



WARATAH-WYNYARD COUNCIL

WEED MANAGEMENT STRATEGY

Adopted December 2005

WARATAH-WYNYARD WEED MANAGEMENT STRATEGY

EXECUTIVE SUMMARY

This Strategy has been developed by the Waratah-Wynyard Weed Management Committee. It is a document that reflects community concerns and identifies what is required for responsible and effective weed management in the municipality. The Strategy is an action plan, which provides direction for Waratah-Wynyard Council and other stakeholders involved in weed management.

This 2005 review will assess how successful this strategy has been to date, and will reassess targets and aims where appropriate to ensure effective use of resources. Actions will also be reviewed to incorporate new opportunities in light of regional planning and investment strategies, and other Australian government grant opportunities and strategies.

It is intended that this Strategy will be reviewed every three years to determine how successful it has been in meeting specified objectives.

MISSION STATEMENT

To implement a co-ordinated weed management program that minimises the economical, ecological and social impacts of weeds within the Waratah-Wynyard Municipality.

This strategy addresses key weed management issues and has the following goals:

<p>Co-ordinated weed control program</p> <ul style="list-style-type: none">• Co-ordinate a system of community based weed management with a high level of inter-agency co-operation• Establish a comprehensive database of priority weeds affecting Waratah-Wynyard and identify priorities for on ground works• Reduce impact and incidence of priority weeds
<p>Education, awareness and ownership</p> <ul style="list-style-type: none">• To increase community awareness of weed issues and encourage ownership and active community support for weed management programs
<p>Weed hygiene and the spread of weeds along corridors</p> <ul style="list-style-type: none">• Minimise the risk of infecting clean weed free areas in the municipality and prevent the entry and establishment of new weed incursions• Prevent the spread of weeds along corridors

Weed invasion in coastal areas

- Minimise the impact and reduce weed infestations in the coastal environment

Resources and continuity of the weed program

- Achieve effective use of resources available
- Secure recognition and funding for the continuation of the program

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Thanks to David Elliott (Meander Valley Weed Management Strategy) for the slender thistle photo.

1. INTRODUCTION

1.1 Municipality of Waratah-Wynyard

The municipality of Waratah-Wynyard covers an area of 3,522km² in the northwest of Tasmania. It is bounded by Circular Head Council to the west, West Coast Council to the south and Burnie City, Central Coast and Kentish Councils to the east.

The municipality has a total population of 13,486, with the major settlements in the coastal towns of Wynyard and Somerset. Waratah located in the south has a population of approximately 250 (Figures 2003 census). There are a number of smaller towns in the region providing rural services.

Rainfall is very high, exceeding 1000mm per annum. The area has a varied topography and underlying geology, resulting in a diverse landscape and range of habitats. Native vegetation in the area consists of forest communities and heath and sedgeland in coastal areas. Many of these areas are of high conservation value.

The economy of the region is predominantly based around primary industry and related processing, including dairy, beef cattle and cropping. A large proportion of the region is forestry production. The area is also rich in mineral deposits, including iron ore, which is mined at Savage River located in the south.

Tourism is based on the natural environment and cultural heritage. Popular areas include Sisters Beach, Boat Harbour, Hellyer Gorge and Table Cape.



Map 1 Municipality of Waratah-Wynyard

1.2 Development of a Weed Management Strategy

In early 2001 Council called for interested people in the community to become involved in a weed management committee and develop a weed strategy. It was evident that a co-ordinated approach to weed management in Waratah-Wynyard was required, and with the proclamation of the new *Weed Management Act 1999*, it was an opportune time for Waratah-Wynyard Council to take action.

An initial resource sharing arrangement with Circular Head Council enabled the part time employment of a Weed Strategy Officer to co-ordinate the development and implementation of a weed management strategy. The following people committed their time to the Waratah-Wynyard Weed Management Committee (WWWMC):

Kevin Hyland	Deputy Mayor Waratah-Wynyard Council
Paddy Kennedy	Waratah-Wynyard Council
Karen Stewart	Weed Strategy Officer
Jamie Cooper	DPIWE NW Regional Weed Officer
David McCormack	NW Landcare-Rivercare Facilitator
Jennifer Beamish	Somerset resident
Paul Plunkett	Wynyard Landcare Group
Peter Gladwell	Elliott landowner
Martin Huzzey	Elliott landowner

The WWWWMC had its inaugural meeting on the 20th February 2001. The first step in developing a Weed Management Strategy was to initiate community consultation, and this was done over four workshops held in the community. Community participation in the process was essential to identify priority weeds and weed management issues for the municipality and to develop ownership of the strategy. Discussions were also held with various stakeholder groups such as forestry companies and DIER.

After community comment on a draft version, the final Waratah-Wynyard Weed Management Strategy was endorsed by Council in September 2001.

2. LEGISLATION & RELATED STRATEGIES

2.1 Weed Management Act 1999

Current legislation relating to weed control in Tasmania is the *Weed Management Act 1999*, which was proclaimed on the 1st September 2000.

The Act provides for the prevention, eradication and control of ‘declared weeds’. There are currently 86 weeds declared under the Act. All declared plants have a Statutory Weed Management Plan (WMP). These plans outline what is required in respect to the management of each species across each municipality. The importation and sale of these plants is prohibited and they can be categorised into three groups:

1. Plants that present a threat to Tasmania but are not naturalised yet. The Act provides effect for rapid response to any incursions.
2. Plants that present a threat and are naturalised in limited distribution. Legislation facilitates effective action and eradication is required state-wide for these plants.
3. Plants that are widely naturalised in Tasmania, requiring management due to their ongoing threat to Tasmania’s environment and/or agricultural productivity. These plants have varying distributions across the state and management within individual municipality is either eradication or containment depending on the Statutory Weed Management Plan.

