



# VICTORIAN SERRATED TUSSOCK WORKING PARTY STRATEGY

**2018-2023**





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FOREWORD

I AM PLEASED TO PRESENT THE VICTORIAN SERRATED TUSSOCK WORKING PARTY STRATEGY 2018-2023.

Considered the worst perennial grass weed in Australia, serrated tussock continues to threaten Victoria’s grazing industries and native grasslands. Despite many years of concerted control effort, some communities still bear a heavy cost of on-going control. Meanwhile, new infestations continue to occur across many parts of the state. These new outbreaks have the potential to cause significant cost to agriculture and environmental values in future.

First recorded in Victoria in 1954, a small infestation in the northern suburbs of Melbourne had expanded to 30,000 ha by 1980. Fifteen years later, serrated tussock had become one of the most serious weed problems of the west and central grazing areas of Victoria affecting 130,000 ha. In response to community concern, the VSTWP was established to develop a strategy for the control of serrated tussock and oversee its implementation.

Building on the achievements and lessons from over 20 years of community-driven leadership, the VSTWP has prepared this new strategy to guide its work through to 2023. The strategy provides a clear focus to build community capability to prevent and manage serrated tussock so that:

- the impact of serrated tussock on affected communities is reduced, and
- communities can manage and restrict the spread of new and small infestations across the state.

This two-pronged approach represents a commitment to aspects of its previous strategy, ie. supporting affected local communities in the area known as the Core (Melbourne-Geelong-Ballarat area), with the addition of a stronger emphasis on raising community awareness and preparedness across Victoria more generally. With serrated tussock infestations occurring in isolated areas from north east Victoria through to south western Victoria, the VSTWP will extend its support to other communities, so that they are equipped to manage land (and pathways of spread) and prevent serrated tussock becoming an intractable problem.

By reducing the impact of serrated tussock in severely infested areas and restricting its spread elsewhere, the VSTWP’s strategy will prevent significant future costs to the state of Victoria.

John Burgess

JOHN BURGESS  
Chair – Victorian Serrated Tussock Working Party







## 1 INTRODUCTION

### VICTORIAN SERRATED TUSSOCK WORKING PARTY.

The Victorian Serrated Tussock Working Party (VSTWP) is a community-led, incorporated non-profit organisation that advocates for and supports land managers to control serrated tussock in Victoria. The VSTWP was established in 1995 and has been operating successfully since.

The VSTWP collaborates with a range of stakeholders, including the Victorian government, catchment management authorities, local government, Landcare groups, and public land managers such as VicRoads and VicTrack.

Program staff and extension officers promote an integrated approach to land management and serrated tussock control. The key financial supporter of the VSTWP is Agriculture Victoria (Department of Economic Development, Jobs, Transport and Resources) that funds the VSTWP to support the implementation of its strategy.

### SERRATED TUSSOCK

Serrated tussock (*Nassella trichotoma*) is one of seven *Nassella* grasses that occur in Australia. It is a declared noxious weed in the state of Victoria under the *Catchment and Land Protection Act 1994*. It is also a Weed of National Significance (WoNS), recognised as one of Australia's most destructive weeds due to its invasiveness, potential for spread and the social, economic and environmental impacts it causes.

It is a drought resistant, perennial grass. It thrives in low rainfall habitats (400-500 mm) and its wind dispersed seeds may be spread up to 20km, even further during extreme weather conditions (heat and wind).

Serrated tussock is a prolific seeder. A hectare of dense tussock growth can produce more than two tonnes of seed annually, and large plants can produce in excess of 100,000 seeds a year. The seeds can remain dormant in the soil for up to 15 years and more<sup>1</sup>.

Occurring across many landscape areas, including in pastures, roadsides, urban areas, native grassland, grassy woodland and dry coastal vegetation, serrated tussock is not limited by soil type or fertility and can be found growing in soil where there is little nutrition and/or water.

### PATHWAYS OF SPREAD

Serrated tussock is mostly dispersed by wind. It also spreads through movement of seeds attached to vehicles, machinery, livestock and fodder, and via waterways. Consequently, management of pathways of spread involves a range of land managers, both public and private, as well as third parties such as machinery contractors. Linear reserves and roadsides are considered to be one of the main pathways of spread, which is common for many weed species.

