

# TUSSOCK TIMES

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## A NEW STRATEGY FOR SERRATED TUSSOCK

The Victorian Serrated Tussock Working Party (VSTWP) is proud to announce the release of a new serrated tussock strategy.

The *Victorian Serrated Tussock Strategy 2012-2017* was launched by Agriculture and Food Security Minister Peter Walsh on the 2<sup>nd</sup> March 2012 at Yaloak Estate.

Controlling the spread of serrated tussock in Victoria to reduce the impacts on the economy, society and the environment is the vision of this new strategy which endorses a community led

approach to the management of serrated tussock.

The *Victorian Serrated Tussock Strategy 2012-2017* was developed by the working party with the support of the Department of Primary Industries.

This new strategy identifies the essential partnerships between community, governments, industry groups and other stakeholders that are required to actively manage this invasive species.

*Read more about the launch of the Victorian Serrated Tussock Strategy 2012-2017 inside.*



# A NEW STRATEGY FOR SERRATED TUSSOCK

## continued

The four main objectives of this strategy are to:

- Ensure early detection capabilities are in place and outlying infestations are managed.
- Strategically manage existing infestations.
- Effectively inform and manage pathways of spread to minimise the weed's proliferation.
- Increase the capability and willingness to manage serrated tussock.

Ensuring the integrated, coordinated and strategic management of serrated tussock, the development of an early detection network, increasing the capabilities to address serrated tussock and research into new control mechanisms are additional outcomes the strategy hopes to achieve over the next five years.

The *Victorian Serrated Tussock Strategy 2012 – 2017* builds on the successes of the previous strategy, which included movement to a containment approach, new resources for land managers and an overall decrease in the density of serrated tussock within the core infested area.

The cover of the new strategy shows two images, one which may look familiar. The top image appeared on the previous serrated tussock strategy *Intensifying the attack on serrated tussock* and was taken in 2004 at Yaloak Estate in the Rowsley Valley.



The lower image is of the same landscape after a considerable serrated tussock management program and shows the successful outcomes from the previous strategy.

*The Victorian Serrated Tussock Strategy 2012 - 2017 is now available and copies can be downloaded from the working party's website [www.serratedtussock.com](http://www.serratedtussock.com) Limited printed copies will also be available from the Victorian Serrated Tussock Working Party.*

*Further reading on Yaloak Estate's successful serrated tussock management program can be found on page 11.*

## VSTWP WELCOMES...

The Victorian Serrated Tussock Working Party would like to warmly welcome Virginia Lawrence.

Virginia has recently joined the working party as the role of treasurer and brings valuable financial experience as well as insights as an Anakie landowner familiar with serrated tussock management.

Currently the president of the Anakie Tree Planting Group and a previous Landcare Coordinator within the areas of Anakie, Maude, Steiglitz, She Oaks, Corio, and

Werribee River, Virginia recognises the importance of good land management in the region.

Virginia works as an Office Manager for Abbeyfield Australia, a not-for-profit community housing provider and as a Business Services Officer at DPI Bacchus Marsh. She also has a passion for all things horses.

We look forward to working with Virginia into the future.



# LONG TERM INTEGRATED MANAGEMENT OF SERRATED TUSSOCK IS THE KEY FOR NMIT

**Northern Melbourne Institute of Tafe (NMIT) is finding success in controlling serrated tussock on its Northern Lodge Yan Yean Training Facility in Whittlesea with support from the Department of Primary Industries (DPI).**

Using a combination of management techniques with a long term focus, Farm Manager Patrick Heaphy has had success controlling the dense infestation of serrated tussock on the property that NMIT acquired three years ago.

Mr Heaphy was given advice on preparing a strategic management plan from DPI Biosecurity Officer Gerry O'Keeffe as part of the DPI serrated tussock program.

The DPI serrated tussock program includes the containment of serrated tussock, management of isolated infestations and reduction of pathways of spread. This is achieved through the delivery of extension and compliance programs.

The Whittlesea area is a priority for serrated tussock management as it forms a part of a containment line established to contain serrated tussock to the core infestation. DPI have been working with landowners to control serrated tussock in Whittlesea for three years and are seeing a high rate of voluntary compliance and control works completed to a high standard.

