	Lantana	<i>Lantana camara</i>
M	Eastern states wattle (blackwood wattle)	<i>Acacia Melanoxylon</i>
P	Myrtle-leaved milkwort	<i>Polygala myrtifolia</i>
Pa	Pampas grass	<i>Cortaderia selloana</i>
Pi	Sweet pittosporum	<i>Pittosporum undulatum</i>
Pn	Pine	<i>Pinus pinaster, Pinus radiata</i>
Q	Queensland wattle	<i>Acacia podalyriifolia</i>
S	Sydney golden wattle	<i>Acacia longifolia</i>
T	Tagasaste	<i>Chamaecytisus palmensis</i>
Ta	Taylorina	<i>Psoralea pinnata</i>
Th	Thistle	<i>Carduus spp, Cirsium vulgare</i>
Vt	Victorian tea tree	<i>Leptospermum laevigatum</i>
Vi	Vinca or blue periwinkle	<i>Vinca major</i>
W	Watsonia	<i>Watsonia Sp.</i>