



FLORA & FAUNA  
GUARANTEE

FLORA AND FAUNA GUARANTEE - SCIENTIFIC ADVISORY COMMITTEE

FINAL RECOMMENDATION ON A NOMINATION FOR LISTING

Invasion of native vegetation communities by  
Tall Wheat-grass *Lophopyrum ponticum*  
(Potentially Threatening Process)

Date of receipt of the nomination: 23 April 2010  
Date of preliminary recommendation: 29 October 2010  
Date of final recommendation: 24 February 2011

File No.: FF/54/3237

**Validity:** The nomination is for a valid item

**Prescribed Information:** The prescribed information was provided.

Name of the Nominator is adequately provided.

**Name and Description of the process:**

In the opinion of the SAC the process is adequately defined and described.

The nominated process is defined as the 'Invasion of native vegetation communities by Tall Wheat-grass *Lophopyrum ponticum*'

Tall Wheat-grass is deep-rooted tussock-forming perennial grass to 2m tall native to southern and eastern Europe and western Asia. It has leaves up to 50cm long and 4-8 mm wide. The plant grows well in saline or waterlogged soils and has been planted for pasture, hay, soil protection and site reclamation. Tall Wheat-grass was originally imported into Australia from Turkey via the USA in the 1940s as a fodder crop (Lazarides *et al.* 1997) and for conservation of soils in saline areas (Virtue & Melland 2003).

The adaptability of Tall Wheat-grass to Australian conditions has meant that it poses a weed problem if not well managed. Once established it becomes very competitive with other (native) grasses. Forming tall tussocks it shades smaller plants excluding regeneration of most native plants and becoming a dominant biomass of vegetation (Virtue & Melland 2003). Tall Wheat-grass is known to be invasive in many countries, including in Australia's southern states (Weiss & Iaconis 2001). The plant has a wide ecological amplitude, invading saltmarsh, wetlands, grasslands, estuaries, waterways, roadsides and some woodlands and is tolerant of drought, frost, salinity, alkalinity and waterlogging. In Victoria, landholders have been encouraged to plant Tall Wheat-grass as a salt-tolerant pasture plant, especially in saline sites that are to be grazed for production (DPI 2002, 2007; Warrnambool Standard 2010). Recently, however, use of the plant in agriculture has been questioned due to its invasive nature (DPI 2005).

The Future Farm Industries Cooperative Research Centre's weed risk assessment determined that Tall Wheat-grass posed a 'very high' environmental weed risk in Victoria and is now not recommending its use in Victoria. For South Australia, New South Wales and Western Australia the weed risk assessment outcome for Tall Wheat-grass was classified as 'high'.

Tall Wheat-grass is specifically mentioned as a threat in the Action Statements or National Recovery Plans for the Curly Sedge *Carex tasmanica* (Carter 2010), Salt-lake Tussock-grass *Poa sallacustris* (Carter 2006), Spiny Rice-flower *Pimelea spinescens* ssp. *spinescens* (DSE 2008), Adamson's Blown-grass *Lachnagrostis adamsonii* (Murphy 2009) and Orange-bellied Parrot *Neophema chrysogaster* (Orange-bellied Parrot Recovery Team 2006, Menkhorst 2007).

Furthermore, Tall Wheat-grass provides harbour for introduced pest animals such as the Red Fox *Vulpes vulpes* and European Rabbit *Oryctolagus cuniculus*. Both these items are specifically listed as threats in Victoria and Flora and Fauna Guarantee Action Statements have been compiled to address the conservation problems they cause.

As a result of the grass's pastoral values for salt-affected areas, it has not yet been declared a noxious weed in Victoria although various Victorian government reports list the species as a weed of major significance (eg. Carr *et al.* 1992, ENRC 1998, DSE 2009b). The threat of Tall Wheat-grass invasion on biodiversity is poorly recognised with little management where the species is invading natural ecosystems.

The nomination argued that Tall Wheat-grass was a threat or potential threat to numerous rare or threatened Victorian species (see Table 1). Tall Wheat-grass is currently invading areas known to contain listed plant species: Spiny Pepper-cress *Lepidium aschersonii* at Lake Corangamite Lake Reserve and Lake Beeac Lake Reserve (Australian Government undated.). The plant is also invading areas of known habitat for the Corangamite Water Skink *Eulamprus tympanum* and Striped Legless Lizard *Delma impar* in the Victorian Volcanic Plain. The rate of this invasion has significantly increased over the past few years (G. Peterson *pers. comm.* 2009).