Acting on the advice provided by Mr O'Keeffe, Mr Heaphy said "a lot of work went in early to controlling the serrated tussock and we are now continuing with

back up work." Mr Heaphy, with help from Assistant Farm Manager Lauren Weeks, used an integrated approach of spraying and out-competing the serrated tussock through cropping and pasture establishment.

Spraying the serrated tussock was the initial step in control, followed by sowing an oat crop to out-compete any emerging serrated tussock.

The area was then grazed to allow Mr Heaphy and Ms Weeks to identify and spray any emerging serrated tussock plants. This year grass has been sown to continue to provide competition to serrated tussock.

On the serrated tussock management work NMIT has done on the Whittlesea property, Mr O'Keeffe said "the department and NMIT have worked cooperatively to achieve an outstanding turnaround in both serrated tussock infestations and farm productivity."

Mr Heaphy's advice to other landowners in faced with a large infestation of serrated tussock is to attack it early with the help of a strategic and integrated management plan. "The smartest thing was to hit the plants early because it [serrated tussock] is such an abundant seed producer" Mr Heaphy added.



Serrated tussock plants were abundant on the Whittlesea property when it was acquired by NMIT three years ago.

# WHERE DID THAT SEED GO?

**In some parts of Victoria, large collections of serrated tussock seed heads are common sight during the warmer parts of the year.**

The serrated tussock plant produces seed heads that break off at the base and are well adapted to spreading by wind. With each plant having the potential to produce over 100 000 seeds, large infestations can easily produce masses of seed heads. These increase the seed bank, can germinate new infestations, and can become a fire risk.

While wind spread seeds are often contained to within half a kilometre of the plant they came from, wind can sometimes carry the seeds up to 20 km away. However, there are ways in which the seeds of serrated tussock and other noxious weeds can spread further.

Vehicles and machinery and animals that pass through a serrated tussock infested area can collect seeds and transport them to non-infested areas. Flowing water, such as creeks, rivers, water channels and floods can move seed downstream and spread an infestation of serrated tussock.

Serrated tussock seeds can also be transported to uninfested areas through soil, stock feed or produce movement. Soil, crops, hay, silage, grain or seed can travel long distances from their source and take with them serrated tussock seeds, potentially starting a new infestation.

Vehicles, machinery, animals, stock feed and produce, soil, and water are all pathways that can spread weed seeds. Precautions to help prevent weed spread can include vehicle and machinery hygiene, removing serrated tussock from around watercourses, avoiding the movement of soil off an infected property and sourcing fodder and seed from a weed free source.

*Read below how flood waters in the Wimmera have spread serrated tussock.*

## WIMMERA FLOODS RESULT IN SERRATED TUSSOCK SPREAD

**Floods have provided a pathway of spread for serrated tussock in the Wimmera region.**

Department of Primary Industries (DPI) officers have located a new infestation of serrated tussock plants in an eroded gully system down stream from existing serrated tussock infestations.

The increased water flow in the area has caused serrated tussock to spread further on one property already dealing with serrated tussock and also on to a new property, previously unknown to have serrated tussock.

DPI Ararat Biosecurity Officer Brian Howlett explained that before the most recent discovery of new serrated tussock plants, the weed had been found in over 1200 hectares at Glenorchy, Landsborough, Stawell and Armstrong.

To support community led action to control serrated tussock in the area, DPI has inspected 27 properties and issued three Land Management Notices. "All landowners had complied with their legal duties this year and treated all known infested sites" Mr Howlett said.

This example highlights the requirement for all land managers in flood affected areas to be diligent in the lookout for new weed infestations.



Floods in the Wimmera region have spread serrated tussock.