## 2 SERRATED TUSSOCK - THE WEED

### THE IMPACT

The long lifespan of serrated tussock and its ability to rapidly establish (it takes only seven years for serrated tussock to dominate a pasture or native grassland) has allowed serrated tussock to thrive in certain areas of Victoria. Left untreated, serrated tussock will rapidly replace native tussocks and grasses, reducing biodiversity and habitat and seriously reduce the agricultural capacity of land.

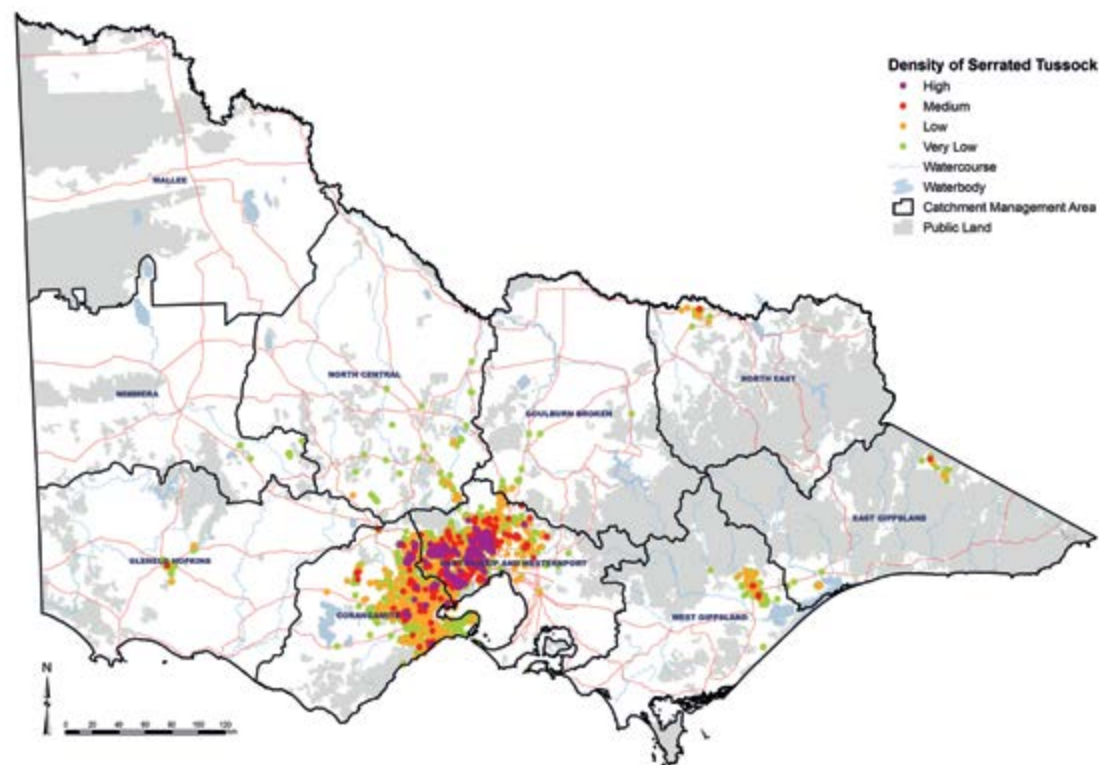
Serrated tussock is unpalatable (due to its high fibre and low protein content) and other pasture and native plant species are selectively grazed out. The unpalatability of serrated tussock also contributes to a loss of livestock condition and in extreme cases starvation. The seeds of serrated tussock also contribute to vegetable fault in wool thus impacting on quality.

Dense infestations can pose serious fire hazards, with a recorded burn intensity up to seven times greater than native grasslands. Further, the seed heads can create additional hazards where they build up against housing, sheds, roadsides and fence-lines.



<sup>1</sup> Agriculture Victoria (2017) Serrated Tussock. URL: <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/weeds/a-z-of-weeds/serrated-tussock> (Accessed 13 April 2018)





**Fig. 1** Distribution of known infestations of serrated tussock in Victoria

Modelling of the effect of climate change on distribution of serrated tussock indicates that over the longer term (50 years), the climatic conditions suited to its establishment and growth are likely to decline. Hence, serrated tussock may become easier to control, on a statewide basis, as its range and vigour reduces<sup>6</sup>.