The nomination also argued that Victorian saltmarshes and wetlands were threatened by Tall Wheat-grass invasion. In Victoria Tall Wheat-grass has been recorded growing adjacent to coastal saltmarshes among mixed agricultural pastures and areas of native rushes (Sea Rush *Juncus kraussii* ssp. *australiensis* and Knobby Club-sedge *Ficinia nodosa*). Saltmarshes dominated by Beaded Glasswort *Sarcocornia quinqueflora* and adjacent pastures are the preferred winter feeding habitat of the Critically Endangered Orange-bellied Parrot *Neophema chrysogaster*. Orange-bellied Parrots prefer to feed in areas where food plants are patchy, interspersed with areas of bare ground and taller rushes (G. Ehmke, C. Tzaros Birds Australia, *unpub. data*).

Tall Wheat-grass has invaded these habitats to form thick swathes where it has eliminated large areas of Orange-bellied Parrot feeding habitat components (R. Sims *pers. comm.*, McMahon *et al.* 1994).

*L. ponticum* has recently been identified as the most serious invasive weed of upper and mid-level saltmarshes in both coastal and inland areas in southeastern Australia, which could result in almost complete elimination of these ecological communities in many areas (Victorian Saltmarsh Study 2010). Once Tall Wheat-grass is established in or adjacent to saltmarshes the likelihood of fire increases (Virtue & Melland 2003). It is also a serious threat to saline and subsaline wetlands, including numerous Ramsar-listed sites (Victorian Saltmarsh Study 2010).

Thus a displacement of native vegetation and/or habitat degradation or loss occurs, causing a reduction in the natural diversity of the vegetation and wildlife.

- The nominated process currently has an impact across much of western Victoria.
- There is evidence that a number of flora species and the habitat of a number of threatened animal species, are adversely affected by the nominated process (Table 1).

The range of flora or fauna affected or potentially affected was adequately stated in the nomination.

Significance of the threat which the potentially threatening process poses or has the potential to pose was adequately stated in the nomination.

**Table 1:** Victorian species and communities and their status under the *Flora and Fauna Guarantee Act 1988* where *Lophopyrum ponticum* invasion is a considered a known or potential threat. (\* = newly described species, # = listed as 'Western (Basalt) Plains Grasslands Community').

Community / Species	Common name	FFG Act	DSE 2005/ 2007 EPBC Act
<b>Flora communities</b>			
Natural Temperate Grassland of the Victorian Volcanic Plain		Listed #	CE
Grassy Eucalypt Woodland of the Victorian Volcanic Plain		-	CE
<b>Flora</b>			
<i>Lepidium aschersonii</i>	Spiny Peppergrass	Listed	V/e
<i>Poa physocline</i> *	Wind-blown Tussock-grass	nominated	ce
<i>Poa sallacustris</i>	Salt-lake Tussock-grass	Listed	V/v
<b>Fauna</b>			
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	Listed	ce

#### Eligibility for listing as a potentially threatening process under the Flora and Fauna Guarantee

The nominated item satisfies at least one criterion of the set of criteria prepared and maintained under Section 11 of the *Flora and Fauna Guarantee Act 1988*, and stated in Schedule 1 of the *Flora and Fauna Guarantee Regulations 2001*.

#### Evidence that criteria are satisfied:

**sub-criterion 5.1.1** *The potentially threatening process poses or has the potential to pose a significant threat to the survival of two or more taxa.*

##### Evidence:

At least three species of Victorian flora and fauna are threatened by the invasion of native vegetation communities by Tall Wheat-grass mainly through loss and alteration of habitat. Three of these are listed under the *Flora and Fauna Guarantee Act 1988*. A recently described rare native grass species *Poa physocline* is also likely to be threatened by Tall Wheat-grass as it occurs on the interface between grassland and saltmarsh around a small number of Western District Ramsar Lakes (Walsh 2008). Edges of these lakes are currently being invaded by Tall Wheat-grass.

**sub-criterion 5.1.2** *The potentially threatening process poses or has the potential to pose a significant threat to the survival of a community.*

##### Evidence:

Two EPBC Act-listed flora communities: 'Natural Temperate Grassland of the Victorian Volcanic Plain' and 'Grassy Eucalypt Woodland of the Victorian Volcanic Plain' in Victoria are thought to be threatened by the invasion of Tall Wheat-grass. These communities incorporate a number of nationally threatened species (25) and are among Australia's 15 National Biodiversity Hotspots. Upper Saltmarsh communities in Victoria are also threatened by Tall Wheat-grass invasion.