# EARTH MOVERS ARE MOVING ON WEED SPREAD PREVENTION

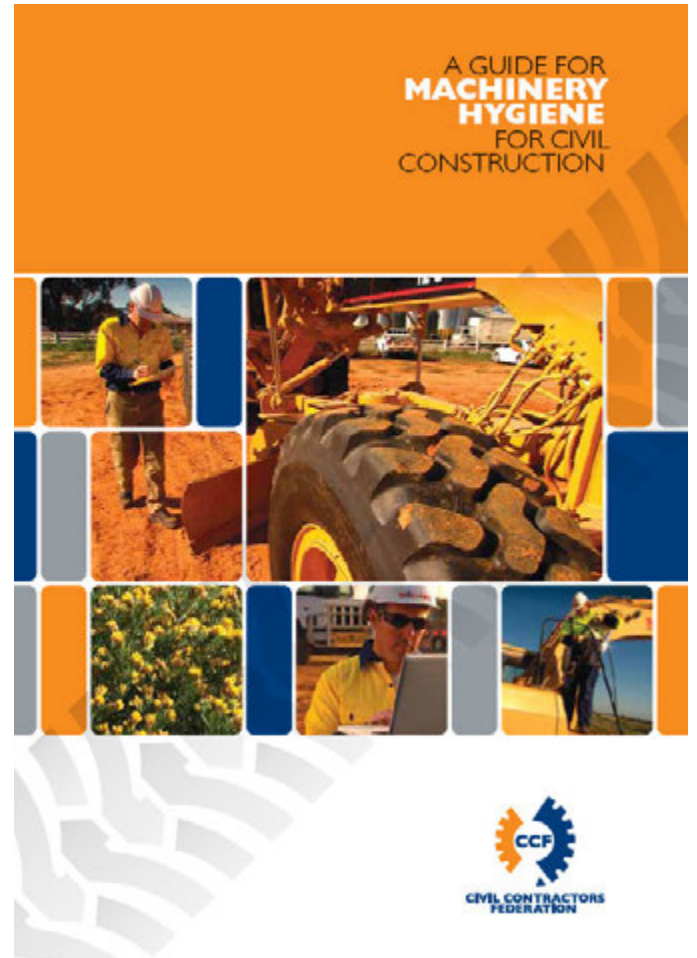
The Civil Contractors Federation (CCF) has taken the lead on preventing weed spread within the earth moving industry.

In partnership with the Department of Primary Industries (DPI), Department of Sustainability and Environment (DSE), VicRoads and the Association of Land Development Engineers, the CCF has launched a new machinery hygiene code of practice and e-learning program for members.

These products have been tailored to the civil construction industry and will equip contractors with the skills to implement best practice weed management and machinery hygiene.

Weeds, including serrated tussock, and plant diseases are a serious threat to the environment, the community, and agricultural systems and can be spread by unhygienic vehicle and machinery practices.

DPI Director for Invasive Plants and Animals Operations John Balfour said the project had successfully demonstrated the benefits of industry and government working together. "By working together we can successfully prevent the introduction and spread of invasive plants in Victoria" Mr Balfour said.



The new machinery hygiene code of practice

*The code of practice is available on the Civil Contractors Federation website. The e-learning program will be made available on the website from the end of March. For more information please visit [www.civilcontractors.com](http://www.civilcontractors.com)*



Vehicle and machinery hygiene practices prevent the spread of plant diseases and noxious weeds. Images courtesy of CCF: A guide for Machinery Hygiene for Civil Construction, 2011.



# IDENTIFYING SERRATED TUSSOCK

**Being similar in appearance to many native tussock species, serrated tussock can often go unnoticed in pastures and native grasslands.**

Unidentified serrated tussock plants may grow and spread for many years until significant infestations have developed.

Accurate identification of serrated tussock can enable timely and efficient treatment of serrated tussock, preventing large infestations that threaten environmental, agricultural, and social assets.

See the boxes below for some distinguishing features of serrated tussock that can help with identification.

## LEAVES

The leaves of serrated tussock are thin, tightly rolled and up to 50 cm long, emerging from the base of the plant.

The leaves are finely serrated and can be felt if a thumb and finger are carefully pulled along the leaves from tip to base.

When serrated tussock leaves are rolled between the index finger and thumb, they roll smoothly, like a needle.

Other species of tussock grasses, including natives, often feel like they have flat edges and do not roll smoothly.



## SEEDS

Each seed of serrated tussock is 1.5 to 2 mm long and enclosed in two reddish-brown or purple bracts (glumes), 6 to 10 mm long, which taper gradually to a point.

