

Southern Tasmania Natural Resource Management Region

SOUTHERN TASMANIAN WEED STRATEGY 2011- 2016



boneseed



seeding willows



Chilean needle grass



bridal creeper



Heather



serrated tussock



orange hawkweed



gorse



Cover Images

- Boneseed (*Chrysanthemoides monilifera*) - Tasmanian Institute of Agricultural Research
Seeding willows (*Salix cinerea*) – Matthew Baker, Tasmanian Herbarium
Chilean needle grass (*Nassella neesiana*) – Charles Grech, Department of Primary Industries Victoria
Bridal creeper (*Asparagus asparagoides*) – Jonah Gouldthorpe, Southern Tasmanian Councils Authority (STCA)
Heather (*Calluna vulgaris*) – unknown
Serrated tussock (*Nassella trichotoma*) – Sandy Leighton, STCA
Orange hawkweed (*Hieracium aurantiacum*) – unknown
Gorse (*Ulex europaeus*)– Sandy Leighton

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Southern Tasmanian Weed Strategy 2011- 2016

INTRODUCTION.....	2
DEVELOPMENT OF THE SOUTHERN TASMANIAN WEED STRATEGY 2011-2016	2
Purpose of a Regional Weed Strategy	2
Principles	3
Scope.....	4
Vision	4
Weeds	4
Weeds of National Significance.....	4
National Environment Alert List Species.....	5
Regional High Priority Weeds.....	5
External Factors	6
New and Emerging Weeds.....	6
Hygiene.....	6
Land Use Changes	6
Climate Change	7
Policy and Legislative Framework.....	7
Roles and Responsibilities.....	8
IMPLEMENTATION OF THE STRATEGY	9
Key Components of the STWS 2011- 2016	9
Key Area 1: Policy, Planning and Legislation	11
Key Area 2: Coordination of the STWS 2011 - 2016.....	12
Key Area 3: Preventative Weed Management.....	13
Key Area 4: Strategic On-ground Weed Management.....	15
Key Area 5: Education, Awareness and Training.....	17
Key Area 6: Data Management and Information.....	19
Key Area 7: Monitoring, Evaluation and Reporting	20
APPENDIX 1 Review of the Southern Tasmanian Weed Strategy.....	22
APPENDIX 2 STWS Steering Committee Members	26
APPENDIX 2 References and Web Sites	27

INTRODUCTION

DEVELOPMENT OF THE SOUTHERN TASMANIAN WEED STRATEGY 2011-2016

After accreditation of the Natural Resource Management (NRM) Strategy for Southern Tasmania in 2005, the Southern Tasmanian Weed Strategy 2005 – 2010 (STWS) was produced to provide a coordinated approach to weed management in the Southern Region. One high priority strategic action in the Strategy was to appoint a STWS Coordinator to coordinate the implementation of strategic actions at regional and subregional levels. In mid 2006, Australian Government funds were provided through NRM South to the Southern Tasmania Councils Authority (STCA) to fill this position (refers to in this document as the Project Manager). A Steering Committee was established to oversee the implementation of the strategy. The committee comprised of key land managers and relevant organisations from the region. Members include representatives from NRM South, STCA, Department of Primary Industries, Parks, Water and Environment (DPIPWE), Tasmanian Farmers and Graziers Association (TFGA), Hydro Tasmania, Transend, Forestry Tasmania, Parks & Wildlife Service and Department of Infrastructure Energy and Resources (DIER).

A review of the 2005 STWS and subsequent development of this revised strategy commenced towards the end of 2010. An overview of the process and outcomes from that review are in Appendix 1.

Purpose of a Regional Weed Strategy

The purpose of this Strategy is to consolidate weed management activities occurring in the region and to identify any emerging issues in the Southern NRM Region and to set clear achievable outcomes, underpinned by strategic actions. It provides a framework for decision-making in the region to:

- Recommend actions to implement the relevant national and state-wide priorities at the regional level;
- Provide a framework for consistency in subregional strategies;
- Provide opportunities for partnerships and relationships that encourage coordinated weed management and
- Identify strategic regional priorities for investment.

This strategy provides a framework for improving weed management decision-making and on-ground outcomes across the region and for developing effective partnerships to ensure a coordinated approach.

Principles

The Southern Tasmanian Weed Strategy 2011 - 2016 (STWS) is based on principles adopted from the *Australian Weeds Strategy 2007* developed by the Australian Weeds Committee. These are:

1. Weed management is an essential and integral part of the sustainable management of natural resources for the benefit of the economy, the environment, human health and amenity;
2. Combating weed problems is a shared responsibility that requires all parties to have a clear understanding of their roles;
3. Good science underpins the effective development, monitoring and review of weed management strategies;
4. Prioritisation of and investment in weed management must be informed by a risk management approach;
5. Prevention and early intervention are the most cost-effective techniques for managing weeds;
6. Weed management requires coordination among all levels of government in partnership with industry, land and water managers and the community regardless of tenure and
7. Building capacity across government, industry, land and water managers, and the community is fundamental to effective weed management.

Tasmania's weed management strategy *WeedPlan* is also based around these principles.

Successful implementation of this strategy is underpinned by the following additional principles:

- a. adequate resources are required to coordinate implementation of the strategy;
- b. key stakeholders must be engaged and agreed longer-term action plan developed;
- c. appropriate approvals must be sought from land managers and agencies;
- d. appropriate hygiene practices must be developed and implemented;
- e. infestation(s) should be surveyed and recorded using as a minimum National Core Attributes for weed mapping which leads to infestation(s) contracted towards core area(s);
- f. agreed best practice integrated weed management principles will be used to control weeds;
- g. as a general principal outlier plants should be treated first, then the infestation will be contracted towards core area(s); and
- h. annual monitoring and follow-up program will be committed to for at least seven years.

Adopting these principles will maximise the longer-term outcomes, return on investment and the associated public benefit. Without this longer-term commitment and planning, the initial and often costly investment in weed management will have been wasted.

These principles are consistent with those applied to regionally important priority weed programs for Weeds of National Significance, National Environmental Alert List and other regional priority species, developed over the past five years.

Scope

This Weed Strategy limits its scope to terrestrial and freshwater weed species. This includes estuarine species such as rice grass (*Spartina anglica*) that have the potential to affect wetlands and other high ecological value aquatic ecosystems. Marine areas and pests and diseases are not included because they fall in the domain of separate groups of stakeholders and different science, management techniques and legislation apply to them.

Vision

The vision for the Southern Tasmanian Weed Strategy is:

A well-resourced and actively committed regional approach to protecting the environment, agricultural and forest industries and social assets from the impact of weeds, through strategic and integrated management involving members of the community, all levels of government and industry.

Weeds

The *Australian Weeds Strategy* definition of a weed has been adopted for this Strategy: “A weed is considered pragmatically as a plant that requires some form of action to reduce its harmful effects on the economy, the environment, human health and amenity”.

A significant proportion of weeds in Tasmania have their origins as garden escapees or ornamental plants. Others were brought in for commercial uses or were accidentally introduced. The Weeds Australia website (www.weeds.org.au) lists 123 plants that are ‘significant weeds known to occur, or with the potential to occur in the Southern Region’.

Weeds pose a serious threat to Tasmania’s agricultural and forest industries and to natural biodiversity. The true cost of weeds is not known but one estimate puts the annual cost of weeds to Tasmania’s pasture and field crops alone at approximately \$58 million in 2007 (Ireson *et al* 2006).

Where native habitat has been cleared, weeds provide habitat for wildlife and in some cases prevent erosion. Some weeds provide pollen for the honey industry while others are used for their medicinal properties. These issues need to be taken into consideration when planning programs.

Weeds of National Significance

Weeds of National Significance (WoNS) are weeds that are considered to require national action for their management by all state and territories because of their degree of invasiveness, high potential to spread, and their high social, environmental and economic impacts. All WoNS are declared under the Tasmanian *Weed Management Act 1999*.