**Criterion 6.1** *A specifically defined item, the subject which is a subset or example of the subject matter of a more generally defined item which is listed, is eligible to be listed if it is of such significance that it warrants it being listed in its own right so that an action statement must be prepared specifically for the item.*

**Evidence:**

'The invasion of native vegetation by environmental weeds' has already been listed as a potentially threatening process (SAC 1996). However, the invasion of native vegetation communities by Tall Wheat-grass is such a widespread and significant problem ecologically in Victoria that it warrants being listed in its own right so that an action statement should be prepared specifically for the item.

**Additional Information**

- 'The invasion of native vegetation by environmental weeds' is listed in Victoria as a Potentially Threatening Process under the *Flora and Fauna Guarantee Act 1988*. This item was formally listed under the FFG Act in 1996.
- 'Invasion of native vegetation by Blackberry *Rubus fruticosus* L. agg.' (SAC 2005) is the only other introduced terrestrial weed to be listed separately under the Act.

**Advertisement for public comment**

In accordance with the requirements of Section 14 of the *Flora and Fauna Guarantee Act 1988*, the preliminary recommendation was advertised for a period of at least 30 days.

The preliminary recommendation was advertised in:

- 'The Herald Sun' - on 12 January 2011
- 'The Weekly Times' - on 12 January 2011
- Government Gazette* - on 13 January 2011

Submissions closed on 18 February 2011.

**Further evidence provided:**

Four submissions were received on this item, all supported the recommendation to list the potentially threatening process.

**Final Recommendation of the Scientific Advisory Committee**

The Scientific Advisory Committee concludes that on the evidence available the nominated item is eligible for listing in accordance with Section 11 of the Act because sub-criteria 5.1.1, 5.1.2 and primary criterion 6.1 have been satisfied. The SAC also concludes that no evidence exists to suggest that primary criterion 5.1 cannot be satisfied as a consequence of sub-criteria 5.1.1 or 5.1.2 being satisfied.

The Scientific Advisory Committee makes a final recommendation that the nominated item be added to the *Flora and Fauna Guarantee Act 1988*.

**Selected references:**

- Carr, G. W., Yugovic, J. V. & Robinson, K. E. (1992) *Environmental weed invasions in Victoria - Conservation and management implications*. Department of Conservation and Environment & Ecological Horticulture Pty. Ltd., Victoria.
- Carter, O. (2006) National Recovery Plan for the Salt-lake Tussock-grass *Poa sallacustris*. Department of Sustainability & Environment, Victoria. Internet document at:  
<http://www.environment.gov.au/biodiversity/threatened/publications/p-sallacustris.html>
- Carter, O. (2010) National Recovery Plan for the Curly Sedge *Carex tasmanica*. Department of Sustainability & Environment, Victoria. Internet document at:  
<http://www.environment.gov.au/biodiversity/threatened/publications/recovery/carex-tasmanica.html>
- DPI (2002) Establishing and managing Tall Wheat Grass in saline soils for productivity. Agriculture Notes, AG0707. Department of Primary Industries, Victoria. Internet document at: <http://www.dpi.vic.gov.au>
- DPI (2005) Tall Wheat Grass Review. Corangamite Region 2005. Department of Primary Industries, Victoria and Corangamite Catchment Management Authority.
- DPI (2007) Management of Tall Wheat Grass. Agriculture Notes, AG1287. Department of Primary Industries, Victoria. Internet document at: <http://www.dpi.vic.gov.au>
- DSE (2005) *Advisory List of Rare or Threatened Plants in Victoria - 2005*. Department of Sustainability & Environment, Victoria. Internet document at: <http://www.dse.vic.gov.au>
- DSE (2007) *Advisory List of Threatened Fauna in Victoria - 2007*. Department of Sustainability & Environment, Victoria. Internet document at: <http://www.dse.vic.gov.au>
- DSE (2008) Flora and Fauna Guarantee Action Statement no. 132: Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*. Department of Sustainability & Environment, Victoria. Internet document at: <http://www.dse.vic.gov.au>
- DSE (2009a) *Advisory List of Threatened Invertebrate Fauna in Victoria - 2009*. Department of Sustainability & Environment, Victoria. Internet document at: <http://www.dse.vic.gov.au>
- DSE (2009b) *Advisory List of environmental weeds of coastal plains and heathy forests bioregions of Victoria*. Department of Sustainability & Environment, Victoria. Internet document at: <http://www.dse.vic.gov.au>

ENRC (1998) *Report on Weeds in Victoria*. Environment and Natural Resources Committee, Parliament of Victoria. Government Printer, Melbourne. Internet document at:

<http://www.parliament.vic.gov.au/enrc/inquiries/old/enrc/weeds/ppp.htm>

Lazarides, M., Cowley, K. & Hohnen, P. (1997) *CSIRO Handbook of Australian Weeds*. CSIRO Publishing, Collingwood.