### CONTROLLING LOCAL INFESTATIONS

Effective control measures are available. As with many other weeds, controlling serrated tussock requires a number of management techniques. These include preventing plants setting seed and the establishment of competitive vegetation that will resist serrated tussock invasions. Long-term control is dependent not only on killing plants, but also replacing them with improved pasture or trees and then careful management and monitoring to minimise re-infestation.

Research has found that lack of collective action is a more significant barrier to effective control of serrated tussock than lack of information and education about the weed<sup>2</sup>. Landholders recognise that successful management of serrated tussock on their own properties is partly dependent on the diligent control efforts of neighbouring landholders.

Meat & Livestock Australia reported that serrated tussock sits within a group of the most intractable weeds associated with livestock industries<sup>3</sup>. The report noted that even though effective control measures are available, they are not widely applied, hence the social challenge of serrated tussock control.

### DISTRIBUTION

Serrated tussock is found in south-eastern Australia, with infestations found in Victoria, New South Wales, the Australian Capital Territory and Tasmania. In 2018 Agriculture Victoria records showed approximately 235,000 ha of land infested with serrated tussock<sup>4</sup>. This represents an increase of 100,000 ha over the last twenty years when, in the mid-1990s, the estimated area of serrated tussock in Victoria was 130,000 ha<sup>5</sup>. Then, serrated tussock primarily affected the outer north west of Melbourne fringe, Bacchus Marsh, Geelong and Ballarat areas, with some small infestations at Hamilton and Bairnsdale.

It is difficult to accurately determine the infested area in the core due to the size of the area and variety of agencies leading control. The infested area outside of the core is more accurately known although there are likely to be infestations which have not been identified.

<sup>4</sup> Estimate sourced from the MAX biosecurity information platform, Agriculture Victoria, March 2018

<sup>5</sup> Boyle, D. (2002) Victorian serrated tussock management program. Thirteenth Australian Weeds Conference

<sup>6</sup> Department of Primary Industries (2008) Climate change and potential distribution of weeds.

## 3 MANAGEMENT OF SERRATED TUSSOCK

THE VSTWP PROMOTES AND FACILITATES COMMUNITY-BASED ORGANISATIONS TO ENGAGE WITH LAND MANAGERS TO UNDERTAKE SERRATED TUSSOCK MANAGEMENT IN A COORDINATED MANNER.

The effectiveness of the VSTWP is increased when it collaborates with other partners with a role or interest in serrated tussock control.

### VICTORIAN GOVERNMENT

Agriculture Victoria, part of the Department of Economic Development, Jobs, Transport and Resources (DEDJTR), administers the invasive plants and animals policy framework and associated compliance arrangements under the *Catchment and Land Protection Act 1994*. Agriculture Victoria delivers compliance programs to control serrated tussock. The location of these programs is determined through an assessment of risk posed by the weeds and level of community interest.

### OTHER AGENCIES AND LAND MANAGERS

As with many other weeds and pests, a range of stakeholders is involved in serrated tussock control, either directly or indirectly as part of their land management responsibilities and interests.

Private landholders, Landcare and community groups, industry groups, public land managers, local government, water authorities, catchment management authorities and the Victorian and Australian governments all have roles to play in investing, controlling and/or promoting serrated tussock control.

The research sector and weed control contractors are also influential in the on-going effort to control serrated tussock.







## 4 ACHIEVEMENTS & CHALLENGES

A REVIEW OF THE PREVIOUS VICTORIAN SERRATED TUSSOCK STRATEGY IDENTIFIED A NUMBER OF ACHIEVEMENTS AND CHALLENGES THAT HAVE BEEN CONSIDERED IN DEVELOPMENT OF THIS NEW STRATEGY.