The Southern Region currently has seven WoNS – Chilean needle grass (*Nassella neesiana*), boneseed (*Chrysanthemoides monilifera ssp. monilifera*), bridal creeper (*Asparagus asparagoides*), serrated tussock (*Nassella trichotoma*), gorse (*Ulex europaeus*), willow (all *Salix* species except *S. babylonica*, *S. x calodendron* and *S. x reichardtii* are listed as WoNS) and blackberry (*Rubus fruticosus* aggregate). Strategic

regional WoNS programs are currently in place in the region for boneseed, bridal creeper, seeding willows and Chilean needle grass. Serrated tussock (*Nassella trichotoma*) has been the subject of a number of management and mapping programs in recent times and DPIPWE have recently received Caring for our Country funding for a two year statewide serrated tussock project. The southern portion of Tasmania's World Heritage Area (WHA) contains substantial gorse free areas, and over the last decade funding has been secured and efforts have been made in an attempt to eradicate gorse from the WHA entirely.

In 2011/ 2012, the Australian Weeds Committee and Australian Government are due to finalise a second generation of WoNS species. New species added to this list have the potential to significantly impact on the face of weed management priorities within the lifetime of this strategy.

National Environment Alert List Species

National Environment Alert List species are weeds that threaten Australia's biodiversity and cause other environmental damage. The Alert List comprises of 28 non-native plants that are in their early stage of establishment, however they have the potential to seriously degrade Australia's ecosystems. The Southern Region currently has three Alert List species – orange hawkweed (*Hieracium aurantiacum*), heather (*Calluna vulgaris*) and horsetail (*Equisetum* species). All of these Alert List species are declared under the Tasmanian *Weed Management Act 1999*.

Regional High Priority Weeds

Weed priorities for the Southern Region as a whole and for each of the twelve municipalities have been identified to assist with planning and on-ground works. There are over 30 high priority weeds. Baseline weed mapping has been compiled (in late 2008) for the high priority weeds with the data now available on the DPIPWE Natural Values Atlas (www.naturalvaluesatlas.tas.gov.au). The associated distribution maps, as at October 2009 can be found on the STCA (www.stca.tas.gov.au) and NRM South websites (www.nrmsouth.org.au).

Regional eradication targets for nationally significant weeds include Chilean needle grass, boneseed (outliers), bridal creeper, seeding willows, cutleaf blackberry, heather, and orange hawkweed. Program goals also include strengthening and contracting containment lines for boneseed and serrated tussock. Gorse and blackberry are managed for the protection of a variety of environmental assets including a number of Ramsar wetlands (Pitt Water/ Orielton Lagoon, Interlaken/Lake Crescent, Moulting Lagoon and Apsley Marshes), the Tasmanian World Heritage Area as well as a range of threatened flora and fauna species and priority vegetation communities.

Additional priority weed programs operate at varying levels across the Region. There is a coordinated regional program for sea spurge (*Euphorbia paralias*), a DPIPWE led cutleaf nightshade (*Solanum triflorum*) management program, whilst several councils are managing African feathergrass (*Pennisetum macrourum*), African lovegrass (*Eragrostis curvula*) and feathertop (*Pennisetum villosum*).

Pampas (*Cortaderia* species), St John's Wort (*Hypericum perforatum*), Paterson's curse (*Echium plantagineum*) and African boxthorn (*Lycium ferocissimum*) are also targeted by many councils in the Region and supported by DPIPWE.

It is important to maintain an on-going annual monitoring and control program for WoNS, Alert List and other high priority weeds especially on previously treated sites so as not to lose ground on these programs. The discovery of new infestations has highlighted the need for continued focus on awareness raising, partnerships and survey mapping.

External Factors

There are a number of external factors that are likely to have an impact on weeds in the Southern Region. These include new and emerging weeds, weed hygiene, land use changes and climate change.

New and Emerging Weeds

The introduction of new weeds is an ongoing issue. Since 1999 there have been 11 serious incursions from elsewhere into Tasmania, as well as new incursions of previously established species in new areas of the state.

New weeds can enter Tasmania and the southern region, legally, illegally or unintentionally. Plants and seeds are available for purchase on the internet and they could also enter the State as contaminants through trade in such things as commercial seed and grain.

Hygiene

Hygiene practices remain a critical issue. As stated in Principle 5 of this strategy, prevention and early intervention are the most cost-effective techniques for managing weeds. The *National Weed Spread Prevention Draft Action Plan 2006* reports that prevention will return \$32 for every dollar invested, whilst early intervention aimed at eradication of weeds will return \$16 on every dollar. Without effective hygiene practices, weeds can easily spread through transportation in contaminated soil, stock feed, garden supplies and quarry materials, as well as through the inappropriate disposal of garden waste. Vehicles, machinery and stock are also important vectors of weed dispersal.

Land Use Changes

As more and more land is cleared for development and infrastructure or as part of fire management, the potential for weeds to invade is increased. When land is cleared, without effective weed management, slow growing native vegetation allows fast growing weeds to take its place.

The spread of urban development increases the chances of weed spread through transportation of garden supplies and quarry materials and of garden plants escaping into near by bushland.

Climate Change

According to the *Tasmanian State of the Environment Report 2009*, ‘the impact of climate change on the extent and distribution of weeds and native plant diseases is uncertain. The modelling that has been done shows that climate change is not predicted to be uniform across the southern region. Some areas will become drier while others will be wetter’ New weeds may become established in Tasmania from agriculture and garden escapes. Other plants (both native and exotic) that are currently not considered as weeds may expand and transform the landscape by impacting upon existing native and non-native species. Native plant diseases could also benefit from changes in climate and become virulent while others could become established in the State’ (Climate Futures for Tasmania Technical Report, 2010). Alternatively, some plants that are currently a problem may become less of a problem as the climate changes.

Climate modeling in Victoria (Steel *et al*, 2008) and by the CSIRO (Scott *et al*, 2008) indicate that there is the potential for particular weeds to migrate south as the climate warms.

Researchers from the University of Tasmania have found that, although higher levels of carbon dioxide may promote the growth of some weeds, drier conditions and increased temperature can cause the death of some weeds (Hovenden *et al* 2007, Williams *et al* 2007). The researchers concluded from a seven-year study that climate change can slow the invasion of some types of flat weeds (such as dandelions and plantagos) that threaten native grasslands because they are less vigorous in drier and warmer conditions. Increased water use efficiency in plants (due to elevated carbon dioxide levels) may facilitate the expansion of woody weeds in lower rainfall areas. For example, healthy weeds originating from the Mediterranean region that favour drier and warmer conditions are likely to become more widely established across the State. They may also invade previously unsuitable habitat such as wetlands that have dried out (SoE Report 2009).

Policy and Legislative Framework

The *Weed Management Act 1999* provides the legislative framework for weed management in Tasmania. It is the principal legislation by which weeds are declared and their management and control is implemented. Administered by the Department of Primary Industries, Parks, Water and the Environment, the Act

1. Provides the legislative basis for declaring weed species;
2. Prohibits the introduction of declared weeds into Tasmania;
3. Prescribes measures for the eradication or containment of declared weed species;
4. Prescribes measures to prevent the spread of declared weeds within Tasmania and
5. Provides measures where action can be taken against declared weed species (eg quarantine or protected areas) where this is necessary to alleviate or prevent a particular problem.

In addition, the *Plant Quarantine Act 1997* is used to prohibit the introduction of declared weeds at the border. The Quarantine Manual contains a list of prohibited plant species that mirrors the *Weed Management Act 1999*.

WeedPlan – Tasmania’s Weed Management Strategy is a blueprint for improving weed management in Tasmania. Its aim is “to achieve coordinated, collaborative and

effective weed management throughout Tasmania”. It provides a framework that encourages Tasmanians to work together to achieve more effective management of existing weeds and to limit the introduction and establishment of new weeds.

