



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

Degradation of native riparian vegetation along Victorian rivers and streams.
(Potentially Threatening Process)

Date of receipt of the nomination: 20 October 1994
Date of preliminary recommendation: 16 May 1995
Date of final recommendation: 1 February 1996

File No.: 95/0475

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 degradation of native riparian vegetation along Victorian rivers and streams. With respect to vegetation, the term 'riparian' is generally used to refer to an arbitrarily defined zone immediately adjacent to, or verging, watercourses. This definition reflects the acknowledged role of vegetation in stabilising and buffering the stream environment from surrounding influences.

Riparian areas can be generally characterised by the following - an association with watercourses, the extent of this influence is dependent on flow characteristics and local physiography; a higher availability of water, which may be intermittent, relative to the surrounding landscape; alluvial substrates; and assemblages of species whose life forms, habitat specialisation, reproductive strategies and dispersal mechanisms reflect the interplay of the watercourse, climate and physiology. The extent of the riparian zone is influenced by factors such as depth of water table and flood frequency.

Degradation of riparian vegetation generally results in a simplified ecosystem and may cause a change in the structure, function, composition and/or diversity of the flora and fauna in the riparian zone and the stream/watercourse. Degradation of riparian vegetation may vary in scale and degree, ranging from subtle changes in composition and effectiveness to complete loss of indigenous vegetation.

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:

Degradation of riparian vegetation detrimentally affects those flora and fauna which are dependent on riparian influences and/or those which are now restricted to watercourses because of past clearing. The removal or modification of riparian vegetation can adversely influence all aspects of stream habitat (e.g. shading, organic inputs, filtering runoff), and has been identified as a major cause for the decline of Victoria's freshwater fish (Koehn and O'Connor 1990a, b). While degradation of riparian vegetation, by clearing and grazing, occurs throughout Victoria, it is most prevalent in lowland and agricultural areas. Grazing alters vegetation composition through trampling and selective grazing, inhibits regeneration, and can cause streambank slumping leading to accelerated bank erosion. Riparian vegetation can be prone to weed colonisation because of the availability of moisture, grazing, disturbances such as periodic flooding, input of nutrients and weed propagules from agricultural land, roads and other disturbed sites and an exaggerated edge effect. River regulation arising from alterations to natural streamflows can cause changes to the composition and structure of

riparian plant communities. Other causes of degradation to riparian areas include cultivation, roading, alteration to natural flow regimes, salinity and recreational pressures.

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 particularly at risk from degradation of riparian vegetation include those which are recognised as threatened, those listed under the *Flora and Fauna Guarantee Act 1988*, those with specialised habitat requirements and localised distributions. Such taxa include *Brachyscome muellerioides* Mueller Daisy, *Eucalyptus yarraensis* Yarra Gum, *E. crenulata* Buxton Gum, *E. cadens* Warby Swamp Gum, *Callitriche cyclocarpa* Western Water Starwort, *Eriocaulon australasicum* Southern Pipewort, *Eleocharis pallens* Pale Spike Sedge, *Senecio behrianus* Stiff Groundsel, *Discaria pubescens* Hairy Anchor Plant, *Psoralea parva* Small Psoralea, *Lepidium monoplocoides* Winged Pepper-cress, *Cyperus rigidellus* Dwarf Flat-sedge, *Ammania multiflora* Jerry-jerry, *Euphrasia scabra* Rough Eyebright, *Pterostylis cucullata* Leafy Greenhood, *Maccullochella macquariensis* Trout Cod, *Nannoperca variegata* Variegated Pygmy Perch, *Edelia obscura* Yarra Pygmy Perch, *Prototroctes maraena* Australian Grayling, *Galaxiella pusilla* Dwarf Galaxias, *Maccullochella peelii* Murray Cod, *Galaxias brevipinnis* Broad-finned Galaxias, *Galaxias olidus* Mountain Galaxias, *Galaxias truttaceus* Spotted Galaxias, *Euastacus diversus* Orbost Crayfish, *E. armatus* Murray Spiny Crayfish, *E. bispinosus* Glenelg Spiny Crayfish, *E. bidawalus* East Gippsland Spiny Crayfish, *E. kershawi* Gippsland Spiny Crayfish, *E. woiwuru* Central Victorian Spiny Crayfish, *E. yarraensis* Southern Victoria Spiny Crayfish, *Engaeus sternalis* Warragul Burrowing Crayfish, *E. mallacoota* Mallacoota Burrowing Crayfish, *E. phyllocercus* Narracan Burrowing Crayfish, *Megascolides australis* Giant Gippsland Earthworm, *Litoria spenceri* Spotted Tree Frog, *L. citropa* Blue Mountains Tree Frog, *Mixophyes balbus* Southern Barred Frog, *Planigale gilesi* Paucident Planigale, *Petaurus norfolcensis* Squirrel Glider, *Myotis adversus* Large-footed Myotis, *Lichenostomus melanops cassidix* Helmeted Honeyeater, *Chlamydera maculata* Spotted Bowerbird, *Polytelis anthopeplus* Regent Parrot, *Pygopus nigriceps* Hooded Scaly-foot, *Morelia spilota variegata* Carpet Python, *Diplodactylus tessellatus* Tesselated Gecko, *Egernia coventryi* Swamp Skink and *Sphenomorphus quoyii* Eastern Water Skink.

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:

Communities which are potentially affected by the degradation of riparian vegetation include the Sedge-rich *Eucalyptus camphora* Swamp Community, Red Gum Swamp Community No. 1, Warm Temperate Rainforest (East Gippsland Alluvial Terraces) Community, Warm Temperate Rainforest (Coastal East Gippsland) Community, Warm Temperate Rainforest (Cool Temperate Rainforest Overlap, Howe Range) Community and Warm Temperate Rainforest (Far East Gippsland) Community.

Background Information

- Potentially threatening processes listed under the *Flora and Fauna Guarantee Act 1988* which are associated with the loss of riparian vegetation include: "Increase in sediment input to Victorian rivers and streams due to human activities", "Alteration to the natural temperature regimes of rivers and streams", "Removal of wood debris from Victorian streams", "Input of toxic substances into Victorian rivers and streams" and "Loss of hollow bearing trees in Victorian native forests".

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 on 29 November 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*.

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Endorsement by the Convenor of the Scientific Advisory Committee

Date



Dr. Malcolm Calder
Convenor

12 March 1996