Twenty-seven declared weeds are known to be present in the Waratah-Wynyard municipality. A list of these weeds along with their WMP requirements can be found in the Appendices. A total list of declared weeds under the Act is also in the appendices.

2.2 National Weed Strategy and the Weeds of National Significance Program

In 1997 the National Weeds Strategy was launched to address both environmental and agricultural weeds and to provide a coordinated approach to weed management across all States and Territories.

A major component of the Strategy was the identification of 20 Weeds of National Significance (WONS). The WONS found in Tasmania are bridal creeper, boneseed, blackberry, gorse, serrated tussock and willows. All of these except serrated tussock and bridal creeper are known to be present in the Waratah Wynyard municipality.

National and State strategies have been developed for these weeds and have been used as a framework for federal, state and regional investment. Money for on ground works in priority areas across the state has been given to blackberry, gorse and willow projects, a biological control project for boneseed and a state-wide eradication program for bridal creeper.

Current and future funding sources may provide further opportunities to implement projects for these WONS in the municipality

2.3 Tasmanian Weed Management Strategy (WeedPlan) Revised edition

The aim of Weed Plan is to achieve coordinated, collaborative and effective weed management throughout Tasmania. It is a framework for the state to manage existing weed infestations and to prevent establishment of new weeds.

It has four main principles, which reflect those of the National Weed Strategy:

1. Weed Management is an essential and integral part of the sustainable management of natural resources and the environment, and requires an integrated, multi-disciplinary approach.
2. Successful weed management requires a co-operative approach, which involves industry, resource managers and the community working in partnership with all levels of Government in establishing appropriate legislative, educational and co-ordination frameworks.
3. The primary responsibility for weed management rests with the individual land and water managers but collective action is necessary where the problem transcends the capacity of the individual manager to address it adequately.
4. Prevention and early intervention are the most cost-effective techniques, which can be deployed against weeds.

2.4 Regional Natural Resource Management Framework

2.4.1 Cradle Coast Natural Resource Management Strategy

A Natural Resource Management (NRM) Strategy was developed for the Cradle Coast Region in 2004/2005 as is currently going through final stages before being implemented. It plans strategies for the long term, sustainable management of the regions' natural resources, with a balance of environmental, social and economic factors.

An Investment Proposal has been developed to outline how resources will be implemented under the strategy, the development and implementation of which has been overseen by the Cradle Coast NRM Committee.

The development and impending implementation of the strategy has been overseen by the Cradle Coast NRM Committee, who meet monthly in Burnie. The goals of the NRM Strategy and its Investment Proposal are;

- Protect and improve the Regions natural assets for their environmental, social, economic benefits and their intrinsic values.
- Recognise and promote the value of biodiversity in sustaining productive land and water systems for current and future generations
- Strengthen community ownership and participation in NRM decisions and actions throughout the Region.

The document also sets priorities and actions to achieve the abovementioned goals. As part of the extensive investigations it was identified that out of 16 identified management action packages that “weeds, pests and diseases” was ranked no. 2 in priority based on risk-benefit analysis. The outcome of any prioritisation is the enhanced ability to obtain funding through future investment proposals consequently the weed based projects would have a high probability for regional funding.

2.4.2 Cradle Coast Regional Weed Management Strategy

As part of the development of the regional NRM Strategy, a Cradle Coast Weed Management Strategy was developed, and launched in May 2005. This strategy has similar principles to the NRM Strategy, but focuses on weed issues in the region.

The Cradle Coast RWMS assists municipal weed management by setting the context for municipal weed management plans within the region, and promotes a coordinated approach to weed management across municipal and land tenure boundaries. It is written in such a way that for each issue a medium term goal is stated, followed by short term targets, and then actions to be taken to achieve these. The actions are then delegated a lead organisation(s); regional, municipal, industry, state.

The key recommendations of this Strategy that have been delegated to municipal level are;

- Employment of a Municipal Weed Management Officer, at least 0.5 FTE
- Development of a Municipal Weed Management Plan
- Establishment and support of a Municipal Weed Management Advisory Group involving key Municipal stakeholders

2.5 Community / Catchment

Rivercare Plan – Inglis River and Associated Streams, Wynyard (Feb 1999)

Maldon Creek Rivercare Plan, Feasibility Study – Elliott (June 2004)

See Appendix 6.1 for a list of all landcare and environmental groups in the Waratah-Wynyard Municipality, and a brief description of their priority work.

3. WEEDS

3.1 Introduction

Waratah-Wynyard has a wide range of plants that are regarded as weeds. Many of the agricultural weeds such as ragwort and gorse, are well known, but there are many species known as environmental weeds that do not have such high awareness in the community. This awareness has begun to increase, especially as community groups focus their projects on these problems.

Being a rural community, a lot of focus is given to agricultural weeds, which are a significant problem in the region. Weeds affect horticulture, cropping, animal production and forestry plantations and contribute to land and water degradation.

Environmental weeds also pose a major threat to the region. Such weeds are displacing native species and communities, affecting the overall integrity and biodiversity of natural ecosystems. This includes riparian and coastal environments in the area.

This strategy has aimed to address both agricultural and environmental weeds.