Roles and Responsibilities

Under Principle 4 of *WeedPlan* and Principle 2 of the *Australian Weed Strategy*, combating weed problems is a shared responsibility that requires all parties to have a clear understanding of their roles. Primary responsibility for weed management rests with the landholders and managers, however, often the extent and scale of the problem is beyond the capability of individual landowners or managers. The most successful and cost effective weed management requires a coordinated and collaborative approach that involves all levels of government, industry, landowners and the community and uses adaptive best practice management principles.

Implementation of the Southern Tasmanian Weed Strategy 2005-2010 has been supported by the Southern Tasmanian Councils Authority (STCA) in partnership with NRM South, through funding from the Australian Government’s *Caring for our Country*. The role of this partnership was to facilitate strategic and effective weed management across the Region.

To implement this strategy effectively, it is important to identify who will take the lead responsibility in driving each of the actions identified and to identify supporting organisations in delivering the actions. There are strategic actions where more than one party is identified. This reflects the collaborative nature of the implementation. Coordination of strategic outcomes across the southern region will be essential if this strategy is to be effective. Continuation of a Project Manager position is critical to facilitate the implementation of strategic actions at regional and sub regional levels.

IMPLEMENTATION OF THE STRATEGY

Key Components of the STWS 2011-2016

This strategy identifies seven key areas for weed management in the Southern Region. Each of these seven areas is important in its own right and all are necessary for effective weed management. The aims and outcomes are identified for each of the seven areas. Actions needed to achieve the outcomes sought are listed under each area in the following section. Many actions will need to happen together and are not necessarily higher priority than another. In some cases, there is a logical order in which actions should happen or be undertaken.

The seven key areas and aims are as follows:

1. Policy, Planning and Legislation

Aim: To maintain an effective legislative, policy and planning framework, supporting on-ground outcomes.

2. Coordination of the STWS 2011 – 2016

Aim: To continue to have a coordinated, strategic and best practice approach to weed management across the region.

3. Preventative Weed Management

Aim: To prevent the introduction of new weeds and the spread of existing weeds.

4. Strategic On-ground Weed Management

Aim: To reduce the impact of weeds across the region.

5. Education, Awareness and Training

Aim: To have a well informed community with the skills, knowledge and capability to identify and deal with weeds in a consistent, appropriate and effective way.

6. Data Management and Information

Aim: To have access to quality weed information that assists in planning weed management, monitoring on-ground works and reporting on management effectiveness.

7. Monitoring, Evaluation and Reporting

Aim: To monitor, evaluate and report on progress in implementing the strategy and use this information for continuous improvement and to celebrate achievements.

Strategic Direction

Strategic actions in this plan take into account the general principles of weed invasion and management response that are represented in Figure 1 and discussed briefly below.

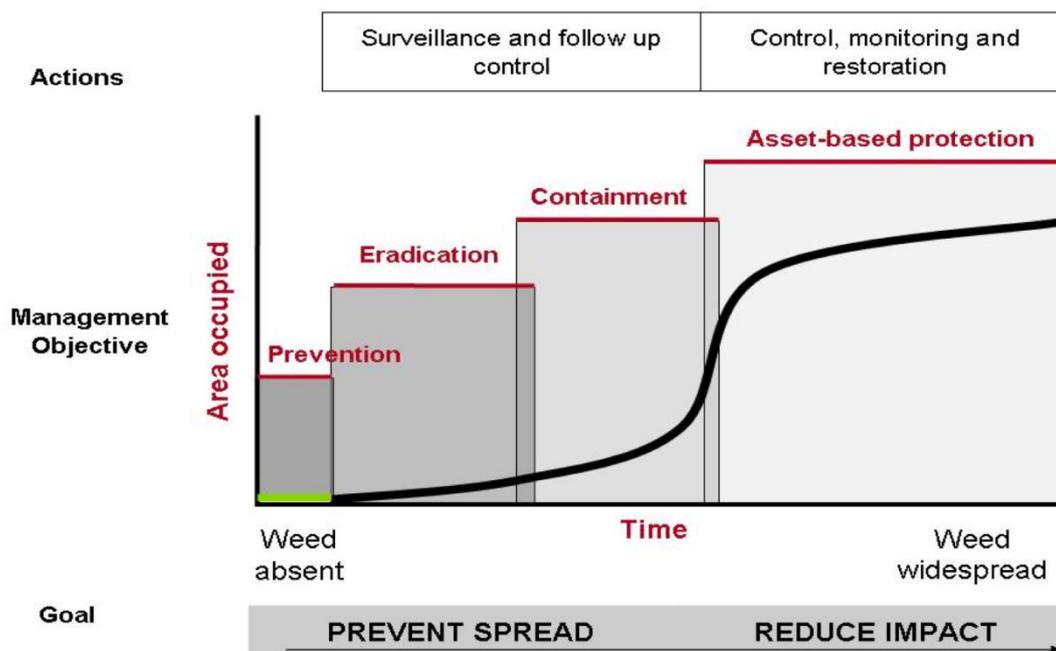


Figure 1: Stages of weed invasion with corresponding goals, management objectives and actions at each stage. Modified from Hobbs & Humphries 1995 and Department of Sustainability & Environment 2007.

Management objectives can be broadly categorised as prevention, eradication, containment and asset protection (Figure 1). These four categories correlate to the spatial distribution of a weed over time. At early stages of invasion, the goal is to prevent spread. When infestations are widespread, the goal is to reduce impact by protecting key assets (e.g. threatened species, priority vegetation communities, Ramsar wetlands and high ecological value aquatic ecosystems).

Eradication and containment programs typically require initial control followed by longer-term surveillance and annual follow up control. Asset protection programs also require longer-term control and annual follow-up, but may also need to implement monitoring programs to determine the response of native biodiversity to weed control and restoration programs to abate the impact of long-term weed invasion.

Key Area 1: Policy, Planning and Legislation

The Australian Weeds Strategy is the national strategy for weed management in Australia. In Tasmania, the *WeedPlan* is the State's blueprint for implementing the over-arching legislation: the *Weed Management Act 1999*.

Underneath these strategies, many plans exist at all levels. Some organisations and stakeholders have yet to develop or complete weed plans while others are revising their plans. Planning at all levels needs to be consistent so that all weed management actions are working in the same direction to maximise environmental outcomes. Where possible, weed management should be integrated into ancillary planning processes (e.g. planning schemes, vegetation management, fire management planning,, roadside management etc.).

Aim:

To maintain an effective legislative, policy and planning framework, supporting on-ground outcomes.

Outcomes:

- The *Weed Management Act 1999* and *WeedPlan* implemented appropriately and consistently;
- Planning at all levels consistent with *WeedPlan*, and *The Australian Weeds Strategy*;
- Government, community and industry supporting the *Weed Management Act 1999* with consistent plans, policies and adequate weed management procedures;
- Weed management is integrated into planning schemes, natural resource management plans, vegetation management plans, fire management plans, roadside management, property plans etc. and
- Planning guide and template used to develop weed management plans.

