



**FLORA AND FAUNA GUARANTEE - SCIENTIFIC ADVISORY COMMITTEE**  
**FINAL RECOMMENDATION ON A NOMINATION FOR LISTING**

**The invasion of native vegetation by environmental weeds.**  
(Potentially Threatening Process)

**Date of receipt of the nomination:** 27 March 1995  
**Date of preliminary recommendation:** 16 May 1995  
**Date of final recommendation:** 1 February 1996

**File No.:** 95/0481

**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 the invasion of native vegetation by environmental weeds. Environmental weeds are plants which invade native vegetation, often adversely affecting regeneration and survival of indigenous flora and fauna (Carr *et al.* 1992). They may be species introduced from other countries, Australian species from outside Victoria and Victorian species which now occur outside their pre-European distribution (Carr *et al.* 1992). The invasion of environmental weeds and subsequent competition is a contributing factor to niche modification. Impacts of weed invasions may be dramatic or subtle and can often be obscured by other processes such as altered fire regimes.

Environmental weeds have the potential to threaten indigenous terrestrial, marine and freshwater flora and fauna and communities across the state. They have invaded most areas of indigenous vegetation in the state and may potentially alter the structure and floristics of this vegetation. Weed invasion has the potential to increase by the introduction and spread of weed propagules to new areas and because of the alteration to ecological processes since European settlement. It is generally recognised that weed invasions pose a serious conservation problem in Victoria and Australia.

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:*

Environmental weeds are plants which invade native vegetation, often detrimentally affecting the regeneration and survival of indigenous flora and fauna (Carr *et al.* 1992). Carr *et al.* (1992) have identified almost 600 taxa of environmental weeds which occur throughout the state, in all but the most remote and undisturbed native vegetation. Weed invasion may affect the survival of native taxa through the limitation or prevention of recruitment of native taxa alteration to fire regimes, hydrological cycles, nutrient cycling and other processes, increased soil erosion rates and genetic changes which could result in species' extinction (Carr *et al.* 1992). The spread of environmental weeds, and subsequent competition, may contribute to niche modification which could detrimentally affect indigenous flora and fauna.

**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:*

Those taxa most at risk from environmental weed invasions include those that are recognised as threatened, those with limited and/or disjunct distributions and those highly susceptible to competition. Carr *et al.* (1992) identified 166 taxa

of flora at risk from environmental weeds in Victoria. Final recommendation reports and published Action Statements for a number of taxa of flora and fauna listed under the *Flora and Fauna Guarantee Act 1988* have identified weed invasion as a potential threat. These include *Acacia glandulicarpa* Hairy-pod Wattle, *A. maidenii* Maiden's Wattle, *Adiantum capillus-veneris* Dainty Maidenhair, *Adiantum diaphanum* Filmy Maidenhair, *Agrostis billardi* var. *filifolia* Coast Blown-grass, *Amphibromus pithogastrus* Swollen Swamp Wallaby-grass, *Astelia australiana* Tall Astelia, *Brachyscome tenuiscapa* Mountain Daisy, *Bracteantha* sp. aff. *subundulata* Swamp Everlasting, *Caladenia amoena* Charming Spider-orchid, *C. audasii* Audas' Spider Orchid, *C. calcicola* Limestone Spider-orchid, *C. concolor* Maroon Spider-orchid, *C. formosa* Blood-red Spider-orchid, *C. fulva* Tawny Spider-orchid, *C. lowanensis* Wimmera Spider-orchid, *C. magnifica* Magnificent Spider-orchid, *C. rosella* Rosella Spider-orchid, *C. hastata* Melbolm's Spider-orchid, *C. thysanochila* Fringed Spider-orchid, *C. robinsonii* Frankston Spider-orchid, *C. xanthochila* Yellow-lip Spider-orchid, *Carex tasmanica* Curly Sedge, *Cassinia rugata* Wrinkled Cassinia, *Christella dentata* Binung, *Cryptostylis hunteriana* Leafless Tongue-orchid, *Dipodium hamiltonianum* Yellow Hyacinth Orchid, *Discaria pubescens* Hairy Anchor Plant, *Diuris cuneata* Wedge Diuris, *D. fragrantissima* Sunshine Diuris, *Eucalyptus aggregata* Black Gum, *E. crenulata* Buxton Gum, *E. froggattii* Kamarooka Mallee, *Euphrasia scabra* Rough Eyebright, *Hibbertia humifusa* new ssp. (North East) Guinea flower, *Olearia pannosa* ssp. *cardiophylla* Velvet Daisy-bush, *Pomaderris buplicata* Concave Pomaderris, *Prasophyllum correctum* Gaping Leek-orchid, *P. diversiflorum* Gorae Leek-orchid, *P. subbisectum* Pomonal Leek-orchid, *Pterostylis basaltica* Basalt Greenhood, *P. cheraphila* Floodplain Rustyhood, *P. cucullata* Leafy Greenhood, *P. despectans* Lowly Greenhood, *P. truncata* Brittle Greenhood, *P. woollsi* Long-tail Greenhood, *P. xerophila* Desert Greenhood, *Psoralea parva* Small Psoralea, *Rutidosia leptorrhynchoides* Button Wrinklewort, *Santalum lanceolatum* Northern Sandalwood, *Senecio macrocarpus* Large-fruit Groundsel, *Swainsona galegifolia* Smooth Darling-pea, *S. murrayana* Murray Swainson-pea, *Thelymitra epipactoides* Metallic Sun-orchid, *Thelypteris confluens* Swamp Fern, *Thesium australe* Austral Toad-flax, *Westringia crassifolia* Whipstick Westringia, *Burramys parvus* Mountain Pygmy Possum, *Charadrius rubicollis* Hooded Plover, *Dasyornis brachypterus* Eastern Bristlebird, *Delmar impar* Striped Legless Lizard, *Heleioporus australiacus* Giant Burrowing Frog, *Lichenostomus melanops cassidix* Helmeted Honeyeater, *Paralucia pyrodiscus lucida* Eltham Copper Butterfly, *Pomatostomus temporalis* Grey-crowned Babbler, *Synemon plana* Golden Sun Moth, *Synemon nais* moth, *Tympanocryptis lineata pinguicolla* Southern Lined Earless Dragon,

