

FLORA AND FAUNA GUARANTEE - SCIENTIFIC ADVISORY COMMITTEE

FINAL RECOMMENDATION ON A NOMINATION FOR LISTING

Use of Phytophthora-infected gravel in construction of roads, bridges and reservoirs (Potentially Threatening Process)

Date of receipt of the nomination: 14 June 1989
 Date of preliminary recommendation: 22 January 1991
 Date of final recommendation: 22 May 1991

File No.: 89/3185

Validity:

The nomination is for a valid item and the prescribed information was provided.

The process was adequately defined and described. *Phytophthora cinnamomi* Rands (cinnamon fungus) is a plant pathogen which causes root rot and dieback in native forests, woodlands and heaths. It occurs widely across the State, being easily transported in soil, gravel and in drainage water. The use of infected gravel in construction works can result in the spread of *Phytophthora* to uninfected, vulnerable areas.

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 1990*.

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:

The SAC was satisfied that the spread of *Phytophthora* poses a threat to the survival of a number of vegetation communities, by damaging vegetation on which fauna species rely, killing susceptible plant species and opening the way for invasion by other species.

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:

Satisfactory evidence was provided (Kennedy 1974; Kennedy & Weste 1986; Wilson *et al.* 1990) to indicate that the survival of the following species is threatened by the spread of *Phytophthora*:

- Flora of dry sclerophyll forests on sandy and lateritic soils;
- Grampians lowland heath flora, especially *Pultenaea* and *Xanthorrhoea* species;
- Brisbane Ranges flora, especially *Pultenaea* species;
- Sclerophyll communities of the Eastern Otways; and
- Vertebrate fauna species which depend on these flora, e.g. Heath Rat *Pseudomys shortridgei*, New Holland Mouse *P. novaehollandiae*, Southern Brown Bandicoot *Isodon obesulus*, Swamp Rat *Rattus lutreolus* and other small mammals of sclerophyll vegetation.

Background Information

- Evidence from Western Australia shows that invertebrate fauna of soil and litter are affected by *Phytophthora* infection (Postle *et al.* 1986).

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 public comment for a period of at least 30 days.

The preliminary recommendation was advertised in:

"The Age" - on 6 February 1991

"Weekly Times" - on 6 February 1991

Government Gazette - on 6 February 1991

Submissions closed on 8 April 1991.

Further evidence provided:

No public comments were received by the Scientific Advisory Committee.

No new 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, research data and additional evidence provided to the SAC have been assessed. To the best of their knowledge, 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(3) of the Act because primary criterion 5.1 is satisfied.

The SAC also concludes that sub-criterion 5.1.1 has been satisfied and that no evidence exists to suggest that primary criterion 5.1 cannot be satisfied as a consequence of sub-criterion 5.1.1 being 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:

Kennedy, J. & Weste, G. (1986) Vegetation changes associated with invasion by *Phytophthora cinnamomi* on monitored sites in the Grampians, Western Victoria. *Aust. J. Bot.* 34: 251-279

Podger, F.D. (1968) Aetiology of jarrah dieback, a disease of dry sclerophyll *Eucalyptus marginata* Sm. forests in Western Australia. M.Sc. thesis, University of Melbourne 292 pp.

Postle, A.C., Majer, J.D. & Bell, D.T. (1986) Soil and litter invertebrates and litter decomposition in Jarrah (*Eucalyptus marginata*) forest affected by Jarrah dieback fungus (*Phytophthora cinnamomi*). *Pedobiologia* 29: 47-69.

Weste, G. (1974) *Phytophthora cinnamomi* - the cause of severe disease in certain native communities in Victoria. *Aust. J. Bot.* 22: 1-8.

Weste, G. (1975) The distribution of *Phytophthora cinnamomi* within the National Park, Wilsons Promontory, Victoria. *Aust. J. Bot.* 23: 67-76.

Weste, G. & Marks, G. (1987) The biology of *Phytophthora cinnamomi* in Australasian forests. *Ann. Rev. Phytopathol.* 25: 207-229.

Wilson, B.A., Robertson, D., Moloney D.J., Newell, G.R. & Laidlaw W.S. (1990) Factors affecting small mammal distribution and abundance in the Eastern Otway Ranges, Victoria. *Proc. Ecol. Soc. Aust.* 16: 379-396.

Endorsement by the Convenor of the Scientific Advisory Committee

Date:

19 June, 1991



Dr. Neil Murray