



INQUIRY INTO PEST PLANTS IN VICTORIA

This joint submission was in two parts. The first, reproduced here was largely my words and deals with general policy issues concerning pest plant laws and in particular the proposal to add large numbers of environmental weeds to the lists of plants proscribed by the Noxious Weeds legislation.

*The second part (not included) was a case study which illustrated the issues involved in more economically and ecologically rational management of so called environmental weeds by focusing on Willows, a group of species which are major functional elements in Victorian rural landscapes. It was largely Michael Wilson's words (Centre for Environmental Management, University of Ballarat) drawing on the early stages of his PhD research on willows, which was later presented at the Second Australian Stream Management Conference in February 1999 [Michael Wilson **Post gold rush Stream regeneration: implications for managing exotic and native vegetation**].*

*This submission provides more formal and perhaps mainstream arguments relevant to the weeds debate covered in **Permaculture and Revegetation: Conflict or Synthesis** (Article 21).*

The outcome of the inquiry seemed predestined to continue the push to spend more public money on plant destruction especially when the minister Marie Teahan launched the new "War On Weeds" before the committee had completed its inquiry or reported to the parliament.



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**Submission to Environment and Natural Resources Committee of Parliament of Victoria.
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***Weed invasions are SYMPTOMS of ecological change and imbalance not their CAUSE.
Shooting the messenger exacerbates the problems.***

We believe this submission addresses directly and indirectly most if not all the terms of reference. The submission follows its own logical structure but is particularly relevant to the following terms of reference:

1. Identify the impact of pest plants on the Victorian economy and environment.
2. Determine the current and projected costs of control of pest plants on private and public land.
3. Assess the adequacy of current information and research on pest plant control strategies.
4. Advise on the rationale for classification of pest plants and distinctions between environmental and agricultural weeds.
5. Advise on statewide priorities for pest plant control.

If the Committee requires further explanation of this submission we are willing to provide clarification and answer questions in a public hearing.

OVERVIEW

Poor ecological science combined with guilt about the great changes we have wrought on indigenous ecosystems is threatening to sidetrack the real moves towards sustainable land use in Victoria and Australia through a massive expansion of weeds legislation.

The existing weeds legislation provides substantial impediments to sustainable land use by assuming that a plant is inherently bad because it is a problem to current land uses and management strategies. It may be the land use which is the problem.

Examples abound;

Goats being introduced to sheep grazing properties to control shrub weeds proving a valuable diversification while changing attitudes to the so called pest (fodder) plants.

Serrated tussock, a dreaded weed for pastoral farmers has led to steep hillsides being “abandoned” and planted to pines which prove to be a more ecologically sound and economically productive land use on such sites (with or without serrated tussock).

Lack of suitable methodologies for assessing the hidden benefits from weeds have led to constant underestimation of their contribution to land rehabilitation and future resource use opportunities.

Campaigns to eliminate weeds have generally been unsuccessful despite heroic efforts often by whole communities (eg Ragwort in the Otways in the 1930's).

Entrenched attitudes by land holders combined with poor science has, over the decades, maintained noxious weeds legislation as a regulatory support for the most powerful primary industries. In New Zealand, Pasture Protection Boards were handed over to the pastoral industries to fund and run since most of the proscribed weeds were not problems to either the horticultural or forestry industries (which are emerging as NZ's dominated export industries).

It may be politically unrealistic to reform pest plant control in Victoria according to economic and ecologically rational principles. However the pressure to greatly expand the range of proscribed species by inclusion of "environmental weeds" is alarming and should be rejected as economically and ecologically unsound.

The environmental weed concept¹ is not based on an integrated or complete assessment of environmental impact but simply the likely displacing of indigenous vegetation in "natural" or near natural environments.

This flawed approach is compounded by any weeds legislation which is inevitably based on taxonomic definitions (ie species definitions) rather ecological (functional) assessment on a site specific basis.

A majority of so called environmental weeds are valued species in agriculture, forestry, horticulture and landscaping. In general these species are valued because of their hardy characteristics under the prevailing conditions, and low cost of establishment and maintenance. (These are the very characteristic used to promote the use of indigenous species.)

Prohibitions or impediments to the use of these species will increase the total cost to the Victorian community, economy and environment by both the costs of removal and control, and replacement with less well adapted species.

The ecologists and indigenous revegetation experts who developed and promoted the environmental weed concept have openly admitted² that legislation will have little real effect in control of environmental weeds but support it for its perceived community education value.

1 Carr, G.W. Yugovic, J. V. and Robinson, R. (1992) *Environmental Weed Invasions In Victoria* Department of Conservation and Environment and Ecological Horticulture Pty Ltd Melb.

2 Robin, J, Robinson, R. and Kern, L. personal communication and public debate.

We believe unworkable legislation is an historically proven recipe for misallocation of resources, and selective and unjust application.

The State government and CALP Boards should not add any plant species to the Noxious Weeds Lists or any other lists of proscribed plants without a comprehensive environmental impact statement and full and open public inquiry.

ECOLOGICAL PREDICTIONS

Our own research and experience suggest naturalisation and spread of exotic and Australian species will continue to increase in Victoria in the foreseeable future irrespective of all but the most massive and extreme control strategies.

We predict that the;

- (a) number of species
- (b) geographic spread
- (c) total populations;

will all increase due to increased seed sources, declines in active land management, and increased dispersal potential.

We do not expect large increases in new naturalisations of herbaceous and grass species, the traditional focus of concern by agricultural industries.