**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:*

Environmental weed invasions may alter the structure and floristics of native vegetation communities. Communities may become floristically impoverished and indigenous species may be lost (Carr *et al.* 1992). Those communities most at risk from weed invasions include those that are recognised as threatened, those with limited and/or disjunct distributions and those highly susceptible to competition. Final recommendation reports and published Action Statements for a number of communities listed under the *Flora and Fauna Guarantee Act 1988* have identified weed invasion as a potential threat. These include the Alpine Snowpatch Community, *Caltha intraloba* Herbland Community, Forest Red Gum Grassy Woodland Community, Northern Plains Grassland Community, Plains Grassland (South Gippsland) Community, Western Basalt Plains Grassland Community, Rocky Chenopod Open-Scrub Community, Warm Temperate Rainforest (East Gippsland Alluvial Terraces) Community, Warm Temperate Rainforest (Coastal East Gippsland) Community, Herb-rich Grassy Wetland (West Gippsland) Community, Sedge-rich *Eucalyptus camphora* Swamp Community, and Butterfly Community No. 1.

## Background Information

- Carr *et al.* (1992) identify 584 serious or potentially serious environmental weed species in Victoria.
- "The spread of *Pittosporum undulatum* in areas outside its natural range" is listed as a potentially threatening process under the *Flora and Fauna Guarantee Act 1988*, and "The introduction and spread of *Spartina* to Victorian estuarine environments" has received a preliminary recommendation for listing.

## 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 22 November 1995

"The Weekly Times" - on 22 November 1995

*The Government Gazette* - on 23 November 1995

Submissions closed 29 December 1995.

### 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. 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 of the Act because primary criteria 5.1 is satisfied.

The SAC also concludes that sub-criteria 5.1.1 and 5.1.2 have been satisfied and that no evidence exists to suggest that primary criterion 5.1 cannot be satisfied as a consequence of sub-criteria 5.1.1. and 5.1.2 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:

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Carr, G. W. (1993) *Exotic flora of Victoria and its impact on indigenous biota*. In: *Flora of Victoria Volume 1*. [Ed. Foreman, D. B. & Walsh, N. G.] Inkata Press, Melbourne. Pp. 256-289.

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Parsons, W. T. (1973) *Noxious Weeds of Victoria*. Inkata Press, Melbourne.

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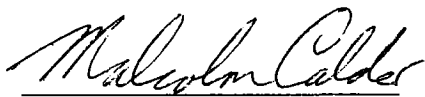
Robertson, D. & White, M. D. (in prep.) The invasion of *Cytisus scoparius* in sub-alpine woodland, Alpine National Park, Victoria.

Scarlett, N. H. & Parsons, R. F. (1993) *Rare or threatened plants of Victoria*. In: Flora of Victoria Volume 1. [Ed. Foreman, D. B. & Walsh, N. G.] Inkata Press, Melbourne. Pp. 227-256.

Waloff, N. & Richards, O. W. (1977) The effect of insect fauna on growth mortality and natality of Broom *Sarothamnus scoparius*. *Journal of Applied Ecology* 14: 787-798.

Endorsement by the Convenor of the Scientific Advisory Committee

Date



Dr. Malcolm Calder  
Convenor

12 March 1996