



**FLORA & FAUNA
GUARANTEE**

FLORA AND FAUNA GUARANTEE - SCIENTIFIC ADVISORY COMMITTEE

FINAL RECOMMENDATION ON A NOMINATION FOR LISTING

Invasion of native vegetation by Blackberry *Rubus fruticosus* L. agg. (Potentially Threatening Process)

Date of receipt of the nomination: 28 December 2004

File No.: FF/54/0522

Date of preliminary recommendation: 15 February 2005

Date of final recommendation: 7 June 2005

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 by Blackberry *Rubus fruticosus* L. agg.'

In Victoria Blackberry (the *Rubus fruticosus* species aggregate) consists of at least 11 narrowly defined species. Most, if not all, of these are widely documented as being invasive in a wide variety of habitats such that approximately 60% of bushland in the State is considered vulnerable to invasion by Blackberry. Accordingly the species aggregate poses a serious threat to many species and communities on a local scale, including at least 10 plant species and one insect species that are regarded as threatened in Victoria. Furthermore, Blackberry thickets provide a harbour and/or food source for introduced pest animals such as Red Fox *Vulpes vulpes*, European Rabbit *Oryctolagus cuniculus*, feral Honey Bees *Apis mellifera*, Common Starling *Sturnus vulgaris* and Blackbird *Turdus merula* (Bruzese *et al.* 2000, Davies 1998, NRE 2001, Parsons and Cuthbertson 1992). Of these, foxes, starlings and blackbirds further impact on the natural environment by dispersing the blackberry seeds and increasing its distribution, foxes predate on native vertebrates, starlings and blackbirds compete with native avifauna for nest sites and food resources, and rabbits degrade many natural communities by their close grazing and burrowing.

It should be noted that many native animals also utilise the blackberry as a food source such as the Emu *Dromaius novaehollandiae*, Crimson Rosella *Platycecus elegans*, Red-browed Finch *Neochemia temporalis* and Silvereye *Zosterops lateralis*, subsequently contributing to the plant's spread throughout the country, including from the mainland to Tasmania (Silvereye) (Amor and Richardson 1980, Loyn and French 1991). Blackberry thickets also provide harbour and protection from predation to some native animals such as wombats, bandicoots, reptiles, small birds and various rodents (Amor and Richardson 1980, Brown *et al.* 1991) but the negative effects are generally considered to outweigh these possibly beneficial aspects of the plant.

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 has an impact across much of the southern half of Victoria.
- There is evidence that many flora and the habitat of a number of threatened animal species, are adversely affected by the nominated process. For example Blackberry infestation is specifically mentioned as a threatening process in the management plan for the Eltham Copper Butterfly population at the Castlemaine Botanic Gardens.

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.

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:

There are 11 species of flora and fauna in Victoria that have been listed under the Flora and Fauna Guarantee Act 1988 for which the issue of invasion of native vegetation by blackberry has been defined as a threat. These include one species of insect and 10 species of plants (see Table 1 below).

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:

There is at least one FFG Act-listed threatened Community which is potentially threatened by the invasion of *Rubus fruticosus* L. agg. The Silurian Limestone *Pomaderris* shrubland community is also cited as being potentially threatened by blackberry 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. However, blackberry infestation of native vegetation is such a widespread and significant problem economically and ecologically in Victoria, indeed Australia, that it warrants being listed in its own right so that it is justified that an action plan is 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 recommended for listing by the Committee in 1996.
- *Rubus fruticosus* L. agg. is a declared noxious weed in every state and territory except the NT (Australian Weeds Committee 2004).
- Blackberry is a Regionally Controlled Weed in all catchment and land protection regions in Victoria except the Mallee under the Victorian Catchment and Land protection Act (1994).
- At a federal level, *Rubus fruticosus* was also named as a *Weed of National Significance* in 1999 (Thorp and Lynch 2000).

| Action Statement # | Common Name | Scientific Name | Impact |
|--------------------|-------------------------|------------------------------------|-------------------------|
| 36 | Maiden's Wattle | <i>Acacia maidenii</i> | Competes with seedlings |
| 7 | Tall Astelia | <i>Astelia australiana</i> | Competition |
| 84 | Black Gum | <i>Eucalyptus aggregata</i> | " |
| 1 | Buxton Gum | <i>Eucalyptus crenulata</i> | Competes with seedlings |
| 10 | Rough Eyebright | <i>Euphrasia scabra</i> | Competition |
| 93 | Marble Daisy bush | <i>Olearia astroloba</i> | " |
| 39 | Eltham Copper Butterfly | <i>Paralucia pyrodiscus lucida</i> | Habitat degradation |
| 81 | Concave Pomaderris | <i>Pomaderris subplicata</i> | Competition |
| 57 | Gaping Leek Orchid | <i>Prasophyllum correctum</i> | " |
| 54 | Leafy Greenhood | <i>Pterostylis cucullata</i> | " |
| 67 | Buff Hazelwood | <i>Symplocos thwaitestii</i> | " |

Table 1: Victorian species listed under the Flora and Fauna Guarantee Act 1988 with Action Statements where *Rubus fruticosus* L. agg. invasion is considered a potential threat.