The seed has a tuft of short, white, and silky hairs at one end and a long, twisted awn at the other end.

The awn is attached to the seed off centre and its length in Victoria can be up to 35 mm long.

The flowering heads of serrated tussock can be up to 95 cm long and will eventually weep over the entire plant when the seeds are ripe.

After this stage, the multi-branched stem will break off from the base of the plant.



## COLOUR

Serrated tussock changes colour with the seasons.

In late spring and early summer, serrated tussock appears purple due to the flowering seed heads. By the end of summer, the seeds ripen and the flower heads change from purple to a golden brown colour with a light green tussock base.

During summer, serrated tussock is a light green colour, often standing out when other grass species have browned off.

In frost-prone areas, the tussocks are bleached a golden-yellow colour by frost during late autumn and winter.



## LIGULE



The ligule is a membranous or hairy appendage that occurs at the junction where the leaf separated from the stem.

To find the ligule in serrated tussock, trace down a leaf to its junction with the stem. Carefully separate and bend the leaf back. The ligule will protrude from this junction.

The ligule of serrated tussock is small (1 mm long), white, has a rounded tip, and never hairy. Most serrated tussock look-a-likes have hairy ligules.

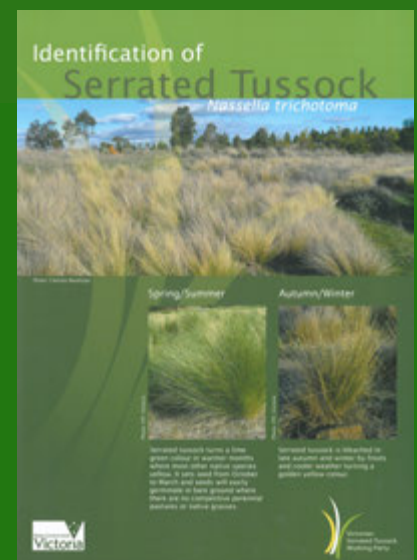
# UPDATED IDENTIFICATION GUIDE

The Victorian Serrated Tussock Working Party has updated their serrated tussock identification guide.

The guide provides information on identifying features of the serrated tussock plant, as well as a useful table that compares characteristics of serrated tussock to other invasive and native look-a-like species.

*For a copy of this identification guide, please contact Alison Head, Serrated Tussock Community Engagement Officer on 5366 0028 or [alison.head@dpi.vic.gov.au](mailto:alison.head@dpi.vic.gov.au).*

*The guide is also available for download at the Victorian Serrated Tussock Working Party's website: [www.serratedtussock.com](http://www.serratedtussock.com)*



# PARTNERSHIP PROTECTS THREATENED GRASSLANDS FROM SERRATED TUSSOCK

**It's good news for threatened species of the Victorian Volcanic Grasslands west of Melbourne. The Western Melbourne Catchments Network (WMCN) in partnership with the Victorian Serrated Tussock Working Party is helping to protect these vital environmental assets from the serious impacts that serrated tussock can have.**

The WMCN with the VSTWP is embarking on the design and implementation of a strategic serrated tussock management plan to control serrated tussock across the 15,000 hectares of the Western Grassland Reserves.

Supported through funding secured from the Department of Sustainability and Environment, the next six month period will involve activities to collect, collate and verify weed distribution and management practices.

Project Leader Mandy Coulson said "the Western Melbourne Catchments Network is embarking on landowner extension activities and gathering a history of the area to gain an accurate picture of the current serrated tussock situation."

The research activities by the WMCN and VSTWP will assist in the production of a serrated tussock management plan for the Western Grassland Reserves.

The Western Grassland Reserves is 15,000 hectares of land that has been set aside by the Victorian Government to offset the ecological impact of urban growth in Melbourne's north and west. The reserves will make up the world's largest concentration of Volcanic Plains Grasslands and provide habitat for rare and endangered species such as the Striped Legless Lizard and the Golden Sun Moth.