State Legislation and Regulation

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Review legislative and policy frameworks, identify gaps or deficiencies, develop measures to address these, and advocate for them to be adopted or enacted	DPIPWE	
Implementation of the <i>Weed Management Act</i> in accordance with Statutory Weed Management Plans	DPIPWE	Councils
Promote and coordinate Weed Inspector training and support a network of weed officers authorised under the <i>Weed Management Act 1999</i>	DPIPWE	STCA, Councils, Forestry Tasmania
Provide information about the <i>Weed Management Act</i> in all appropriate activities (e.g. education and training)	DPIPWE	Councils

Policy and Planning

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Undertake weed risk assessments as required	DPIPWE	Councils
Review <i>WeedPlan</i> and reinstate the Tasmanian Weed Management Committee or equivalent state structure.	DPIPWE	
Ensure all new and/or revised weed management plans are consistent with National, State and Regional plans (including the STWS 2011-2016)	All stakeholders	
Land management weed action plans integrate with the STWS 2011-2016	All land managers	
Integrate weed management into the Southern Tasmanian Land Use Strategy and all new Planning Schemes including dedicated weed schedules	STCA, Councils	DPIPWE
Support further development of weed management plans by developing a planning guide and planning template	DPIPWE	STWS Steering Committee, Councils
Ensure that weed management remains a priority in the Natural Resource Management Strategy for Southern Tasmania	NRM South	DPIPWE, Councils
Ensure that weed related codes of practice reflect best practice and are adhered to.	All stakeholders	

Key Area 2: Coordination of the STWS 2011 - 2016

After the accreditation of the Natural Resource Management (NRM) Strategy for Southern Tasmania 2005-2010, the Southern Tasmanian Weed Strategy was produced to deliver one of the key priority actions - a coordinated approach to weed management across the region. This remains a priority. The revised Strategy will cover the period 2011 - 2016

Aim:

To continue to have a coordinated, strategic and best practice approach to weed management across the region.

Outcomes:

- In-kind and co-investment contributions are increased.
- Strategic investment in weed management leads to reduced weed threats.
- Weed management activities are integrated with other NRM activities.
- Improved weed management coordination between all land managers (eg road corridors, parks, reserves and private land).

Implementation

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
A STWS Project Manager to facilitate the implementation of strategic actions at regional and sub regional levels	NRM South	DPIPWE, Councils, STWS Steering Committee

The STWS Steering Committee to oversee implementation of the STWS	STWS Steering Committee	NRM South, Land managers
Periodically review the Terms of Reference and membership of the STWS Steering Committee	STWS Steering Committee	
Identify possible sources of funds and seek funding to implement the STWS	NRM South, STWS Steering Committee	Councils, Land managers
Continue to maintain collaborative stakeholder control funds for priority weeds to enable annual control, aimed at longer-term eradication, regardless of land tenure	STCA	State Government, Councils

Coordination

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Provide coordination for the implementation of the STWS, including developing an annual action plan	STWS Steering Committee	Councils
Coordinate weed management across organisations through membership on Steering Committee and/or through a group of practitioners (on-ground managers) from each organisation	STWS Steering Committee	Other land managers
12 Councils to agree to a mechanism/process for the strategic and ongoing involvement of local government in the implementation of the STWS		Councils
Facilitate the integration of strategic weed management across other areas of natural resource management (e.g. soil management, biodiversity conservation and asset protection)	NRM South	
Liaison with other regions on cross-regional weed issues	DPIPWE, NRM South	

Key Area 3: Preventative Weed Management

Prevention and early intervention are the most cost effective strategies for dealing with weeds. The National Weed Spread Prevention Draft Action Plan 2006 reports that prevention will return \$32 for every dollar invested, whilst early intervention aimed at eradication of weeds will return \$16 on every dollar. Once weeds are established they are a substantial cost to the economy and a threat to ecosystems and biodiversity. Preventative weed management requires coordination and cooperation of all levels of government, industry, land managers and the community. Actions need to prevent introduction and spread of weeds. There is more to be done to address issues such as hygiene, transportation, appropriate weed disposal and incorporating weed issues into management practices and protocols.

Aim:

To prevent the introduction of new weeds and the spread of existing weeds.

Outcomes:

- No new weeds become established and the spread of current and sleeper weeds prevented.
- New weed threats and outbreaks are identified early and managed effectively.
- Land managers and owners are using appropriate weed hygiene methods.
- Proponents of developments and their contractors are implementing appropriate weed hygiene methods.
- Council work crews, contractors and NRM practitioners are trained in and competent in appropriate weed hygiene methods.
- A reduction in the number of new infestations of existing weeds in the region.
- No declared weeds are for sale in the region.
- Weed-free accredited quarries are operating in the Southern Region.
- Early detection systems, such as the Weed Alert Network, are reporting new infestations before they become widely established.

New weeds, new outbreaks

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Implement rapid response plan procedures as required in response to new weed incursions	DPIPWE	STWS Steering Committee, Local Government
Report new weeds and new outbreaks of weeds to DPIPWE	All	
Continue implementation and participation in the Weed Alert Network	TCT	All
Work to engage community in weed detection programs	Weed Alert Network	DPIPWE
Conduct an assessment of the potential climate change impacts on weed threats within the region.	DPIPWE	NRM South

Hygiene

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Develop and implement weed hygiene guidelines	All Stakeholders	DPIPWE
Distribute templates for weed hygiene clauses and associated on-ground practices to councils for use in development approvals.	STWS Steering Committee	Councils
Work with landholders, community groups and organisations to increase use and compliance of weed hygiene practices and protocols	DPIPWE, Councils	STWS Project Manager, All
Ensure weed hygiene clauses are included in all work contracts and development proposals (with systems in place for follow up on compliance)	All land managers	DPIPWE, Councils
Support the development of and/or implementation of innovative and effective hygiene management practices	STWS Steering Committee	DPIPWE
Support improvements in quarry hygiene practices	DPIPWE, STWS Steering Committee	Councils
Develop and implement a weed-free accreditation scheme for quarries within the Southern region.	DPIPWE, STWS	MRT, EPA, Councils

	Steering Committee	
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Weed disposal

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Establish safe and responsible weed disposal options for the community and industry	STCA	DPIPWE, Councils

Promotion of preventative weed management issues

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Include hygiene requirements as a condition of works contract/ license to operate	All land managers	DPIPWE
Conduct targeted weed identification and hygiene training courses	DPIPWE	Local Government, Tasmanian Polytechnic

Key Area 4: Strategic On-ground Weed Management

Resources for weed management are limited. Management of weeds can consume considerable resources and unless follow up work is done, initial efforts can be wasted. While some weeds can be eradicated, for others this is not possible. Therefore it is important to be strategic and develop priorities for on ground works and implement coordinated and cost effective solutions. It is important to be clear about what is possible (e.g. eradication versus containment) and the most appropriate weed management methods.

Strategic weed management involves targeting regional and local level priority weeds while still addressing state and national weed priorities. Response systems need to be in place to deal with new weeds and new outbreaks of weeds. Priority weeds for the region and each municipality have already been identified (see Appendix 4). These lists will need updating as required.

Weeds know no boundaries and thus coordination of effort is required for maximum results. There needs to be a consistent and coordinated approach to weed management to ensure the best outcomes from the time, money and effort invested.

Aim:

To reduce the impact of identified priority weeds in the Southern Region.

Outcomes:

- Reduced impacts of WoNS and Alert List species in Southern Tasmania.
- Reduced impacts of weeds on biodiversity.
- Reduced impacts of weeds on agricultural productivity.
- Reduced impacts of weeds on coastal landscapes.
- Reduced negative outcomes arising from weed control, such as weed re-invasion and land degradation
- Regional weed management priorities kept up to date and used to plan on-ground works.

- Weed management conducted in the region is coordinated and cooperative.
- Improved integration of weed management with land and natural resource management activities.
- Longer-term eradication of bridal creeper, Chilean needle grass, seeding willows (eg. *Salix cinerea*), heather and orange hawkweed from the Southern region.

