



**FLORA & FAUNA  
GUARANTEE**

## FLORA AND FAUNA GUARANTEE - SCIENTIFIC ADVISORY COMMITTEE

### FINAL RECOMMENDATION ON A NOMINATION FOR LISTING

#### Human activity which results in artificially elevated or epidemic levels of Myrtle Wilt within *Nothofagus*-dominated Cool Temperate Rainforest.

(Potentially Threatening Process)

**Date of receipt of the nomination:** 27 June 1997  
**Date of preliminary recommendation:** 21 July 1997  
**Date of final recommendation:** 29 September 1998

**File No.:** FF/06/0030

#### Validity:

The nomination is for a valid item and the prescribed information was provided. In the opinion of the SAC the process is adequately defined and described.

The nominated process is human activity which results in artificially elevated or epidemic levels of Myrtle Wilt within *Nothofagus*-dominated Cool Temperate Rainforest. Myrtle Wilt is a fatal disease of *Nothofagus cunninghamii* (Myrtle Beech) caused by the fungal pathogen *Chalara australis*. The disease develops initially in a stand of Beech through the infection of stem or root wounds via air or water-borne inoculum. The most prominent disease symptom is wilting of the tree crown. Infection of wounds will first cause wilt symptoms and ultimately lead to the death of the whole tree. Infected trees take between six months and 3 years to die.

Following infection trees become susceptible to attack by the mountain pinhole borer *Platypus subgranosus*, the less common of two species of ambrosia beetles known to occur in Victorian eucalypt forests. The activity of this beetle has the potential to assist in the spread of inoculum through the liberation of contaminated larval excrement.

Because fungal spores are wind dispersed, human activity is likely to elevate disease incidence rates above the natural background levels experienced in undisturbed forest. Most new sites of infection are believed to result from stem and branch wounds, hence any human activity in *Nothofagus* forest which causes wounds has the potential to artificially elevate the incidence of Myrtle wilt.

**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 1991.

#### **Evidence that criteria are satisfied:**

**Criterion 5.1** *The potentially threatening process, in the absence of appropriate management, poses or has the potential to pose a significant threat to the survival of a range of flora or fauna.*

##### *Evidence:*

Myrtle Wilt has the potential to significantly limit both the abundance and distribution of a range of flora and fauna primarily dependent upon *Nothofagus* Cool Temperate Rainforest by removing the dominant tree species of this community.

**Sub-criterion 5.1.1** *The potentially threatening process, in the absence of appropriate management, poses or has the potential to pose a significant threat to the survival of two or more taxa.*

##### *Evidence:*

Myrtle Wilt has the potential to pose a significant threat to a number of species which are reliant on the habitat types only found in Cool Temperate Rainforest including: Pink Robin *Petroica rodinogaster*, Leadbeater's Possum *Gymnobelideus leadbeateri*, Tall Astelia *Astelia australiana*, Slender Tree-fern *Cyathea cunninghamii*, Bristly Shield-fern *Lastreopsis hispida*, Slender Fork-fern *Tmesipteris elongata*, Skirted Tree-fern *Cyathea marcescens* and Netted brake *Pteris comans*.

**Sub-criterion 5.1.2** *The potentially threatening process, in the absence of appropriate management, poses or has the potential to pose a significant threat to the survival of a community.*

*Evidence:*

Epidemic levels of *Chalara* infection not only pose a threat to pure stands of *Nothofagus* but also to all mature or advanced secondary *Nothofagus* stands. Myrtle wilt also poses a significant threat to an entire community of dependent taxa of vascular and non-vascular epiphytes, and a range of terrestrial or lithophytic understorey taxa for which *Nothofagus cunninghamii* provides the physical stratum and necessary microclimatic and microhabitat requirements.

**Sub-criterion 5.2** *The potentially threatening process poses or has the potential to pose a significant threat to the evolutionary development of a range of flora and fauna.*

*Evidence:*

Human activity resulting in artificially elevated or epidemic levels of Myrtle wilt poses a significant threat to the evolutionary development of the species and communities mentioned above, as the disease threatens the dominant species of the Cool Temperate Rainforest Community, and therefore the structural integrity and survival of the community.

**Additional Information**

- The survival of a significant number of bryophytes recorded exclusively within Cool Temperate Rainforest stands dominated by *Nothofagus cunninghamii* must also be considered to be at risk.

**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 12 August 1998

“The Weekly Times” - on 12 August 1998

“Colac Herald” - on 12 August 1998

“Snowy River Mail” - on 12 August 1998

The *Government Gazette* - on 13 August 1998

Submissions closed on 18 September 1998.

**Further evidence provided:**

No public comments were received by the Scientific Advisory Committee.

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.

**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.

**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 primary criteria 5.1 and 5.2 and sub-criteria 5.1.1 and 5.1.2 have been satisfied.

The Scientific Advisory Committee recommends that the nominated item be supported for listing on Schedule 3 of the **Flora and Fauna Guarantee Act 1988**.

**Selected references:**

- Burgman, M. A. & Furguson, I. S. (1995) Rainforest in Victoria: a review of the scientific basis of current and proposed protection measures. *Forest Service Technical Report 95-4*. Department of Conservation and Natural Resources, Victoria.
- Cameron, D. G. (1992) A portrait of Victoria's rainforests: distribution, diversity and definition in Victoria's Rainforests: Perspective's on definition, classification and management. *Monash Publications in Geography No. 41* Department of Geography and Environmental Science, Monash University, Melbourne.
- Cameron, D. G. & Turner, L. A. (1996) Survey and monitoring of myrtle wilt within cool temperate rainforest in Victoria. *Flora and Fauna Technical Report No. 145*. Department of Natural Resources and Environment, Melbourne.
- CNR (1995) *Threatened fauna in Victoria - 1995*. Department of Conservation and Natural Resources, Victoria.
- Elliot, H. J., Kile, G. A., Candy, S. G. & Ratkowski, D. A. (1987) The incidence and spatial pattern of *Nothofagus cunninghamii* (Hook.) Oerst. attacked by *Platyplus subgranosus* Schedl. in Tasmania's cool temperate rainforest *Aust. J. Ecol.* 12: 125-38.
- Kile, G. A. (1989) Infection of exotic and Tasmanian native tree and shrub species by the vascular stain fungus *Chalara australis*. *Eur. J. For. Path.* 19: 98-104.
- Kile, G. A., Packham, J. M. & Elliot, H. J. (1989) Myrtle wilt and its possible management in association with human disturbance of rainforest in Tasmania. *N. Z. J. For. Sci.* 19: 259-64.
- Scott, G. A. M. & Stone, I. G. (1976) *The Mosses of Southern Australia*. Academic Press, London.
- Scott, G. A. M. (1986) *Southern Australian Liverworts*. Australian Flora and Fauna Series No. 2, Bureau of Flora and Fauna, Canberra.

**Endorsement by the Convenor of the Scientific Advisory Committee**

**Date**

9.10.98



**Dr. David Macmillan**  
Convenor