### KEY POINTS ARISING FROM THE REVIEW ARE:

- The community capacity-building role of the VSTWP continues to be needed within areas where serrated tussock is well-established, but also in new areas with light infestations across Victoria.
- Support to reduce the impact of serrated tussock is welcomed by communities that are severely infested.
- The extension program delivered by the VSTWP provides a valued service to those landholders willing to participate. It is not however able to influence landholders who are unwilling or unable to participate in the program.
- Community frustration can be high where properties within a local project area do not control serrated tussock and are not held accountable, under the *Catchment and Land Protection Act 1994*, by the Victorian government. This frustration can also be directed, unfairly, at the VSTWP.
- The extent of serrated tussock infestations and potential distribution in Victoria means that eradication is not possible. Some people have unrealistic expectations about what weed management programs can achieve. Managing these expectations is important.
- The VSTWP's historical focus on the north west of Melbourne, Bacchus Marsh, Geelong and Ballarat areas has been critically important in reducing the impact and containing the spread of serrated tussock. However now that the current distribution of serrated tussock in Victoria is more widespread, there are numerous other communities that will also benefit from the VSTWP's support.
- The VSTWP extends its influence by building the capability of other agencies and organisations involved in agriculture and land management in different regions of Victoria. Organisations such as public land managers, catchment management authorities, agricultural industry groups, Landcare networks and groups and local government all assist in increasing community capacity for prevention, early detection and management of serrated tussock.
- Trialling new cost-effective approaches to extension should be explored by the VSTWP so that it can deliver community support more widely across Victoria.
- The use of robotics or drones in weed control is an emerging application in land management. The VSTWP could explore opportunities for innovative uses of technology that offer advantages over current approaches to serrated tussock surveillance and control.
- The VSTWP should increase its role with linear land managers so they can play a more active role in addressing pathways of spread. Also, higher risks arise during times of drought or major fire causing shortages of pasture and ground cover, and increased livestock and fodder movement.
- Measuring the impact of the VSTWP investment in the promotion of, and support to land managers for, serrated tussock control is challenging. The land manager extension program can be readily assessed for its impact on practice change and reduction in infestations, whereas the broader communications and education activities to a wider audience is better suited to output-level measurement, eg. number of people contacted, website hits, etc.
- Increasing collaboration between the VSTWP and Victorian government on delivering support to communities with serrated tussock presents an opportunity for better servicing the needs of communities.





## 5 STRATEGY ALIGNMENT

THIS STRATEGY HAS BEEN DEVELOPED  
TAKING INTO CONSIDERATION KEY NATIONAL  
AND STATE LEGISLATION, STRATEGIES  
AND POLICIES.

## KEY LEGISLATION, STRATEGIES AND POLICIES:

**Australian Weeds Strategy 2017 - 2027** seeks to address weed issues whilst maintaining the profitability and sustainability of Australia's primary industries and reducing the impact of weeds on the environment. The strategy includes seven principles of effective weed management:

1. Effective weed management is a responsibility shared between landholders, community, industry and government.
2. Evidence-based decision-making should underpin the approach to weeds.
3. Risk-based prevention and early intervention is generally the most cost-effective approach for managing weeds.
4. Prioritisation of weed management must be informed by a risk based approach, considering feasibility, likelihood of success and impact.
5. Coordination amongst landholders, community, industry and government is necessary to manage weeds at a landscape scale.
6. Sustaining capability and capacity across landholders, community, industry and government is fundamental to effective weed management.
7. Individuals, organisations and industry groups that create risks that may result in a weed entering, emerging, establishing or spreading in Australia have a role in minimising the impacts and contributing to the costs of management.

The VSTWP strategy strongly aligns with both the goal of the Australian Weeds Strategy and the principles of effective weed management.

**The Invasive Plants and Animals Policy Framework** – the framework seeks to protect and enhance Victoria's wealth, wellbeing and biodiversity by reducing the impact of invasive species. It presents the overarching Victorian Government approach to the management of existing and potential invasive species within the context of the Biosecurity Strategy for Victoria. The framework incorporates a four-stage approach to management of invasive species:

1. to prevent the entry of new high risk invasive species,
2. eradicate those that are at an early stage of establishment,
3. contain where possible species that are beyond eradication, and
4. take an asset-based approach to managing widespread invasive species

The approach relies on building a common understanding of the roles and responsibilities of key stakeholders and the recognition that community-led action and support and the engagement of key stakeholders are essential to complement the roles of land and natural resource managers.