Priority Weed Programs

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Coordinate an on-going annual monitoring and control program for WoNS and high priority weeds on sites previously treated	STCA	STWS Steering Committee, Other land managers and organisations
Continue to secure stakeholder support and funding to continue the current priority weed programs and for the next and future priority weeds		STWS Steering Committee, other land managers and organisations
Review list of priority weeds in 2013 and update as required	STWS Steering Committee	DPIPWE, Councils and other land managers

On-ground works

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Keep up to date with weed management research and development and incorporate new techniques relevant to the region into on-ground actions	All	DPIPWE
Participate in biological control programs where appropriate	All	TIAR
Ensure best practice management techniques and cost effective management solutions are developed and implemented	All	
Where appropriate, target multiple weeds at control sites to improve cost-effectiveness and on-ground success rates.	All	
Promote funding opportunities available for organisations, community groups and individuals		Councils, NRM South, Other agencies
Target investment towards priority weed species (and recommended management techniques) in identifying and planning on-ground works	All funding bodies	All land managers
Support the development and use of innovative weed management techniques	All	
Encourage cross-regional programs for priority weeds	NRM South	DPIPWE
Encourage the volunteer community to address priority weeds in their area as part of their local weed management plans with appropriate support and funding	Councils, NRM South	STWS Steering Committee, Community support organisations

Include provision in weed management plans for annual monitoring and follow up work at the appropriate time for all on-ground works.	All land managers.	
Support the development of property-based weed management plans, especially where they can facilitate the eradication of priority weeds	Councils, DPIPWE	NRM South
Implement post-control revegetation/ rehabilitation at sensitive sites	All	
Support, fund and continue programs aimed at eradicating or containing bridal creeper, Chilean needle grass, seeding willows (eg. <i>Salix cinerea</i>), heather and orange hawkweed from the Southern region.	All	

Coordination and collaboration

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Establish and maintain a group of local government 'weed' officers to meet on a regular basis to plan and coordinate efforts across municipal areas (strengthen local government input and its role in weed management)	STCA, DPIPWE	Local Government
Integrate strategic weed management priorities into partner organisations' annual work plans	STWS Steering Committee	

Key Area 5: Education, Awareness and Training

Weeds are everyone's responsibility. Awareness and education are important parts of an informed management approach. There is an on-going need to raise people's awareness of their roles and responsibilities and to empower them to take action.

The first phase in implementing the STWS was focused on capacity building through education about weeds and weed issues. Excellent brochures, booklets and web information have been produced and training courses developed and conducted.

The need for education on weed identification and effective management methods is ongoing. It is also important to make people aware of where to find the information they need.

Aim:

To have a well informed community with the skills, knowledge and capability to identify and deal with weeds in a consistent, integrated and effective way.

Outcomes:

- Community can identify weeds, understand weed threats and have the knowledge to undertake appropriate weed management actions.
- Responsible officers are well informed of best practice in weed management.
- Planners, land managers, and other participants are well-informed on weed management issues and best practice.

- Information products and websites are kept up to date with current best practice, and are streamlined to avoid “information overload”.

Awareness and information

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Update and implement the STWS communication plan	STWS Steering Committee	NRM South
Develop, promote and deliver educational, training and awareness materials		DPIPWE, STCA, Local government, NRM South
As new weeds appear or are declared, provide information about them and how to deal with them	DPIPWE	STWS Steering Committee, Local Government
Keep up to date with current best practice and update information sources and publications accordingly		All
Contact community groups dealing with local area weeds and raise awareness about priority weeds and actions they could take	Local Government	NRM South, Community organisations
Coordinate, promote and participate in the Weed Buster Program	DPIPWE	All
Promote achievements and awards for best practice weed management	STWS Steering Committee	All

Training

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Conduct weed identification days	DPIPWE	Councils, NRM South
Conduct targeted training courses for community groups, local government, and on-ground works contractors regarding weed management issues.	DPIPWE	STWS Steering Committee, Councils, NRM South, Tasmanian Polytechnic
Provide mechanisms to ensure that training on mapping, the NVA and data management continues NB Also in 6. Data management	DPIPWE, Local Government	NRM South

Key Area 6: Data Management and Information

It is important to have good information about weeds and the threat they pose to environmental, social and economic values to determine how to prioritise investment and management. It is also important to be able to report on weed management actions under this strategy. Knowing what weeds are where and having access to quality weed management data is essential to planning and targeting effective on-ground actions, including annual follow up. Understanding the distribution and abundance of weeds is also crucial to monitoring, evaluation and reporting over time. Mapping weeds is very resource intensive and in itself does not reduce the impact of weeds. Therefore it is essential to be clear about what information is needed and where it should be stored. Different stakeholders are likely to need different weed management data. The Natural Values Atlas (NVA) managed by DPIPWE has a weed layer. Methods of mapping weeds need to be consistent and in the right format to be up loaded onto the NVA.

Aim: To have access to quality weed information that assists in planning weed management, monitoring on-ground works and reporting on management effectiveness.

Outcomes:

- Quality and up to date weed information management systems in place and maintained.
- Weed mapping is conducted in accordance with national weed mapping standards as a minimum.
- Reports on weed management and weed threat across the region.
- Weed data collected in an ongoing way and available to inform state and local government planning.
- Land managers, owners and the community able to access and use weed data on the NVA.

Data collection

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Continue to monitor and update mapping of priority weeds, including information on control and post-control impacts.	All	
Develop and maintain systems and procedures that enable weed mapping done by organisations, industry and the community to be incorporated into the both the NVA and where appropriate, national weed mapping databases.	DPIPWE	All
Further develop and deploy the data model and field data capture technology currently being developed by NRM Regions	NRM South	
Continue to have as a funding requirement that projects addressing weeds include data collection and it be provided to DPIPWE	All fund providers	

Data Storage

Strategic Actions		Supporting Organisation(s)
Data custodians to maintain and manage weed management databases that allow site monitoring and follow up independent of but consistent with the NVA	Relevant data custodians	DPIPWE

Access to data

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Provide training to support use of the NVA weed layer, including “train the trainer” to ensure organisations become self-supporting.	DPIPWE	Councils
Simplify and improve access to NVA for community groups and others	Local Government	DPIPWE
Assist community groups with interpretation of data from NVA and similar to provide direction in their on-ground works planning.	Local government NRM officers	DPIPWE

Key Area 7: Monitoring, Evaluation and Reporting

Monitoring, evaluation and reporting of weed management actions is essential to ensure efficiency and to justify the allocation of resources. In order to be effective, all weed management actions need to include monitoring, evaluation and reporting to determine their success (or otherwise) and assist in planning follow up work if needed. It is important to learn from what has been done. This is essential to ensure that the resources expended on weed management are not wasted. It is also important to acknowledge actions taken and to celebrate successes.

The STWS needs to be reviewed every five years to monitor progress towards strategy actions and to ensure that it remains relevant and can be updated as weed management techniques, knowledge and skills advance in the region.

Aim: To monitor, evaluate and report on progress in implementing the STWS and use this information for continuous improvement and to celebrate achievements.

Outcomes:

- The region is able to report on progress towards implementing the strategy.
- Achievements are acknowledged and celebrated.
- Data is available to make improvements where and when necessary.
- STWS is reviewed regularly in order to remain relevant and achievable.

Reporting

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Report on/ acknowledge weed management actions through newsletters, media articles etc. Report stories of success	STCA, TWS, SCAT, NRM South	All
Communicate lessons learned from past projects and activities Maintain and provide access to records of past weed management activities		All
Develop and implement M&E protocols for the relevant parts of the strategy (e.g. hygiene)	STWS Steering Committee	All

Monitoring & Evaluation data

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Ensure adequate resources for data collection, monitoring and evaluation	All	
Ensure that data collected for M&E purposes is useful and <i>will</i> assist with M&E	All	
Applications for funding must take into account annual monitoring and follow-up works	All	

Review of Strategy

Strategic Actions	Lead Responsibility	Supporting Organisation(s)
Define baselines to enable reporting on progress against key priority actions		
Put processes in place to track progress in implementing the STWS on an annual basis	NRM South	STWS Steering Committee
Review the STWS every five years, or more frequently if necessary	NRM South	STWS Steering Committee
Include in the STWS strategy review environmental, economic and social impacts (positive or negative) of the strategy	NRM South, STWS Steering Committee	

APPENDIX 1 Review of the Southern Tasmanian Weed Strategy

Background

The implementation of the Southern Tasmanian Weed Strategy 2005-2010 was supported by the Southern Tasmanian Councils Authority (STCA) in partnership with NRM South through funding from the Australian Government Caring for our Country initiative. The STWS Steering Committee was formed by the STCA in late 2006 and a Project Manager appointed in January 2007. Considerable additional funding was also received by the STCA directly from the Australian Government via the Defeating the Weed Menace and Caring for our Country initiatives in order to progress strategic management of WoNS and National Environmental Alert List species. Funding was also received from the Australian Government for asset protection of EPBC listed species and communities from a range of other weeds.