*For more information on the Western Melbourne Catchments Network's involvement with the Western Grassland Reserves, please contact Mandy Coulson, Western Grassland Reserves Project Leader on 0488 526 123.*

## RESEARCHERS REQUIRE LAND MANAGEMENT MOTIVATIONS

**Researchers at the University of Queensland are looking for assistance from land managers dealing with serrated tussock.**

The University of Queensland project is looking at how different motivations and actions of many land managers can affect weed spread over a landscape with the aim to discover how economic and social aspects of weed management, along with ecological limitations, change the distribution and landscape-wide impact of a weed.

The first year of the research, funded by the Rural Industries Research and Development Corporation focuses on interviewing land managers about how they control serrated tussock and what their motivations are

for doing so.

If you are able to help this research a general survey can be undertaken on the internet, or a more detailed interview can be arranged by contacting Shaun Coutts. All interview results are anonymous.

Results of the first stage of the project will be available at the end May, 2012.

*To find out more information or to arrange an interview, contact Shaun Coutts on (07) 334 69 006 or email [s.coutts@uq.edu.au](mailto:s.coutts@uq.edu.au)*

*The online survey can be found at: [https://www.surveymonkey.com/s/serrated\\_tussock](https://www.surveymonkey.com/s/serrated_tussock)*



# CORANGAMITE CONTAINING SERRATED TUSSOCK

Louise Hanigan  
Department of Primary Industries, Geelong

**For many in the Geelong, Bacchus Marsh and the Western Melbourne region, the invasive weed serrated tussock is known too well.**

The Department of Primary Industries (DPI) has worked with landholders and community groups in this area in the past to ensure that there has been effective management of the weed.

Since 2007, DPI has been developing a containment line to reduce the spread of serrated tussock into clean areas of the Corangamite catchment and effectively reducing the potential spread outwards to neighbouring catchments where serrated tussock is known only to occur in a small number of locations.

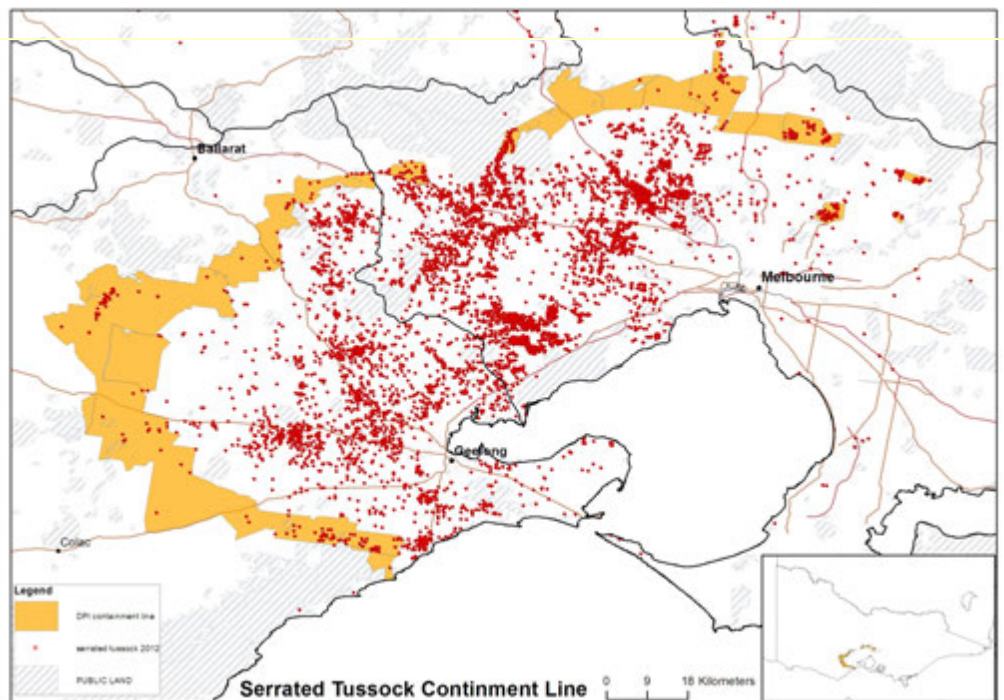
DPI Biosecurity Area Leader for Corangamite Craig Clutterbuck said 'it is important to restrict the further spread of serrated tussock into clean areas rather than only consolidate our efforts in a single core area ... by effectively managing a containment approach, communities outside the line both within Corangamite and in other catchments may benefit from the reduced risk of infestation.'