Instead we expect major increases in naturalisation and spread of;

- Australian native tree and shrub species widely planted in the last 30 years especially following bushfires through urban fringe, rural residential, highways, and farms where extensive planting has occurred in recent years.
- Bird distributed berry producing shade tolerate (rainforest analogous species) trees and shrubs
- Trees and shrubs palatable to grazing animals.

Under prevailing definitions virtually all these naturalised species will be classified as “environmental weeds” while a much smaller number may be considered agricultural and forestry weeds.

Naturalised species should be thought of as “migrant plants” which are in the process of become Australian. The fact that a large number of Australian and even Victorian species are now considered environmental weeds emphasises how counter productive this concept is especially when combined with the taxonomic basis of weeds legislation.

INDIGENOUS REVEGETATION

Current attempts to control spread of environmental weeds focus on the most infested areas especially around settlements and along riparian corridors for political rather than ecological reasons.

Adverse environmental impacts of control methods in these areas are much greater than any environmental benefits for the following reasons;

(a) serious effects of control strategies especially earthworks and herbicides on aquatic ecosystems.

- evidence of links between widespread use of Glyphosphate and frog decline
- increased sediment and nutrient loads from herbicide, burning and or earthworks.
- loss of fish habitat by earthworks and bird habitat including predator protection
- loss of efficient nutrient absorbing and erosion controlling species

(b) rapid re-invasion due to elevated nutrients, water and weed seed sources from urban and agricultural runoff.

Successful establishment of indigenous sclerophyll vegetation systems presents severe long term fire hazards especially in urban areas unless active fuel reduction management is implemented.

Study and management of mature examples of weed invaded riparian landscapes in Victoria over a decade³ show a general ecological pattern;

- (a) closed canopy forest (analogous to rainforest and/or deciduous forest)
- (b) open understorey (reduced primary colonisers eg blackberry)
- (c) humic soil (similar to compost rich garden soil)

With increasing ecological maturity the following beneficial characteristic develop

- (a) low fire hazard or fire barrier
- (b) high amenity and improved accessibility to people
- (c) high nutrient and water holding capacity, efficient purification of toxins
- (d) increasing stream bank stability
- (e) increasing ecological diversity (total number of species present)
- (f) increase resources use potential (animal fodder, timber, food)

3 Holmgren, D. & Morgan, P. [1982] *The Yarra Floodplain: The study of an urban ecosystem* Environmental Studies Ass Melb

Holmgren, D. [1994] *Trees On The Treeless Plains: Revegetation Manual for the Volcanic Landscapes of Central Victoria*. Holmgren Design Services

Holmgren, D. [1996]. Management of Public Land Incorporating Biodiversity and Productivity; Spring Creek Community Forest Project Case Study in *Is There A Role For Indigenous Permaculture: Integrating the Goals of Ecological Restoration & Permaculture*. Greening Australia Forum proceedings

Streams dominated by environmental weeds in both urban and agricultural landscapes should be managed for multiple values by low cost skill based minimum intervention, to accelerate ecological maturity.

Labour and skill intensive bush regeneration strategies should be concentrated on reserves and other relatively intact remnants of native ecosystems especially those where results will be long lasting.

In particular sites

- (a) of low nutrient status away from stream corridors, and
- (b) remote from human settlement and intensive agriculture

will be most practical to maintain in an indigenous state.

State and local government funding of departmental, Landcare and other proposals which involve large scale removal of existing perennial vegetation should be dependent on the outcome of a comprehensive environmental impact statement.

The State government should provide funding for development and promotion of more ecological (integrated) approaches to management of riparian and public land around settlements and agricultural areas.

SUSTAINABLE LAND USE AND ENVIRONMENTAL WEEDS

Proscribing the control and/or elimination of these species under the Noxious Weeds Legislation or similar regulations will unnecessarily increase burdens on land holders and the State.

Environmental weeds legislation with State funding of control strategies will result in a permanent weeds eradication bureaucracy or industry able to lobby for endless increasing funding for endless increases in “environmental weeds”.

Primary industry can never be competitive unless it uses the most productive biological resources available. Weediness or ability to persist under prevailing conditions is an essential criteria for any species which has the potential to be truly useful to sustainable agriculture and forestry, especially Australian broad acre low input systems.

Most economically useful species are (ecologically) speaking weeds.

For example, Victoria’s most valuable, pasture legume (Subterranean clover), plantation timber (Radiata pine) and tree crop (Apple), are all environmental weeds.

While use by farmers, foresters and horticulturalists of existing valuable crops species can be expected to be protected by any reasonable changes to legislation and regulations, the effects on innovation could be serious.

Proscribing of environmental weeds will stifle research and development in forestry, fodder and horticultural crops with great potential to contribute to the state economy.

For example;

- (a) the most useful tree fodders in Victoria (tagasaste and willows) are both regarded by some as “serious environmental weeds”,
- (b) the best prospective plantation eucalypts (blue gum, spotted gum, sugar gum and mahogany gum) are all environmental weeds, and
- (c) some of the most prospective commercial “bush tucker” species (Cootamundra wattle) are environmental weeds. Olives, probably destined to be one of Australia’s most valuable tree crop exports, is regarded as South Australia’s worst environmental weed.

The state government should focus more of the pest plant control resources on efficient utilisation of so called weeds. This strategy should be integrated with greater emphasis in agricultural, horticultural and forestry research funding toward the efficient utilisation of plant species already common in Victorian rural environments irrespective of whether these are locally indigenous, Australian native or exotic.