The VSTWP's approach to supporting communities to manage serrated tussock is consistent with the state policy.

**Catchment and Land Protection Act 1994** – The Act is Victoria's primary legislation for invasive plants and animals. The Act requires all land owners, including the Crown, public authorities and licensees of Crown lands, in relation to their land, to take all reasonable steps to eradicate *regionally prohibited* weeds and prevent the growth and spread of *regionally controlled* weeds.

The VSTWP delivers its targeted landholder extension program with best practice information and assistance to help landholders in the long-term management of serrated tussock. The program is complementary to the role of the Victorian government which is responsible for land owner compliance with the legislation.

**Weeds of National Significance Serrated Tussock Strategic Plan** – Developed in 2000, this national strategy provided a framework for the management of serrated tussock in Australia. It described the threat posed by serrated tussock to Australia's grazing industries and environmental values and set three objectives:

- Best management practices to reduce serrated tussock are available and adopted
- The impact of serrated tussock is minimised
- Communities will embrace their own serrated tussock management plans

These objectives align with the intent of the VSTWP's strategy. The third objective reflects the importance of supporting communities to take responsibility for the management of serrated tussock. This intent underpins much of the approach taken by the VSTWP.

The national strategy noted that the approach to managing the weed will be different between the two extremes, from where serrated tussock is early in the invasion process, to where it is extensively established over landscapes. This challenge exists now in Victoria, for example the historic core area compared to lightly infested areas in northern Victoria, and is addressed in the new VSTWP strategy.





# 6 FIVE-YEAR STRATEGIC APPROACH

## GOAL

A reduced impact of serrated tussock on Victoria’s economy, environment and communities.

## OBJECTIVES

- 1. Build community capability to prevent and manage serrated tussock.
- 2. Reduce the current impact of serrated tussock on affected communities.
- 3. Restrict the establishment and spread of serrated tussock in Victoria.

## STRATEGIC ACTIONS

There are five sets of actions grouped as follows:

- A. Impact reduction
- B. Restricting establishment and spread
- C. Pathways management
- D. Collaboration, research and innovation
- E. Governance

## STRATEGIC ACTIONS:

### Strategic Actions – Impact reduction

This set of actions seeks to support communities experiencing heavy infestations to reduce the impact on agricultural, social and environmental values. Areas which fall into this set of actions include the traditional ‘Core’ located between Geelong, Ballarat and Melbourne. It aims to increase the level of landholder management of serrated tussock within defined group areas. The support provided by the VSTWP will be complementary to the compliance role of the Victorian government.

#### Actions:

- 1.1 Design and implement a targeted community extension program to assist community groups increase the level of serrated tussock control and the adoption of land management practices that integrate weed management.
- 1.2 Prioritise delivery of the extension program based on level of community action, the likelihood of success and value for money.
- 1.3 Coordinating the involvement of land managers, both private and public, as well as industry and government will be led by the VSTWP.

#### Outcome:

The impact of serrated tussock on local communities is reduced to more manageable levels.

### Strategic Actions – Restricting establishment and spread

This set of actions seeks to support communities that have relatively low levels of serrated tussock and/or are at risk of infestation. It aims to raise awareness, build early detection capability and improve knowledge of prevention and control practices. Areas which fall into this set of actions include the communities on the perimeter of the traditional ‘Core’, as well as communities in Gippsland, northern and western Victoria.

#### Actions:

- 2.1 Use a risk-based approach to determine priorities for community support that considers the potential threat and the likelihood of success.
- 2.2 Design and implement a targeted community awareness and education program to assist community groups increase their awareness and ability to identify and manage serrated tussock.

- 2.3 Trial the use of different delivery mechanisms, such as short-term contractors or local government programs, to deliver community support activities in low infestation and at-risk areas.
- 2.4 Ensure that programs are coordinated across land managers, both private and public, as well as industry and government.

#### Outcome:

Communities are informed and motivated to prevent, manage and restrict the spread of serrated tussock.