The containment line is an area of land largely free of serrated tussock situated outside the known infested areas and encompassing

several satellite infestations. The containment line runs through Bellbrae, Eurack, Cressy, Rokewood, Mt Mercer, and up to Mt Egerton. DPI has engaged with landholders in these areas assisting them with identification of serrated tussock, management techniques and informing on potential pathways of spread.

In total over 70 properties within the containment line were found to have mostly small serrated tussock infestations. Now, with the cooperation and commitment of landholders, each infestation has been reduced by more than 95%. The landholders in these communities and beyond will benefit from the greatly reduced capacity for serrated tussock to establish in these communities.

The final stages of completing the containment line are now drawing to a close, and although this is by no means the end of serrated tussock management in these communities, it allows for a sense of accomplishment for everyone involved that for the moment the spread of serrated tussock is confined to the established infestations closer to Geelong and Melbourne.



The DPI Serrated Tussock Containment Line  
*The Containment line is shaded in orange, while properties with serrated tussock infestations are marked in red.* Source: DPI 2012.

# SERRATED TUSSOCK MANAGEMENT: AN ALL YEAR ROUND APPROACH

Greg Trezise  
Department of Primary Industries, Geelong

**Serrated tussock is a declared noxious weed, which has detrimental impacts on the environment and agriculture.**

A perennial grass and a prolific seeder (mature plants can produce up to 100,000 seeds), serrated tussock can grow up to approximately 60cm in height and will grow in almost any climatic condition and soil dynamics. As such, it has already established itself over large areas around Geelong and areas western and north of Melbourne.

Due to the extreme invasiveness of serrated tussock, control and management should be undertaken as an all year round approach.

With the seasons changing, native and pasture grasses reducing in length and colouration, it is now the ideal

time to be checking paddocks and surrounding areas for infestations of serrated tussock. Staying a lime green colour throughout the summer months, serrated tussock can appear as a complete contrast to surrounding native vegetation, making identification a somewhat simpler task.

The control methods adopted may vary, depending on the size of the infestation, however an integrated approach (a combination of control methods) is necessary for long term control.

Control methods may include mechanical removal with a mattock, use of a herbicide, cultivation, and maintaining good pastures to establish competition against serrated tussock establishment. The addition of tree rows on fences can also act as a barrier to prevent seed blowing onto your property.

Whilst undertaking serrated tussock control, it is important to become familiar with typical dispersal methods of serrated tussock. Seed is mostly dispersed by wind, but it can also be spread by contaminated vehicles and machinery equipment, livestock feed, fodder, animals, and water.

To compliment previous successes and efforts on your property and by others in the community (neighbours), it is vital that follow up works are undertaken to effectively control the spread and density of serrated tussock. Follow up control works are also important to reduce the stored seed bank of serrated tussock.

**Serrated Tussock** *Nassella trichotoma*  
Annual Control Calendar

For further information go to:  
[www.serratedtussock.com](http://www.serratedtussock.com) or call the  
Department of Primary Industries on 136 186

	Spring			Summer			Autumn			Winter		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Germination												
Seed formation and flowering												
Seed drop												
Spraying with glyphosate											#	
Spraying with flupropanate								⊠				Δ
Spray topping	¥											
Cultivation												
Pasture establishment and renovation								§				

General pattern or growth or optimum time for using the control method stated.
  Growth pattern or control methods under favourable conditions.\*

\* Favourable conditions generally mean high soil fertility and following periods of significant rainfall or soil disturbance.  
 # Spot spray any time of the year when serrated tussock plants are green and actively growing. Best in May-Oct.  
 ⊠ Apply Flupropanate during the vegetative stage of growth to allow sufficient time for herbicide to take effect prior to flowering. This may be at least three months.  
 Δ Spraying flupropanate after June may not prevent serrated tussock from flowering.  
 ¥ Spray to stop seed formation.  
 § Continued cultivation kills serrated tussock plants. Time and sowing will vary depending on crop type and rainfall. Spot spray fence line and areas that can't be cultivated.  
 Pasture establishment and renovation: Sow a competitive pasture when sufficient moisture is available for the long-term control of serrated tussock.