A review of the STWS 2005 – 2010 commenced towards the end of 2010 with the aim of producing a revised weed strategy for the Southern Region for 2011 – 2016. The purpose of the review was

1. To inform future management of weeds in Southern Tasmania.
2. To identify specific learning from implementation of the previous strategy.
3. To update the strategy as appropriate including identifying future priorities for weed management and developing a new action plan for the next five years.

Review Process

The review of the previous strategy and development of a new draft weed strategy was overseen by a Steering Group comprised of the STWS Chair Tony Bisdee, Michael Askey-Doran from the Tasmanian Government, and Kathleen Broderick from NRM South. The process included a desk top review of relevant documents and reports from NRM South/Southern Tasmanian Councils Authority and the NRM South Website. Stakeholder consultation and input has primarily been from NRM South, STWS Steering Committee, STWS Project Manager, officers from the Weeds Section in DPIPWE, WoNS Coordinators and two community members. Data was collected through interviews, workshops, meetings and via email.

Outcomes from the Review

The review of progress made over the last five years implementing the STWS indicated that considerable progress has been made. The STWS listed 26 high priority strategic actions. The Strategy also identified who had lead responsibility for each action. However this was determined by the consultant developing the strategy and no sign off was sought from the organisations identified.

Of the 26 high priority actions, there were only two actions where little or no progress had been made. These actions were to do with disseminating the results of the State Weed Risk Assessment, which has been undertaken by the State Government and research into the costs of weeds in the southern region. Some research on the cost of weeds has been done at State and National levels. The review found that actions needing further work included;

1. weed hygiene measures to prevent the spread of weeds,
2. mapping weeds and gaining access to weed data on the Natural Values Atlas, and
3. ensuring that infrastructure previously funded (e.g. wash-down stations) are being used.

It also highlighted that it is critical to maintain current strategic actions and progress new initiatives to prevent the spread and reduce the impact of weeds across the Region.

The review showed that the STWS 2005-2010 had provided an effective strategic framework and direction for progress. Key components of the STWS still remain relevant. These key components – purpose, principles, scope and vision have therefore been used as a basis for this revised strategy.

The main recommendations from the review were:

1. Maintain current strategic weed management programs;
2. The focus should be on implementation
3. Maintaining a Project Manager position was critical
4. Sign off needs to be sought from organisations identified as having lead and contributing responsibilities and
5. Processes need to be identified and put in place to track progress in implementing the strategy and to enable celebration and acknowledgement of achievements.

Summary of Achievements

Despite the large scale of the problem, land managers and community groups throughout Southern Tasmania have made significant progress towards reducing the impact and preventing the spread of priority weeds. Between 2005 and 2010, regional coordination of the STWS facilitated significant progress towards achieving those outcomes.

It is acknowledged that this overview does not reflect all that has been achieved or invested. There are of course, many weed management actions done by numerous stakeholders that are not recorded in any form and not in the documents and weed management data available for this review.

Improving Weed Resources

An infrastructure audit was conducted in 2007 to identify resources and gaps across the region. In response, an Infrastructure Fund of \$90,000 was established and applications called for from organisations to provide financial support to fill these gaps. Projects funded included the purchase of four mobile wash-down units, two Quick Spray units, one portable spray unit, community trailer equipment upgrades, Tasman Council roadside weed mapping and six area specific weed management strategies – D'Entrecasteaux Channel area of Kingborough municipality, Ridgeway Reserve, Hobart College Mt Nelson campus, Tasman Council roadsides, Egg Island reserve and Conningham Nature Recreation Area).

The majority of Councils in the Southern Region now have municipal weed strategies and ongoing weed management activities. Community groups and organisations have carried out weed management activities in their local areas. Over 30 groups were supported by the STWS Project Manager in the development of applications for funding from various sources.

Developing Strategic Weed Control Programs

In 2007, priority weeds were determined and ranked for each of the 12 municipalities and also the Southern Region as a whole, in partnership with DPIPW, using a post border weed risk assessment approach. In late 2008, this provided the basis for compiling baseline weed data and maps for 34 priority weeds. These data are included in the Natural Values Atlas (NVA) weed data, and the maps are available on both the STCA and NRM South websites.

Regionally strategic on-ground targets were identified and annual programs developed for four Weeds of National Significance (WoNS) namely bridal creeper (*Asparagus asparagoides*), boneseed (*Chrysanthemoides monilifera ssp. monilifera*), Chilean

needle grass (*Nassella neesiana*) and seeding willows (*Salix cinerea*). Regional eradication targets are Chilean needle grass, bridal creeper, seeding willows and for boneseed, outlier eradication along with strengthening and contracting containment lines. In addition programs were identified and developed for two National Environmental Alert List species heather (*Calluna vulgaris*) and orange hawkweed (*Hieracium aurantiacum*), as well as a coordinated regional program and working group for sea spurge (*Euphorbia paralias*). Databases have been created for all sites to monitor control over time and data has been provided to the DPIPWE Natural Values Atlas (NVA). Over 200 stakeholders from National, State and Local Government, Government Business Enterprises and the community have been engaged in these coordinated weed control programs across the region. In order to maintain and achieve longer-term eradication and containment goals for these strategic weed programs, the NRM South Healthy Catchments and Coasts Strategic Weed Control Program Plan 2010-2015 was developed in early 2010 to guide NRM South investment through their Priority Area program.

Training and awareness raising

From 2007 to 2010 numerous training courses were offered to stakeholders including community groups and farmers as follows –

- Authorised weed Inspector Training (2-3 per year)
- Blackberry identification workshop (1)
- Boneseed Blitz activities in 2008/ 09
- What Does Your Garden Grow? Train the trainer workshop (1)
- Weeds & Herbicides course (2)
- WeedStop Vehicle Hygiene course (2)
- Chemcert course (2)
- Wattle Identification workshop (2);
- Field hygiene & weed management workshop (1)
- Weed identification sessions (6+).

Training and extension activities were conducted with community groups and land managers to build their capability to detect weeds and carryout primary and annual follow up weed control.

A range of quality products and publications have been produced including 16 priority weed brochures, Weeds of Southern Tasmania booklet (covering 80 agricultural and environmental weeds), Weeds: Time it right! wall chart (in partnership with TFGA, DPIPWE, Cradle Coast NRM and NRM North) and a bridal creeper poster. This weed management information is available on both the STCA and NRM South websites. In addition these weed products have been displayed at a variety of forums, workshops and events including Sustainable Living Expo and Tread Lightly festival as well as local activities organised by councils and community groups.

Numerous media articles raised awareness on strategy implementation, weed program progress, weed identification and training opportunities and were published across a variety of media including Tasweeds, SCAT newsletter, regional and local newspapers and STCA website. In 2008, a story also appeared on ABC 7:30 Report on the Southern Tasmania boneseed program. Serrated Tussock was featured in a report on Stateline on 9 October 2009.

Weed Spread Prevention

A range of activities were aimed at preventing the spread of weeds. DPIPWE has a Rapid Response process for new weed incursions, and weed alerts are distributed through regional networks as required. The Tasmanian Conservation Trust, with funding from Tasmanian Community Fund, reinstated the Tasmanian Weed Alert Network. Weed management equipment such as mobile wash-down stations, herbicide spray units and other tools were funded through the Infrastructure Grants project. Hydro Tasmania's Weed Hygiene Manual was adapted for priority weeds of Southern Tasmania and also includes information on pests and diseases. This manual provides the basis for on-going workshops. A Quarry Hygiene working group was recently established with the aim of minimising weed spread via quarries. A weed hygiene clause has been written for inclusion in Government, industry and community group works contracts. Progress is being made to include a Weed Code, including hygiene, into municipal planning schemes under the Southern Tasmania Regional Land Use Strategy development process.