### Strategic Actions – Pathways management

This set of actions seeks to ensure that the main pathways of spread are identified, and those involved in their management are informed about the importance of minimising the risk of spread. Addressing this issue on a statewide basis will require a structured approach over the five-year life of this strategy.

#### Actions:

- 3.1 Use a risk-based approach to determine the pathways that pose the biggest risk for serrated tussock spread, eg. linear reserves, fodder, livestock movement, weather patterns and wind direction at time of seeding.
- 3.2 Design and implement a targeted awareness and education program aimed at relevant land managers, community groups, contractors, organisations and government agencies.
- 3.3 Develop and disseminate information materials tailored for different pathways and audiences.

#### Outcome:

The community and key partners are informed about the main pathways of spread and understand methods for managing them.

**Strategic Actions – Collaboration, research and innovation**

The VSTWP will provide leadership in promoting a collaborative approach to serrated tussock control. This role recognises the need for the VSTWP to help maintain awareness and motivation among stakeholders. Communities need to be aware of the VSTWP to take advantage of the expertise and resources it provides.

There is a need to strengthen collaboration between the VSTWP and the biosecurity program of the Victorian Government to improve effectiveness of service delivery and community support activities.

The VSTWP will also continue to facilitate research opportunities to address barriers to effective management such as the challenge of motivating disengaged landowners. The emerging use of technology, such as robotics and drones, will also be explored to identify innovative ways to improve the effectiveness and efficiency of serrated tussock surveillance and control.

**Actions:**

- 4.1 Update the VSTWP communications and engagement plan to align with this strategy and, where necessary, develop additional information resources and update the website.
- 4.2 Establish a regular communication arrangement with the Victorian government (biosecurity) to share information about progress on activities and future plans for serrated tussock management.
- 4.3 Seek to align strategic priorities between the VSTWP, Agriculture Victoria and Local Government through the community-led approach.
- 4.4 Convene regionally-based meetings with stakeholders to raise awareness of the role of VSTWP and to identify the needs and importance of stakeholders to manage serrated tussock, eg. Gippsland, south west Victoria, central Victoria, north east Victoria.
- 4.5 Continue to seek opportunities for collaboration with other community pest management groups to assist achievement of this strategy, eg. presence at field days, joint research projects, co-funded extension projects, sharing administrative processes.
- 4.6 Participate in relevant weed industry events and conferences to stay abreast of new and emerging technology and other advances in weed control.
- 4.7 Incorporate the findings from applied science and social research, eg. motivating disengaged landowners, in to the approaches and activities of the VSTWP.

**Outcome:**

Collaborative approaches established between key stakeholders to address serrated tussock management.

**Strategic Actions – Governance**

Having a statewide focus means the VSTWP needs to have a sound understanding of the stakeholders and networks within the various areas across the state affected by serrated tussock. The committee should continue to ensure it has reasonable geographic coverage, as well as the necessary governance expertise.

The VSTWP will prepare an annual plan to guide delivery of the strategy. This enables the VSTWP to adapt its activities and allocation of resources according to any changes, including funding, over the life of the strategy.

**Actions:**

- 5.1 Ensure that membership of the committee of the VSTWP combines adequate understanding of serrated tussock across Victoria as well as necessary governance expertise.
- 5.2 Establish effective working partnerships with stakeholders in the relevant regions of Victoria.
- 5.3 Prepare an annual plan that allocates resources across the actions of the strategy and aligns with the requirements of any funding agreement.
- 5.4 Build evaluation processes into projects and activities as part of a continuous improvement culture, eg. Stakeholder engagement, extension projects.
- 5.5 Assess options for convening committee meetings that make it efficient for committee members to participate.
- 5.6 Seek opportunities to attract additional sources of funding from government and any other relevant investment streams
- 5.7 Manage and report on, as required, the funding agreement with the Victorian Government, and any other funding sources.

**Outcome:**

Implementation of the Strategy is underpinned by an annual planning and review process.



## 7 MEASURING PROGRESS

### PROGRESS AGAINST THIS STRATEGY WILL BE ASSESSED THROUGH:

An annual review to gauge progress against the work plan and identify areas for improvement

Ongoing reporting of progress against actions at committee meetings

An end-of-strategy evaluation that aggregates the annual reviews.



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