In 2001, the community identified six priority weeds for control in the Waratah-Wynyard municipality;

Ragwort	<i>Senecio jacobaea</i>
Pampas grass	<i>Cortaderia spp.</i>
Gorse	<i>Ulex europaeus</i>
Broom	<i>Cytisus scoparius, Genista monspessulana</i>
Slender thistle	<i>Carduus spp.</i>
Crack willow	<i>Salix fragilis</i>

These are the main focus of the strategy, although it includes other species where appropriate.

3.2 Priority Weeds

The following section summarises these priority weeds, and also discusses the work the progress that has been made in regard to their control in the Waratah-Wynyard Municipality. These priority weeds have all been declared under the *Weed Management Act 1999*.

3.3 Ragwort – *Senecio jacobaea*

Ragwort is one of the major weeds of concern in Waratah-Wynyard. At the implementation of the large infestations around the Yolla, Oldina and Calder area, in Somerset, and along road corridors.



Ragwort competes strongly with pasture species. It is thought to cost Tasmania approximately 3 million each year in lost production and control costs (Department of Primary Industries, 2002). Economic impacts on the dairy and beef industries in Waratah-Wynyard are also likely to be high. Also, ragwort can be poisonous to grazing animals, when consumed in high quantities, with cattle and horses being most susceptible.

Seeds provide the main method of spread via wind, vehicles, machinery, hay, animal hair, both domestic and wild, and by water. A mature ragwort plant produces about 250,000 seeds per year, of which 80% of seed remains viable for up to 8 years.

A ragwort plant will form a leafy rosette in its first year and in the second will flower, set seed and die off. In response to physical damage, a perennial lifecycle may be promoted, meaning that a plant will live beyond its normal two years.

Preventing seed production is an essential component of any successful ragwort control program. The most effective approach to control is to destroy any plants before they have time to seed and spread. Flowering plants should have their flower heads removed and destroyed before browning off and seeding. The deflowered plant and any rosettes are then treated with herbicide or removed by grubbing or pulling, keeping in mind that any remaining roots may reshoot.

The main methods of control are cultivation, grazing, biological, herbicides and afforestation. Follow up treatment is necessary. This involves revisiting the site the following autumn and spring to treat any new plants or rosettes. Biological control agents that have been released in Tasmania include the Ragwort Flea Beetle, Cinnabar Moth and the Crown and Stem Boring Moth. The Flea Beetle has been released in areas of high infestations such as Yolla and Oldina, but the extent of populations, impacts and success is uncertain.

For optimal success an integrated approach, using a combination of techniques suited to the situation is desirable.

Further information on ragwort is available in the DPIWE Service Sheet 60.

Progress of Ragwort Actions

Regular yearly mail out to property owners from Council, inspections of infested properties, and assistance to landowner to develop management plans. Control information supplied to new property owners in the areas by Council, and local residents.

Roadside signs installed by Oldina Landcare group to highlight Ragwort problem in the area.

Use of *Weed Management Act 1999* by Council to issue Requirement Notice to property owners.

Obvious reduction in amount of Ragwort appearing in the once heavily-infested areas.

3.3.1 Pampas Grass – *Cortaderia* spp.

Cortaderia selloana - Common Pampas

Cortaderia jubata - Pink Pampas

Cortaderia richardii - New Zealand Toe Toe

The common white pampas grass was introduced to Tasmania in the 1880s as an ornamental and was also used as a hedge or windbreak. It was propagated vegetatively in nurseries and nearly all plants were female, therefore rarely set seed.



It was not an environmental weed until the 1980s when the male white pampas, the highly fertile pink pampas and the New Zealand native toe toe were imported from New Zealand in a pampas seedlot. These introductions changed the reproductive biology of the original pampas, which soon reached environmental weed status.

Pampas spreads easily from seed. Each flower may contain up to 10,000 seeds which can be blown 25km by the wind. In New Zealand pampas grass is costing the forest industry millions of dollars each year in loss of young plantations, increased tending costs and increased fire risk.

Pampas grass has not reached this stage in Tasmania, but it has the potential to impact in a similar manner. It has invaded parks, forests, bushland, coastal habitats and wastelands.

Forestry Tasmania has been co-ordinating a pampas grass eradication program for a number of years. This has resulted in the majority of feral and ornamental plants being controlled, including some ornamental hedge/windbreak at Boat Harbour and Sisters Beach. There are also many young feral plants growing along road/rail corridors and in wasteland areas that require control.

Control of seed spread is very important. Flower heads should be removed from the plant and bagged, before being burnt or buried at an approved refuse site. The plant can be mechanically removed or chemically controlled with either glyphosate (Round-up) or hexazinone (Velmac/Velpar) granules as per manufacturers instructions. Pampas grass can be cut or burnt before spraying but must be left to grow back vigorously before chemical application for maximum efficiency. A 90% kill is usually achieved with the first application, a small number of plants requiring follow up treatment.

Progress of Pampas Grass Actions

Removal of hedges/windbreaks on private property by landowners working in conjunction with Council employees.

Roadside specimens poisoned, as notified, by Council employees.

On-going poisoning programme for large infestations on Council land such as Ballast Pit, off Calder Road.

High awareness in community of Pampas and the need for its removal, resulting in the public reports location of plants.

3.3.2 Gorse – *Ulex europaeus*

Gorse has been declared a Weed of National Significance.



Originally introduced from Europe, gorse was listed in a Tasmanian nursery catalogue by 1845. It was widely promoted as a hedge plant and a potential browse shrub. Once established, gorse is very difficult to eradicate and if allowed to grow and spread, infestations severely reduce carrying capacity. The plant's spiny nature restricts animal movement and can make large areas inaccessible.