APPENDIX 2 STWS Steering Committee Members

The Steering Committee established to oversee the implementation of the STWS 2005-2010 comprised of

Clr. Tony Bisdee, Mayor, Southern Midlands Council
David Hunn, Southern Tasmanian Councils Authority
Alistair Kay, NRM South
Karen Stewart, Department of Primary Industries Parks Water and the Environment (DPIPWE),
Justin Nichols, Tasmanian Farmers and Graziers Association (TFGA)
Mike Bidwell, Hydro Tasmania
Rosie Gude, Transend,
Peter Volker, Forestry Tasmania,
Ashley Rushton, Parks & Wildlife Service
Dick Shaw, Department of Infrastructure Energy and Resources (DIER).

APPENDIX 3 References and Web Sites

The following documents were used in the review of the previous weed strategy and development of this revised strategy for 2011-2016:

Caring for Our Country Business Plan 2010-2011

Grose MR, Barnes-Keoghan I, Corney SP, White CJ Holz GK, Bennett JB, Gaynor SM, and Bindoff NL 2010 Climate Futures for Tasmania: general climate impacts general report, Antarctic Climate and Ecosystems Cooperative Research Centre, Hobart Tasmania

Healthy Catchments and Coasts Program Plan (draft 11 Feb 2010)
NRM South Healthy Catchments & Coasts Strategic Weed Control Program Plan 2010 - 2015 (14 May 2010)

Hobbs, Richard J., and Stella E. Humphries. 1995. An integrated approach to the ecology and management of plant invasions. *Conservation Biology*, 4:761-770.

Ireson, J.E., Davies, J.T., Friend, D.A., Holloway, R.J., Chatterton, W.S., Van Putten E.I. and McFadyen, R.E.C. (2006). *Weeds of pastures and field crops in Tasmania: economic impacts and biological control*. Technical Series no. 13, CRC for Australian Weed Management, Adelaide.

Hovenden, M. J., K. E. Wills, K.E., Vander Schoor, J.K., Chaplin, R.E., Williams, A.L., Nolan, M.J., Newton, P.C.D. (2007). *Flowering, seed production and seed mass in a species-rich temperate grassland exposed to FACE and warming*. *Australian Journal of Botany* 55(8): 780-794.

Natural Resource Management Strategy for Southern Tasmania May 2005

Natural Resource Management Strategy for Southern Tasmania 2010-2015 (draft submitted for accreditation) Including: Natural Resource Management Strategy for Southern Tasmania 2010-2015 - Implementation Planning Phase 1 – Stakeholders Implementation Commitments March 2010

Natural resource management in Southern Tasmania: A scan of strategic environmental issues and emerging concerns.

Scott, J. K., Batchelor, K.L., Ota, N., Yeoh, P.B. (2008). *Modelling Climate Change Impacts on Sleeper and Alert Weeds: FINAL REPORT* Wembley WA CSIRO Entomology.

Southern Tasmanian Weed Strategy 2005-2010

Steel, J., M. Kohout, Newell, G. (2008). *Climate change and potential distribution of weeds - Whither the weeds under climate change?* Frankston, Victoria, Australia, Department of Primary Industries Biosciences Research Division.

The Australian Weeds Strategy A National Strategy for Weed Management in Australia 2007, Australian Weeds Committee

WeedPlan Tasmania's Weed Management Strategy April 2005, Tasmanian Weed Management Committee

Williams, A. L., K. E. Wills, Janes, J.K., Vander Schoor, J.K., Newton, P.C.D., Hovenden, M.J. (2007). "Warming and free-air CO2 enrichment alter demographics in four co-occurring grassland species." New Phytologist **176**(2): 365-374.

Minutes of Meetings

Minutes of the Southern Tasmanian Weed Strategy Steering Committee January 2007 to June 2010-11-18

Minutes from Southern Tasmanian Quarry Hygiene Working Group (Sept 2010)

Final Reports:

Nationally strategic control of outlying Boneseed infestations across Tasmania 2007-2008 (Activity ID -64353) Defeating the Weed Menace Program

Progressing Nationally Strategic Control of Boneseed and Asparagus Weeds (WONS) in Southern Tasmania Nov 09 (Commonwealth identification No. OG084082) Caring for Our Country Program

Southern NRM Region Priority Weeds Data Compilation Project, Tasmanian Land and Water Professionals Sept – Nov 2008

NRM South Reports

Implementing the Southern Weeds Strategy, August 2008 (Activity ID -WPD1NHT05)

Implementing the Southern Weeds Strategy, June 2009 (Activity ID -WPD1NHT05)

Review of Natural Resource Management Achievements since 2005: Southern Tasmania

Southern Tasmanian Weed Strategy Report, 2009/10

Southern Tasmanian Weed Strategy – Achievements, (April- June 2010)

Web sites

Department of Primary Industries Parks Water and the Environment
www.dpipwe.tas.gov.au

Natural Values Atlas www.naturalvaluesatlas.tas.gov.au

NRM South www.nrmsouth.org.au

State of Environment Report www.soer.justice.tas.gov.au

Southern Tasmanian Councils Authority www.stca.tas.gov.au/weeds

Tasmanian Legislation Online <http://www.thelaw.tas.gov.au>

Weeds Australia website www.weeds.org.au

APPENDIX 4 Declared Weeds by Municipality

N = none known

P = previously known

I = isolated occurrences

L = localised infestations

W = widespread infestations

E = eradicate

C = contain

Botanical name	Brighton	Central Highlands	Clarence	Derwent Valley	Glamorgan Spring Bay	Glenorchy	Hobart	Huon Valley	Kingborough	Sorell	Southern Midlands	Tasman
<i>Acacia nilotica ssp. indica</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Acroptilon repens</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Allium vineale</i>	N	N	I/E	N	N	N	N	N	N	I/E	N	N
<i>Alternanthera philoxeroides</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Amaranthus albus</i>	I/E	N	N	I/E	N	N	N	N	N	N	N	N
<i>Amelichloa caudata</i>	L/E	N	N	N	N	N	N	N	N	N	N	N
<i>Amsinckia species</i>	L/C	L/C	L/C	L/C	N	N	I/E	N	N	I/E	I/E	N
<i>Annona glabra</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Anthemis cotula</i>	N	N	I/E	N	N	N	I/E	N	N	N	N	N
<i>Asparagus asparagoides</i>	I/E	N	I/E	N	L/E	L/E	I/E	I/E	I/E	I/E	N	N
<i>Asparagus scandens</i>	N	N	N	N	N	N	I/E	N	N	N	N	I/E
<i>Asphodelus fistulosus</i>	I/E	N	L/E	I/E	N	N	N	N	N	I/E	N	N
<i>Bassia scoparia</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Berberis darwinii</i>	N	N	N	N	N	N	P	P	N	N	N	N
<i>Berkheya rigida</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Bifora testiculata</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cabomba caroliniana</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Calluna vulgaris</i>	N	N	N	N	N	N	N	I/E	L/E	N	N	N
<i>Cardaria draba</i>	W/C	L/E	L/E	L/E	N	L/E	L/E	N	I/E	L/C	L/E	I/E
<i>Carduus nutans</i>	I/E	I/E	L/E	I/E	N	L/E	L/E	N	I/E	N	L/E	I/E