McMahon, A.R.G., Race, G.J. & Carr, G.W. (1994) Vegetation Survey and remote sensing of Victorian saltmarshes in relation to Orange-bellied Parrot (*Neophema chrysogaster*) habitat. Report by Ecology Australia for Department of Conservation and Natural Resources, Melbourne.

Menkhorst, P. (2007) Draft Revision Flora and Fauna Guarantee Action Statement No. 43. Orange-bellied Parrot *Neophema chrysogaster*. Department of Sustainability & Environment, East Melbourne.

Internet document at: <http://www.dse.vic.gov.au>

Murphy, A. (2009) *Draft National Recovery Plan for Adamson's Blown-grass Lachnagrostis adamsonii - 2009*. Department of Sustainability & Environment, Victoria. (Internet document)

Orange-bellied Parrot Recovery Team (2006) National recovery Plan for the Orange-bellied Parrot *Neophema Chrysogaster*. The Orange-bellied Parrot Recovery Team, Department of Primary Industries and Water, Hobart. Internet document at:

<http://www.environment.gov.au/biodiversity/threatened/publications/pubs/orange-bellied-parrot-recovery.pdf>

SAC (1996) Final Recommendation on a nomination for listing: 'The invasion of native vegetation by environmental weeds' (Potentially Threatening Process)(nomination no. 360). Flora and Fauna Guarantee Scientific Advisory Committee. Department of Natural Resources and Environment, Melbourne.

SAC (2005) Final Recommendation on a nomination for listing: 'Invasion of native vegetation by Blackberry *Rubus fruticosus* L. agg.' (Potentially Threatening Process)(nomination no. 733). Flora and Fauna Guarantee Scientific Advisory Committee. Department of Sustainability and Environment, Melbourne.

Victorian Saltmarsh Study (2010) *Mangroves and coastal saltmarsh of Victoria: distribution, condition, threats and management*. Institute for Sustainability and Innovation, Victoria University, Melbourne. (authors: Paul Boon, Tim Allen, Jennifer Brook, Geoff Carr, Doug Froud, Jasmine Hoye, Chris Harty, Andrew McMahon, Steve Mathews, Neville Rosengren, Steve Sinclair, Matt White & Jeff Yugovic).

Virtue, J.G. & Melland, R.L. (2003) *The environmental weed risk of revegetation and forestry plants*. Animal and Plant Control Commission; Department of Water, Land and Biodiversity Conservation & CRC for Australian Weed Management. Report DWLBC 2003-02, Government of South Australia. Internet document at: <http://www.dwlbc.sa.gov.au>

Walsh, N.G. (2008) A new species of Poa (Poaceae) from the Victorian Basalt Plain. *Muelleria* 26(2): 17-20.

Warrnambool Standard (2010) 'Wheat grass hedgerows boost lamb survival: Death Defying'. *Warrnambool Standard*, 27 May 2010: 1.

Weiss, J. & Iaconis, L. (2001) Tall wheat grass, *Lophopyrum ponticum*. An assessment of weed potential for Parks, Flora and Fauna Division. Frankston: Keith Turnbull Research Institute, Frankston. Victorian Department of Natural Resources and Environment.

#### Relevant websites:

Australian Government (undated) Business Plan 2010-11, Site Investment Plan. Caring for Country, Protecting Ramsar wetlands, site 9 Western District Lakes, Victoria (Australian Government) - <http://www.nrm.gov.au>

Future Farm Industries Cooperative Research Centre weed risk assessment (Tall Wheat-grass):

<http://www.futurefarmonline.com.au/about/weedrisk.htm>

National Biodiversity Hotspots - <http://www.environment.gov.au/biodiversity/hotspots/national-hotspots.html#hotspot5>

Report on Weeds in Victoria (Environment and Natural Resources Committee) -

<http://www.parliament.vic.gov.au/enrc/inquiries/old/enrc/weeds/master%20pests%20new-01.htm>

Sowing the seeds of destruction - [http://www.invasives.org.au/documents/file/report\\_weedypastureplants.pdf](http://www.invasives.org.au/documents/file/report_weedypastureplants.pdf)

Weedy pasture plants for salinity control - [http://www.invasives.org.au/documents/file/bg\\_weedypastureplants.pdf](http://www.invasives.org.au/documents/file/bg_weedypastureplants.pdf)

Endorsement by the Convenor of the Scientific Advisory Committee

Date

  
Assoc. Prof David Morgan  
Convenor

1.3.2011