The level of gorse infestation in Waratah-Wynyard is not as extensive as other areas of the state. However, large areas can be seen around Table Cape, particularly the steeper slopes and smaller stands exist through out the municipality, including around Waratah and roadside verges.

Its only method of dispersal is by seed, with seed production prolific at an annual output of up to 6 million seeds per hectare. Heat from the sun bursts the seedpod, ejecting seeds up to five metres from the parent plant. Birds are also capable of transporting seeds. Grading causes spread along infested roadsides. The fresh hard-coated seed has a high viability, 85% of seed that is 25 years old is viable.

Control measures for gorse include herbicide application, mechanical treatment (slashing, mulching, bulldozing and cutting), burning, pasture establishment, biological control and grazing. Gorse control requires persistence with several follow-up treatments. Gorse re-establishes quickly from the seed bank in the soil and from reshooting of damaged or burnt stems and roots. Effective long-term control requires a planned program that combines a number of control measures.

Biological control agents, the Gorse Spider Mite and the Gorse Weevil, have been released and monitored at many sites around the state, by the Tasmanian Institute of Agricultural Research (TIAR). No trial sites have yet to be established in Waratah-Wynyard.

Further information is available in the DPIWE Service Sheet 113 and also in the State Gorse Weed Management Plan.

Progress on Gorse Actions

Clearing of some Gorse infestations was carried out with funding under the Weeds of National Significance funding programme in recent years.

Data currently being put together for an application to remove more Gorse in the municipality. If successful, this would hopefully see enough funds to work on all the infestations, which are small by comparison to other municipalities, in the Waratah-Wynyard area.

3.3.3 Broom – *Cytisus scoparius* L., *Genista monspessulana* L.

Two species of broom have been identified as a serious weed problem in Waratah-Wynyard, English broom (*Cytisus scoparius*) and Montpellier Broom (*Genista Monspessulana*).



Broom species were originally introduced to Australia as ornamentals and hedge plants and appeared in plant grower catalogues as early as the 1850s. They are now common in high rainfall areas through out southeast Australia.

Montpellier broom is common in coastal environments, particularly the developed areas, where it has escaped gardens and is encroaching upon native vegetation. Stands of Montpellier broom can also be found along road verges.

Waratah and the surrounding area has extensive infestations of English broom and there is potential for it to invade further. Smaller stands and individual plants can be found scattered though out the municipality.

They are both prolific seeders, and have the ability to invade areas very quickly, threatening both ecological and agricultural environments. Broom can form dense thickets excluding desirable vegetation and can reduce carrying capacity of land.

Dispersal is through seed movement via machinery and earth moving equipment, humans and animals. This has resulted in extensive spread along road corridors in the area, in particular in forestry areas.

Being highly flammable, infestations of broom pose a major fire risk, particularly in areas of native forest or plantations. Fire also encourages germination of a very high seed bank, resulting in dense seedling growth.

Despite the problems broom species pose, they are an important plant to the nursery industry. Many varieties, usually hybrids of *C. scoparius*, are available commercially. There is a debate over the current and potential 'weediness' of these varieties.

The West Coast Weed Strategy have been involved in English broom control works in the past (pre 1998). This consisted of various demonstrations of the cut and mulch control method on large infestations in Waratah. These sites have not been followed up.

Currently areas of English broom with in the township of Waratah are mowed on a regular basis by WWC contractors. There is also a Waratah Landcare Group that has been involved in recent weed control works.

Reducing seed production is essential to control the spread of both English broom and Montpellier broom. Single bushes or small infestations can be hand removed.

Cultivation or similar soil disturbance will produce an ideal seedbed for seed germination and establishment of seedlings. Cultivated sites will require further cultivation, grazing or chemical control. Sheep, goats and native wildlife are known to graze on young broom seedlings and shoots. Herbicides effective in the control of broom include glyphosate, triclopyr and picloram.

Biological control trials have been carried out, but are not known to have been successful in this area, perhaps a result of extreme conditions. Further research is being carried out by CSIRO.

Further information is available in the DPIWE Service Sheet 130.

Progress on Broom Actions

An application for an Envirofund grant was applied for in 2004 for the Waratah Primary School to grow up the Broom Twig-Mining Moth for release onto English Broom infestations. This application was not successful, but the work has now been prepared for when money is available.

There is renewed interest in the Waratah community for removal of English Broom. Individual landowners have been steadily working on control methods, including the recent hiring of a commercial operator for large scale removal.

3.3.4 Slender Thistle – *Carduus spp.*

There are two species of slender thistles found in Tasmania, the winged slender thistle *Carduus tenuiflorus* and the shore slender thistle *Carduus pycnocephalus*. Both species originate from southern Europe and northern Africa. They are very similar species and will be considered together in this strategy.

Slender thistles are common throughout Tasmania, in pastures, crops and neglected areas, and in areas of high rainfall compete strongly with annual crops. They are widespread in the agricultural areas of Waratah-Wynyard, and a costly and time-consuming weed to control.



Seed is the only means for dispersal. The seed has a large hairy pappus, which aids its dispersal. Seeds can be blown by wind an average distance of 23 metres, but have been recorded at 100 metres. Also livestock, fodder, water and birds assist in the dispersal of slender thistle seeds.

Seedlings will not invade perennial pasture with good ground cover. However, seedlings will establish readily on disturbed sites such as sheep camps, stockyards, overgrazed areas and pasture damaged by insects.