Documentation

The published information and research data provided to the SAC have been assessed. Based on the available information, the SAC believes that the data presented are not the subject of scientific dispute and the inferences drawn are reasonable and well supported.

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 Age' - on 13 April 2005
- 'The Weekly Times' - on 13 April 2005
- Government Gazette* - on 14 April 2005

Submissions closed on 27 May 2005.

Further evidence provided:

No submissions were received on this item and no evidence was provided to warrant a review of the Scientific Advisory Committee's preliminary recommendation that the potentially threatening process is eligible for listing.

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:

- Amor, R.L., Richardson, R.G., Pritchard, G.H. & Bruzzese, E. (1998) *Rubus fruticosus* L. agg. In: Panetta, F.D., Groves, R.H. and Shepherd, R.C.H. (eds). *Biology of Australian Weeds*. Vol. 2. R.G. and F.J. Richardson, Melbourne. pp. 225-246.
- Brown, P. R., Wallis, R. L., Simmons, D. & Adams, R. (1991) Weeds and Wildlife. *Plant Protection Quarterly* 6 (3): 150-153.
- Davies, R. J.-P. (1998) Regeneration of Blackberry-Infested Native Vegetation. *Plant Protection Quarterly* 13 (4): 189-195.
- Evans, K.J., Symon, D.E. & Roush, R.T. (1998) Taxonomy and genotypes of the *Rubus fruticosus* L. aggregate in Australia. *Plant Protection Quarterly* 13: 152-156.
- Evans, K.J. and Weber, H.E. (2003) *Rubus anglocandicans* (Rosaceae) is the most widespread taxon of European blackberry in Australia. *Australian Systematic Botany* 16: 527-537.
- Loyn, R. H. and French, K. (1991) Birds and Environmental Weeds in South-Eastern Australia. *Plant Protection Quarterly* 6 (3): 137-149.
- NRE (2001) *The Victorian Blackberry Strategy*. Department of Natural Resources & Environment and Victorian Catchment Management Council.
- Parsons, W. T. & Cuthbertson, E. G. (1992) *Noxious Weeds of Australia*. Inkata Press, Melbourne.

Control of Blackberry

- Bruzzese, E. (1985) Spread of blackberry rust. An update. *Plant Protection Quarterly* 1: 46.
- Bruzzese, E. & Lane, M. (1996) *The blackberry management handbook*. Keith Turnbull Research Institute, Victoria 49 pp.
- Bruzzese, E., Mahr, F. & Faithful, I. (2000) *Best practice management guide - Blackberry, Rubus fruticosus aggregate*. Keith Turnbull Research Institute, Victoria and Weeds CRC, Frankston.
- Evans, K.J. & Bruzzese, E. (2003) Life history of *Phragmidium violaceum* in relation to its effectiveness as a biological control agent of European blackberry. *Australasian Plant Pathology* 32: 231-239.
- Evans, K.J., Morin, L., Bruzzese, E. & Roush, R.T. (2004). Overcoming limits on rust epidemics in Australian infestations of European blackberry. In: *Proceedings of the XI International Symposium on Biological Control of Weeds* (eds Collins, J.M., Briese, D.T., Kriticos, D.J., Lonsdale, W.M., Morin, L. and Scott, J.K.), pp. 514-519. CSIRO Entomology, Canberra, Australia.
- Evans, K.J., Symon, D.E., Hosking, J.R., Mahr, F.A., Jones, M.K. & Roush, R.T. (1999) Towards improved biocontrol of blackberries, in Bishop, A. C., Boersma, M. and Barnes, C. D. (eds) *12th Australian Weeds Conference Papers and proceedings, Hobart, Tas.* Tasmanian Weed Society, Devonport pp 325-329.
- Mahr, F.A. & Bruzzese, E. (1998) The effect of *Phragmidium violaceum* (Shultz) Winter (Uredinales) on *Rubus fruticosus* L. agg. in south-eastern Victoria. *Plant Protection Quarterly* 13: 182-185.
- Scott, J. K., Jourdan, M. & Evans K.J. (2002) Biological control of blackberry: progress towards finding additional isolates of the rust fungus, *Phragmidium violaceum*. *Proceedings of the 13th Australian Weeds Conference* (eds H. Spillings, J. Dodd & J.H. Moore), pp. 418-421. Plant Protection Society of Western Australia. Perth.

Relevant websites:

Australian Weed identification (Blackberry) – <http://www.weeds.org.au>

Blackberry Leaf Rust Fungus – <http://www.hotkey.net.au/~d.elliott/blackrust.htm>

European Blackberry (CSIRO site) – <http://www.ento.csiro.au/weeds/blackberry/project.html>

FFG Action Statements: <http://www.dse.vic.gov.au>, then 'Plants & animals' then 'Native plants & animals', then 'Threatened Species & Communities' then 'Action Statements'

New strains of rust for the biological control of blackberry (CSIRO) – <http://www.csiro-europe.org/rubus.html>

Weed management guide (*Rubus fruticosus* aggregate) - http://www.weeds.crc.org.au/documents/wmg_blackberry.pdf

Endorsement by the Convenor of the Scientific Advisory Committee

Date

7/6/05



Dr Michael Clarke
Convenor