Botanical name	Brighton	Central Highlands	Clarence	Derwent Valley	Glamorgan Spring Bay	Glenorchy	Hobart	Huon Valley	Kingborough	Sorell	Southern Midlands	Tasman
<i>Carduus pycnocephalus</i>	W/C	W/C	W/C	W/C	W/C	L/C	L/C	W/C	W/C	W/C	W/C	W/C
<i>Carduus tenuiflorus</i>	W/C	W/C	W/C	W/C	W/C	L/C	L/C	W/C	W/C	W/C	W/C	W/C
<i>Carex albula</i>	N	N	N	N	N	N	I/E	N	N	N	N	N
<i>C. buchananii</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>C. flagellifera</i>	N	N	N	N	N	N	N	L/E	N	N	N	N
<i>C. testacea</i>	N	N	N	N	N	N	P	N	N	N	N	N
<i>Carthamus lanatus L.</i>	L/E	W/C	I/E	W/C	L/E	N	I/E	I/E	N	L/E	I/E	N
<i>Cenchrus incertus</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cenchrus longispinus</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Centaurea calcitrapa</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Centaurea eriophora</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Ceratophyllum demersum</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Chondrilla juncea</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cirsium arvense</i>	L/C	W/C	L/C	W/C	I/E	L/C	L/C	W/C	L/C	L/C	L/C	L/C
<i>Coprosma robusta</i>	I/E	N	N	L/E	N	N	I/E	I/E	N	N	N	N
<i>Cortaderia species</i>	I/E	I/E	L/E	I/E	I/E	L/E	I/E	I/E	L/E	I/E	I/E	L/E
<i>Crupina vulgaris</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cryptostegia grandiflora</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cuscuta species</i>	N	N	N	P	N	N	P	P	N	N	N	N
<i>Cynara cardunculus</i>	L/E	N	N	N	N	N	N	N	N	N	N	N
<i>Cyperus esculentus</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cyperus rotundus</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cytisus multiflorus</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Cytisus scoparius</i>	W/C	L/C	W/C	L/C	L/E	W/C	W/C	L/C	W/C	L/C	W/C	L/C
<i>Datura species</i>	I/E	N	N	I/E	N	I/E	I/E	I/E	I/E	I/E	I/E	I/E
<i>Dittrichia viscosa</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Echium plantagineum</i>	L/E	L/C	L/C	L/E	I/E	I/E	I/E	L/E	L/E	L/C	L/C	L/E
<i>Echium vulgare L.</i>	N	N	LE	N	N	N	I/E	N	N	N	N	N
<i>Egeria densa</i>	N	N	N	N	N	N	I/E	N	N	N	N	N
<i>Eichhornia crassipes</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Eleocharis parodii</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Elodea canadensis</i>	L/C	L/C	N	L/C	N	L/E	L/C	N	N	N	N	N

Botanical name	Brighton	Central Highlands	Clarence	Derwent Valley	Glamorgan Spring Bay	Glenorchy	Hobart	Huon Valley	Kingborough	Sorell	Southern Midlands	Tasman
<i>Emex australis</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Equisetum</i> species	N	N	N	N	N	N	N	N	N	N	N	N
<i>Eragrostis curvula</i>	N	N	I/E	I/E	N	N	N	I/E	N	N	P	N
<i>Erica lusitanica</i>	I/E	W/C	W/C	W/C	I/E	W/C	W/C	W/C	W/C	W/C	L/C	W/C
<i>Fallopia japonica</i>	N	N	N	N	N	N	I/E	N	N	N	N	N
<i>Festuca gautieri</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Foeniculum vulgare</i>	W/C	W/C	W/C	W/C	I/E	W/C	W/C	W/C	L/C	W/C	W/C	L/C
<i>Galium spurium</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Galium tricornutum</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Genista monspessulana</i>	W/C	W/C	W/C	W/C	L/E	W/C	W/C	W/C	W/C	W/C	L/C	W/C
<i>Gymnocoronis spilanthoides</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Heliotropium europaeum</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Heracleum mantegazzianum</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Hieracium</i> species	N	L/E	N	I/E	N	N	L/E	N	I/E	N	P	N
<i>Hydrilla verticillata</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Hymenachne amplexicaulis</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Hypericum perforatum</i>	I/E	I/E	L/E	L/E	N	L/E	I/E	L/E	L/E	L/E	L/E	N
<i>Hypericum tetrapterum</i>	N	N	N	N	N	N	N	L/E	N	N	N	N
<i>Lagarosiphon major</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Lantana camara</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Leycesteria formosa</i>	I/E	I/E	L/C	L/E	I/E	L/C	L/C	W/C	W/C	I/E	I/E	I/E
<i>Lycium ferocissimum</i>	W/C	L/C	W/C	W/C	L/C	W/C	W/C	P/E	W/C	W/C	W/C	L/E
<i>Marrubium vulgare</i>	W/C	W/C	W/C	W/C	W/C	L/E	L/E	I/E	I/E	W/C	W/C	I/E
<i>Miconia</i> species	N	N	N	N	N	N	N	N	N	N	N	N
<i>Mimosa pigra</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Moraea</i> species	N	N	N	N	L/E	N	N	N	N	N	N	N

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<i>Myriophyllum aquaticum</i>	N	N	P	N	N	N	I/E	I/E	N	N	N	N
<i>Nassella charruana</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Nassella hylanlina</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Nassella leucotricha</i>	N	N	I/E	N	N	N	N	N	N	N	N	N
<i>Nassella neesiana</i>	I/E	N	L/E	N	N	I/E	I/E	N	N	N	N	N
<i>Nassella tenuissima</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Nassella trichotoma</i>	N	N	W/C	N	L/E	N	I/E	N	N	L/E	I/E	L/E
<i>Oenanthe pimpinelloides</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Onopordum</i> species	I/E	I/E	N	I/E	N	N	N	N	N	N	L/E	N
<i>Orobanche</i> species	N	N	N	N	N	N	N	N	N	N	N	N
<i>Parkinsonia aculeata</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Parthenium hysterophorus</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Pennisetum macrourum</i>	N	N	N	L/E	N	N	P	L/E	I/E	N	N	N
<i>Pennisetum villosum</i>	N	N	I/E	N	P	N	P	N	N	I/E	N	N
<i>Prosopis</i> species	N	N	N	N	N	N	N	N	N	N	N	N
<i>Rorippa sylvestris</i>	N	N	N	N	N	N	N	I/E	N	N	N	N
<i>Rubus fruticosus</i> aggregate	W/C	W/C	W/C	W/C	W/C	W/C	W/C	W/C	W/C	L/C	L/C	W/C
<i>Sagittaria graminea</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Sagittaria montevidensis</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Salix</i> species (excluding <i>S. babylonica</i> , <i>S. x calodendron</i> and <i>S. x reichardtii</i>) - seeding willows eradication priority	N	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	N	L/E	N
<i>Salix fragilis</i>	W/C	W/C	W/C	W/C	L/E	W/C	W/C	W/C	W/C	W/C	W/C	I/E
<i>Salpichroa origanifolia</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Salvinia molesta</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Senecio glastifolius</i>	N	N	N	N	N	N	N	N	N	N	N	N

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<i>Senecio jacobaea</i>	I/E	L/C	P	L/C	I/E	P	P	W/C	W/C	L/C	I/E	W/C
<i>Solanum elaeagnifolium</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Solanum triflorum</i>	I/E	N	L/E	N	N	N	N	N	N	N	N	N
<i>Solanum marginatum</i>	N	P	I/E	I/E	L/E	I/E	L/E	I/E	I/E	I/E	N	I/E
<i>Solanum sodomaeum</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Striga species</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Tamarix aphylla</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Trapa species</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Tribulus terrestris</i>	N	N	N	N	N	N	N	N	N	N	N	N
<i>Ulex europaeus</i>	L/C	W/C	L/C	L/C	W/C	L/C	L/C	W/C	L/C	L/E	W/C	L/E
<i>Urospermum dalechampii</i>	N	N	L/E	N	N	I/E	L/C	N	I/E	N	N	N
<i>Xanthium sp.</i>	N	N	I/E	N	N	N	I/E	N	N	N	N	N
<i>Zizania species</i>	N	N	N	N	N	N	N	N	N	N	N	N