The most effective method of control is to encourage competition from desirable species, therefore preventing seedling establishment. Mechanical control such as mowing and slashing close to flowering stage can prevent the production and spread of seed, but may encourage further growth at base of plant.

Although not readily grazed because of their spines, certain methods of grazing are effective in control. Herbicide spraying approximately 6-8 weeks after germination in autumn will provide effective control. Clopyralid (Lontrel) is the only herbicide that will prove effective on advanced or early flowering plants.

Biological control agents are being trialed. The slender thistle rust is being monitored in the Meander Valley region, with promising results.

Further information is available in the DPIWE Service Sheet 123.

3.3.5 Crack Willow – *Salix fragilis*

Willow has been listed as a Weed of National Significance. Crack willow (*Salix fragilis*) is one of the most abundant willow species in Australia.

Willow infestations have significant impacts on river systems. These include a decrease in water quality, stream bank erosion, blockages which result in flooding of the riparian zone, loss of native vegetation and riparian habitat for fauna such as the fresh water crayfish and platypus.



Crack willows are found along many of the watercourses in Waratah-Wynyard. General community concerns of the overall health of the river systems in the area lead the Wynyard Landcare Group and the riparian landowners, with the assistance of Armstrong Agricultural Services to produce a Rivercare Plan in February 1999. The newly formed DPIWE Rivercare team has recently been able to give strategic planning advice for revegetation of the riparian zone.

The Rivercare Plan has involved mechanical removal and recommends that where willows are removed, the riparian zone be fenced and replanted with native species. To date approximately 48km of willows have been removed.

The overall aim of the plan is to reduce impacts of willows and improve biodiversity, aesthetics and the ecological condition of the rivers and creeks.

Follow up work including revegetation, after the removal of willows is a major component of any willow control program. These works should be carried out in liaison with the DPIWE Rivercare Team, and any willow control program requires support for a long-term plan.

There are other areas of willows in the municipality, including the upper part of the catchments, Cam River, Camp Creek and Magnet Creek in the Waratah region, that have not been addressed or included in the Rivercare Plan.

Further information is available in the State Willow Weed Management Plan.

Progress on Willow Actions

Poisoning of willow re-growth by Council contract employees in summer 2004/2005.

Intended poisoning of remaining stands of mature willows along Big Creek, Camp Creek and Blackfish Creek during summer 2005/2006, by Council contract employees.

Poisoning of mature willows along Maldon Creek, Big Creek upper catchment and surrounding areas by Elliott Landcare Group.

Continuation of grant applications for revegetation by Wynyard Landcare, and the development of revegetation plans with property owners.

4. SUMMARY OF WEED MANAGEMENT ISSUES

The following issues were identified during the community consultation period:

4.1 Co-ordinated approach to weed control

The spread of weeds in Waratah-Wynyard has been the result of the lack of co-ordination between all land and water managers involved in weed management. Participation of all stakeholders, including council, state government agencies (DPIWE, DIER), Tasrail, forestry companies, Australian Bulk Minerals and the community, is required for a successful weed management program. There is no point having a situation where one landowner is controlling a particular weed and the adjacent landowner continues to let the weed infestation flower and spread seed.

A weed management program needs to set priorities to achieve short and long-term goals that all stakeholders can work towards.

4.2 Education, awareness and ownership

Education, awareness and ownership of weeds and weed management issues is an essential component of a weed management program. Weeds are everyone's responsibility. The community needs to be aware of what the weed problems are, how to identify different species, different life cycles of plants, how weeds spread, the extent of weed infestations, current and potential impacts, hygiene issues, best methods of control and the costs of not carrying out responsible weed management. Educative initiatives need to be integrated with others happening in the state and nationally (ie Weedbuster Week).

A problem that exists in some areas is apathy - a lack of interest in weed management and a lack of enthusiasm to tackle weed problems. The problem is often perceived as being too big and very little can be done to solve it. Also some people are content to live with the weed problem, as is the case with many of the broom infestations in the area.

Increasing awareness of various weed management issues will enable the community to become more involved and take ownership of the problems.

4.3 Weed hygiene & the spread of weeds along corridors

A major weed management issue is weed hygiene and the spread of weeds along corridors. Broom, gorse, ragwort and Spanish heath are all common weeds spread along corridors such as road reserves and railway lines.

Another not so well known weed *Amaranthus albus*, American tumbleweed, is spreading along the railway line in the area.

Wind, water, animals and birds are all major ways of weed dispersal, but humans contribute significantly to spread. Inappropriate disposal of garden waste and aquatic plants can result in environmental weed problems. Vehicles and machinery contaminated with weeds and weed seed can pose serious problems for agriculture.

Appropriate weed hygiene practices need to be undertaken to prevent the establishment of new weed incursions and the spread of existing weeds into new areas. Waratah-Wynyard also has a responsibility to see that weeds from its municipality are not spreading to other areas.

4.4 Weed invasion in coastal areas

Many weeds have invaded the coastal zone, threatening the diversity of native vegetation communities. The majority of these are garden escapees, in particular around Boat Harbour and Sisters Beach. Species include mirror bush, blue butterfly bush, pine, gorse, cape ivy, pampas grass and broom. Also large areas of sea spurge can be seen along the foreshore at East Wynyard. This species excretes a milky sap, which is known to cause skin and eye irritations.

4.5 Resources and continuity of the weed program

The costs of implementing a weed control program can be high. Land managers are limited in the resources available to them for weed management. Unfortunately, this has resulted in many weeds being left untreated and permitted to spread further. A cost-effective and strategic use of resources is required.