**NOTE:** The timing of different stages can vary depending on rainfall, temperature and soil fertility. This annual control calendar is based on Victorian data.

This project is supported by funding from the Port Phillip and Westernport Catchment Management Authority's Community Grants Program.

# TUSSOCK TURN-AROUND IN INFESTED GORGE

**A property south of Ballan has achieved a staggering 700 to 900 percent increase in carrying capacity in its gorge areas by controlling dense infestations of serrated tussock.**

Yaloak Estate, a 5,600 hectare prime lamb property situated about 10 kilometres south of Ballan, once had dense infestations of serrated tussock on its steep sloping gorges. These gorge areas were ungrazable with a carrying capacity of only 1 dry sheep equivalent (DSE).

As a result, Yaloak Estate undertook a five year major development program of the gorges, redeveloping over 1,500 hectares of serrated tussock infested land into perennial pastures or forest.

Yaloak Estate carried out an integrated approach to serrated tussock management as part of their Gorge Development Program. Serrated tussock was controlled through a combination of herbicide use and creating competition through pasture and forestry.

Site preparation through burning allowed the land managers to study the topography of the landscape and make strategic decisions about what areas would be developed into pastures.



Yaloak Estate direct drilled pastures to build a competitive ground cover.

Source: J. Sheehan



Yaloak Estate gorge areas were covered in dense infestations of serrated tussock before the Gorge Development Program.

Source: J. Sheehan

The use of perennial pastures has broken the growth cycle of serrated tussock and has halted the continual re-invasion of treated areas by wind blown seed by providing a strong competitive ground cover. The areas that were unsuitable for pasture were planted as farm forestry or native species.

The Gorge Development Program has delivered a fundamental and long-term change to the property that has dramatically increased productivity and asset value and will reduce pasture maintenance costs and secure the livestock business into the future. Preventing the amount of windblown serrated tussock seed off the property will also benefit neighbouring properties.

This project has not in itself rid Yaloak Estate of tussock forever. It will however reduce it to a point where ongoing maintenance will allow any reinvasion of serrated tussock to be contained.

The success of this project can be seen on the before and after photos seen on the cover of the *Victorian Serrated Tussock Strategy 2012 – 2017*. This hillside on Yaloak Estate that has undergone significant landscape improvement as a result of the Gorge Development Project



# \$19,800 TOWARDS SERRATED TUSSOCK COMMUNITY LED ACTION

**Community groups working to reduce distribution and density of serrated tussock in Victoria will soon have the opportunity to apply for small grants to deliver extension and educational activities.**

Small financial grants will be offered to community groups managing serrated tussock in the Port Phillip and Westernport and Corangamite Catchments to deliver localised extension programs with the vision to increase voluntary management of serrated tussock on private land. The Victorian Serrated Tussock Working Party is excited to be offering these grants with the support of Caring for our Country Community Action Grants.

The aim of this funding is to contain core infestations, reduce the pathways of spread and manage isolated infestations of serrated tussock in these regions and build the capacity of communities to manage serrated tussock with minimal reliance on the Department of Primary Industries compliance programs.

Groups will be eligible to apply for funding for capacity building activities like field days, property visits to develop long term management plans, mapping infestations, developing partnerships and producing extension material.

***Community groups will need to apply to the Victorian Serrated Tussock Working Party for Funding of up to \$5000.***

## CONTRIBUTIONS AND FEEDBACK

Thank you to those who contributed to this edition of the Tussock Times.

The Victorian Serrated Tussock Working Party welcomes your contributions and feedback at any time.

For contributions, feedback or to be added to the mailing list, please contact:

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Email: [alison.head@dpi.vic.gov.au](mailto:alison.head@dpi.vic.gov.au)

*In our efforts to reduce the number of newsletters being printed if you currently receive a hardcopy of this newsletter but have access to email please send your email address to Alison .*

*More information on serrated tussock can be found on the Victorian Serrated Tussock Working Party website: [www.serratedtussock.com](http://www.serratedtussock.com) or at DPI online: [www.dpi.vic.gov.au](http://www.dpi.vic.gov.au) or by contacting DPI on 136 186.*

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