For success in the reduction of weeds, a long-term approach is required. Many weeds and weed infestation require many years of follow up work to achieve desired results. It is important that there is support within Council for such a program and the necessary resources available to implement the required actions and on ground works over this period.

The following section of the strategy identifies ways in which the above issues can be addressed. Many will require similar actions and therefore there may be some overlapping of actions.

The implementation of the Cradle Coast Weed Management Strategy should see an improvement in the reduction of priority weed infestations as it will be easier to target particular species at a regional level, instead of within municipal boundaries.

5. GOALS AND STRATEGIES

5.1 Co-ordinated weed control program

Goal: Co-ordinate a system of community based weed management with a high level of inter-agency co-operation.

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Co-ordinate the implementation of the Weed Strategy through the employment of a Weed Officer / Strategy Co-ordinator at WWC. 	<ul style="list-style-type: none"> Authorised municipal Weed Inspector employed / administered by WWC. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Develop linkages through Regional weed strategy between WWC, State Government agencies (ie DPIWE, DIER), community, forest companies, Landcare groups and other stakeholders. 	<ul style="list-style-type: none"> Representation of Weed Co-ordinator at relevant weed management meetings ie local Landcare, state co-ordinators meetings, catchment groups. Any joint initiatives documented. Attendance of stakeholder, state, regional and local reps at WWWC meetings. 	<ul style="list-style-type: none"> Ongoing Ongoing Ongoing

Goal: Establish a comprehensive database of priority weeds affecting Waratah-Wynyard and identify priorities for on ground control works

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Record and map priority weed species 	<ul style="list-style-type: none"> Database established and maps produced showing levels of infestations Database updated with new information 	<ul style="list-style-type: none"> Ongoing Ongoing
<ul style="list-style-type: none"> Regional weed mapping programs links to .. 	<ul style="list-style-type: none"> updated accordingly Integrated with regional initiatives 	<ul style="list-style-type: none"> Ongoing Ongoing
<ul style="list-style-type: none"> Co-ordinate a 'Weed Hotline' to report priority weeds. 	<ul style="list-style-type: none"> New outbreaks recorded and continued updating of weed database. 	<ul style="list-style-type: none"> Ongoing

Goal: Reduce impact and incidence of priority weeds

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Refer action table for declared weeds 	<ul style="list-style-type: none"> Reduction of declared weeds 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liaise with land managers to eradicate all pampas grass plants and follow up on 'hotspot' areas for new young plants. 	<ul style="list-style-type: none"> Reduction / eradication of pampas grass in WW. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liaise with land managers to control / eradicate all outliers and small infestations of ragwort. 	<ul style="list-style-type: none"> Reduction / eradication of all outliers and small infestations. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liase with landowners to develop management programs for Gorse where funding is available 	<ul style="list-style-type: none"> Reduction/eradication of gorse infestations in municipality 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Work with DPIWE to gain funding for Weeds of National Significance control 	<ul style="list-style-type: none"> Reduction of Weeds of National Significance 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liaise with land managers to control and contain spread of large infestations of gorse and broom and encourage reduction over a period of time. 	<ul style="list-style-type: none"> Control plans developed Reduction in large gorse and broom infestations 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Continue willow eradication in all catchments with Wynyard Landcare and associated groups 	<ul style="list-style-type: none"> Removal of mature willow infestations 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Co-ordinate and assist TIAR in release, distribution and monitoring of biocontrol agents. 	<ul style="list-style-type: none"> Agents released and monitored 	<ul style="list-style-type: none"> As required
<ul style="list-style-type: none"> Investigate impacts and current status of the ragwort flea beetle in the municipality 	<ul style="list-style-type: none"> Information documented 	<ul style="list-style-type: none"> Jan 2006
<ul style="list-style-type: none"> Investigate possible revegetation programs to follow up weed control works. 	<ul style="list-style-type: none"> Revegetation programs, if required and practical, put in place 	<ul style="list-style-type: none"> Ongoing as required
<ul style="list-style-type: none"> Liaise with land managers to control priority weeds in coastal areas and other environmental sensitive areas. This includes weeds that are not declared. 	<ul style="list-style-type: none"> Reduction of environmental weeds 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Investigate Green Corps / Work for the dole type initiatives for specific weed control works. 	<ul style="list-style-type: none"> Work crews organised for appropriate on ground control works 	<ul style="list-style-type: none"> Ongoing as required
<ul style="list-style-type: none"> Carry out follow up visits to control sites. 	<ul style="list-style-type: none"> Weed control sites monitored 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Use enforcement under Weed Management Act 1999, where appropriate. 	<ul style="list-style-type: none"> All enforcement documented 	<ul style="list-style-type: none"> As required

5.2 Education, awareness and ownership

Goal: To increase community awareness of weed issues and encourage ownership and active community support for weed management programs

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Ensure that all relevant weed information (pamphlets, booklets, profile sheets, posters) is available to the community. 	<ul style="list-style-type: none"> Information distributed 	<ul style="list-style-type: none"> Ongoing as required
<ul style="list-style-type: none"> Develop media releases for weed management issues and progress of weed program (ie Tas Country, Advocate, Radio) 	<ul style="list-style-type: none"> Media releases printed and broadcasted 	<ul style="list-style-type: none"> Ongoing as required
<ul style="list-style-type: none"> Develop weed program for school visits (WeedBuster Week) 	<ul style="list-style-type: none"> Schools visited and documented 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Develop weed displays for exhibit at local shows, festivals, retailers, tipsite, demonstration sites, public notice boards. 	<ul style="list-style-type: none"> Weed displays exhibited 	<ul style="list-style-type: none"> Ongoing as required
<ul style="list-style-type: none"> Write weed management articles for various newsletters (ie schools, industry, Tasweeds, Landcare Hands On) 	<ul style="list-style-type: none"> Regular weed articles in various newsletters 	<ul style="list-style-type: none"> Ongoing as required
<ul style="list-style-type: none"> Waratah Wynyard Weed Management Strategy available on web site 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Achieved
<ul style="list-style-type: none"> Involve school groups in bio-control programs 	<ul style="list-style-type: none"> Participation of school groups in programs 	<ul style="list-style-type: none"> As required
<ul style="list-style-type: none"> In conjunction with regional initiatives develop demonstration sites / field days to show various methods of weed control for priority species and what can be achieved in weed control 	<ul style="list-style-type: none"> Demonstration sites established and field days conducted with active participation of the community. 	<ul style="list-style-type: none"> As required
<ul style="list-style-type: none"> Incorporate weed management (ie progress of weed program and weed issues) into Dairy Discussion Groups 	<ul style="list-style-type: none"> Attendance at dairy groups 	<ul style="list-style-type: none"> As required
<ul style="list-style-type: none"> Promote, via media and demonstration sites, new initiatives in weed control 	<ul style="list-style-type: none"> Relevant new initiatives promoted 	<ul style="list-style-type: none"> As required

5.3 Weed hygiene and the spread of weeds along corridors

Goal: Minimise the risk of infecting clean weed free areas in the municipality and prevent the entry and establishment of new weed incursions.

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Through education programs / liaison with land managers, encourage land managers to carry out best practice weed hygiene (ie wash down machinery, designated areas for feeding of fodder and follow up control) and to buy and sell products from 'weed free' areas. 	<ul style="list-style-type: none"> Articles on weed hygiene / best practice information available and distributed. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Co-ordinate a system for reporting new outbreaks of priority weeds and new weed incursions. (Promote DPIWE Weed Alert Network). 	<ul style="list-style-type: none"> New outbreaks reported and recorded 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Develop a system for response and action by stakeholders to new outbreaks 	<ul style="list-style-type: none"> New outbreaks control immediately. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liase with Regional Weed Strategy Coordinator for a regional approach to identify the major sources and method of weed spread (ie fertilisers, fodder) regional strategy 	<ul style="list-style-type: none"> Information documented 	<ul style="list-style-type: none"> As required
<ul style="list-style-type: none"> Encourage through a regional approach that extractive industries have on going weed eradication programs in place. 	<ul style="list-style-type: none"> Reduction of weeds entering the municipality through extractive products. 	<ul style="list-style-type: none"> As required
<ul style="list-style-type: none"> Liase with regional local government representatives to carry out actions under the Regional Weed Management Strategy 	<ul style="list-style-type: none"> Reduction of new weed incursions 	<ul style="list-style-type: none"> Ongoing

Goal: Prevent the spread of weeds along corridors

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Liase with stakeholders (ie TasRail, DIER, WWC) to ensure appropriate control of priority weeds along corridors. 	<ul style="list-style-type: none"> Reporting incidence of priority weeds to relevant authority Control of weeds. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liase with WWC / DIER roadside slashing contractors to prevent spread of weeds into 'good vegetation' (slashing at appropriate times, highlight weed problem areas /contaminated sites 	<ul style="list-style-type: none"> Effective slashing practices in place Reduction in corridor weeds Increase in desirable vegetation 	<ul style="list-style-type: none"> Ongoing 3 year review 3 year review

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Identify weed infestation posing a threat to native vegetation along corridors and develop a database (priority weed control areas / native roadside to be protected) link to regional strategy 	<ul style="list-style-type: none"> Database of corridor weeds and native vegetation 	<ul style="list-style-type: none"> 3 year review
<ul style="list-style-type: none"> Investigate possible revegetation programs for roadside rehabilitation. 	<ul style="list-style-type: none"> Revegetation programs established if appropriate 	<ul style="list-style-type: none"> As required

5.4 Weed invasion in coastal areas

Goal: Minimise the impact and reduce weed infestations in the coastal environment

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Identify the extent of weed infestation along the coastal zone and surrounding townships. 	<ul style="list-style-type: none"> Database / map of coastal weed infestation developed 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Prioritise weed areas for control works 	<ul style="list-style-type: none"> List of priorities for on ground works 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Through education program promote removal of environmental weeds in gardens and planting of non-evasive species. 	<ul style="list-style-type: none"> Reduction of environmental weeds in private gardens. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> In liaison with NW Coastcare Facilitator encourage community participation in field days. 	<ul style="list-style-type: none"> Field days held and attended by the community. 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Continue to develop projects for funding programs to implement priority works. 	<ul style="list-style-type: none"> Funding application submitted. 	<ul style="list-style-type: none"> Ongoing

5.5 Resources and continuity of the weed program

Goal: Achieve effective use of resources available.

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Co-ordinate use of spray contractors for control programs (ie smaller property owners sharing contracting works) 	<ul style="list-style-type: none"> Effective use of spray contractors 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Through education program encourage best practice / cost effective methods of control. 	<ul style="list-style-type: none"> Best practice weed management promoted 	<ul style="list-style-type: none"> Ongoing

Goal: Secure recognition and funding for the continuation of the program

Action	Performance indicator	Completed by
<ul style="list-style-type: none"> Continue to involve WWC in weed management to maintain as a priority issue. 	<ul style="list-style-type: none"> Regular updates to WWC on progress of weed strategy and feedback of community concerns. Continued support for the weed program. 	<ul style="list-style-type: none"> Ongoing Ongoing
<ul style="list-style-type: none"> Work in with Regional Weed Management Strategy initiatives 	<ul style="list-style-type: none"> Participation in region programs 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Develop projects for funding (ie NHT, WONS, Community Grants) to implement future on ground works 	<ul style="list-style-type: none"> Relevant applications submitted 	<ul style="list-style-type: none"> Ongoing
<ul style="list-style-type: none"> Liaise with stakeholders and investigate sponsorship possibilities for specific projects. 	<ul style="list-style-type: none"> Letters / reports to stakeholders on targets / achievements. Assistance / support gained. 	<ul style="list-style-type: none"> Ongoing Ongoing

In the initial strategy a section was titled Weeds on Abandoned Land, with the goal to reducing the incidence and impact of weeds on these blocks of land. This section has been removed from this review as the majority of abandoned land was at Waratah and was sold off by Council in 2002. The weeds on these blocks consist mainly of Gorse and English Broom and will be dealt with under the actions designated for these species.

6. MONITORING AND EVALUATION

It is recommended that this Strategy be reviewed after a period of three years.

Evaluation is an essential component of any strategy. Is the Strategy successful? Are we meeting our objectives?

Performance indicators and time frames have been identified for each of the actions in this Strategy. These will provide a benchmark for success.

Databases established for priority weeds will provide an indication of weed infestations over time.

Photographs and articles will provide documentation of the various programs put in place.

Monthly reports are included in the Council agenda, updating Councillors on activities that are taking place in relation to the Strategy.

This Strategy is advocating a long-term approach to weed management, and as a result, the success of many goals will not be determined in the space of three years. This review of the Strategy will allow the community to identify if we are on the right track to meet such goals and whether any changes need to be made. It will provide an opportunity to assess where weed management in Waratah-Wynyard goes to from here.

APPENDICES

Landcare and environmental groups in Waratah-Wynyard

Group	Contact
Wynyard Landcare Group	Now the umbrella group for a number of smaller groups in the area. Have focused heavily on willow removal, but also involved in other revegetation projects.
Oldina Landcare Group	Prominent in the development of a plan for control of Ragwort in the Oldina/ Calder area. Still continue this work, but have expanded focus on slump soil sites and broader natural resource issues.
Waratah Landcare Group	A smaller group involved with revegetation planting around the Waratah township.
Elliott Landcare Group	Have focused on repairing slump soil sites in the area, and revegetation planting
Sisters Beach Community Association Environment Team	Relatively new group focusing on environmental weeds in the township, and education of the community on broader issues such as care of native flora and fauna.
Friends of Sisters Creek	Also a new group set up to protect the natural features and water quality of the Sisters Creek. Have since received funding to develop a Rivercare Management Plan
Friends of Frenchs Road Nature Reserve	This Reserve is now open to the public and is managed by a Special Committee of Council. The ongoing maintenance and operation is carried out by the Friends Group.
Calder Bush and River Care Group	Have been involved in the revegetation planting along the banks of the Calder River

Links to other weed information

Department of Primary Industries, Water and Environment website has Service Sheets for Declared and environmental weeds, or they can be obtained by ringing the regional Department office. These sheets provide detailed control information for these plants.

A national weed resource site is www.weeds.org.au, which can provide information regarding control of weeds and identification information.

A copy of the *Weed Management Act 1999* can be found at www.thelaw.tas.gov.au.

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"Circular Head Weed Strategy" (May 2000)

Cradle Coast Natural Resource Management Strategy (in progress)

Cradle Coast Regional Weed Management Strategy, 2005,
Department of Primary Industries, Water and Environment Tasmanian Service
Sheets:

 "SS60 Ragwort"

 "SS113 Gorse"

 "SS123 Slender Thistles"

 "SS130 Montpellier Broom, English Broom"

 "SS Weed Management Act 1999"

"Forestry Tasmania Circular Head District Weed Strategy" (1999)

McLaren D. and Mickan F. (January 1997) "The Ragwort Management Handbook"

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Parsons W.T. and Cuthbertson.E.G. (1992) "Noxious Weeds of Australia" Inkata Press, Melbourne.

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Waratah-Wynyard Strategic Plan, 2004-2009

"West North West Tasmania Coastal Management Plan" (June 1999)

LIST OF ABBREVIATIONS

CCRNRM	Cradle Coast Regional Natural Resource Management Strategy
CCRWMS	Cradle Coast Regional Weed Management Strategy
CCRWMC	Cradle Coast Regional Management Committee
DPIWE	Department of Primary Industries, Water and Environment
DIER	Department of Infrastructure, Energy and Resources
FT	Forestry Tasmania
GIS	Geographical Information Systems
GPS	Global Positioning System
ICM	Integrated Catchment Management
LG	Landcare Group
NHT	Natural Heritage Trust
NRM	Natural Resource Management
PWS	Parks and Wildlife Service
RWMO	Regional Weed Management Officer
SoT	Statement of Intent
TFGA	Tasmanian Farmers and Graziers Association
TIAR	Tasmanian Institute of Agricultural Research
WeedPlan	Tasmanian Weed Management Strategy
WMP	Weed Management Plan
WONS	Weeds of National Significance
WWC	Waratah-Wynyard Council
WWWMC	Waratah-Wynyard Weed Management Committee
WWWS	Waratah-Wynyard Weed Strategy