



WEEDS OR WILD NATURE?

*This article was first published in the **Permaculture International Journal** in February 1997 (issue 61) reflects the more detailed paper (Article 21) and submission (Article 22) written for a more general audience. It has been available on the Holmgren Design Services website for many years and has been widely circulated within permaculture networks.*



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The permaculture movement's development since from its conceptual origins¹ in the 1970's has been closely connected to Landcare and revegetation. The primary agenda of the movement has been to assist people to become more self reliant through the design and development of productive and sustainable gardens and farms. The design principles which are the conceptual foundation of permaculture were derived from the science of systems ecology² and study of pre-industrial examples of sustainable land use. They suggested agricultural systems needed fundamental redesign rather than fine tuning. A much greater role for trees and other perennial plants to stabilise the landscape and provide for human needs was one of the cornerstones of the permaculture strategy. From one perspective, permaculture is a revegetation strategy.

The initial permaculture vision involved forests of "useful" species planted in arrays to mimic natural systems. Although food species dominate the strategy for intensive [zone1&2] systems, in more broadacre areas fibre, animal fodder and timber along with passive environment functions are the appropriate "uses" of revegetation. My revegetation manual³ concentrates on these broadacre landscapes and functions of revegetation. What identifies it as permaculture is the design system approach and the integration of the productive and environmental functions of farm landscapes.

Landcare is concerned with the repair and restoration of Australia's productive land. Its origins were from diverse local rural groups which emerged simultaneously in the early 1980's in several regions affected by land degradation, most notably salinity and tree decline⁴.

The solutions to salinity, erosion, acidification, tree decline and other symptoms of ecosystem breakdown demanded fundamental changes to agriculture. Revegetation with perennial and in particular woody vegetation has been an almost universal element in the response to rural land degradation.

At the same time there has been widespread recognition that indigenous⁵ species have an important role for utilitarian, environmental and cultural reasons . Many extension workers and funding groups have gone further in suggesting only indigenous species are appropriate and where farmers have little experience this view has been accepted as the "expert opinion".

1 Mollison, B & Holmgren, D. *Permaculture One* Corgi Melbourne 1978.

2 Odum, HT. *Systems Ecology* Wiley 1984 is the definitive text.
Odum, H. *Living With Complexity* in The Crafoord Prize in the Biosciences 1987 from The Royal Swedish Academy of Sciences provides a good overview.

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

4 Holmgren D. *The Landcare Movement* in Burgess, G. Building Community in press 1996 RAlA

5 Indigenous means native to a particular area or region. The term native is often used in this context but also refers to any Australian species.

The farmers with more experience in revegetation who are driving the landcare push recognise that new resource values must be generated by revegetation if it is to become an economically viable part of farming. Farm forestry and fodder trees are the dynamic expanding edge of landcare which is promising to generate wealth. In this context restriction to local native species is akin to try to plant a tree with one hand tied behind one's back.

In urban areas people have been more protected from the direct effects of land degradation. However increasing awareness of both the loss of indigenous species and their under estimated values has become a central issue for many urban environmentalists. The passive destruction of indigenous ecologies by environmental weeds became a primary target overtaking the traditional campaign focus on destructive development projects. This shift can be partly attributed to the success in preventing active destruction of remnant urban bushland. This success can be contrasted with the failure to make significant impact on the structural basis of unsustainable urban development and consumption.

The new focus on the concept of environmental weeds (invasion of non indigenous species into bushland) has been helped by government support and funding for an urban Landcare model of recreating native ecosystems in public open space and urban wasteland. State and federal funding has seen the rapid growth in projects involving the community as well as spawning an urban revegetation industry. The vision involves re-establishment of native ecosystems as the backbone of productive urban and rural landscapes.

Increasingly government and community resources are being used to destroy healthy existing vegetation. The considerable ecological and other values of this non-indigenous vegetation are not considered while the adverse impacts of removal methods (e.g. herbicide) are not properly assessed. The problems of isolated pockets of indigenous revegetation surviving in isolation from surrounding land use are ignored or vaguely addressed by grandiose schemes to progressively get rid of "all the weeds"

Implicit in permaculture strategy is the acceptance that nature is an active designer herself and that it will be the co-evolutionary development of wild systems which may be the real keys to sustainability. Wild nature is evolving new ecosystems from a mix of self reproducing species at an ever increasing speed. This "ecosynthesis"⁶ is nature's self organising response to the disturbances since European settlement and follows patterns described by systems ecology.

In some areas especially along streams the ecosynthesis process is advanced to the point where forests of mixed native and exotic species are beginning to show systemic

6 Nanninga, P., Tane, H. & Dann, P. *Exotics Verses Natives - Why Not Both?* in Proceedings 1994 Greening Australia Conference provides an overview of the case for mixture of plant materials in urban landscapes and uses the term ecosynthesis coined by Haikai Tane.

characteristics. Study of these advanced examples of ecosynthesis is conspicuous by its absence apart from a few informal permaculture inspired projects⁷.

Recognition of the amenity values of these areas is begrudging at best while their hydrological and soil building values remain undocumented. Any discussion of current or future resource values is dismissed as something irrelevant to economic well-being in a high energy affluent society.

In a low energy future (which I believe is inevitable⁸) this process is likely to be more important in stabilising resource degradation (erosion, salinity, acidification, eutrophication etc.) and in generating economically harvestable resources (timber, fodder, food etc.) than either our chosen crop systems or native vegetation.

Much of the criticism of permaculture has revolved around its potential to spread environmental weeds. The depth and intensity of criticism of permaculture by some environmentalists⁹ seems to revolve around the suggested use of plants which have potential to naturalise.

In fact mainstream urban and rural revegetation activities are major contributors to past and future plant naturalisation but do not draw such vociferous condemnation perhaps because this process is not an intentional outcome. In other words it is the “bad” intentions rather than “bad” results of permaculture which have attracted such negative attention.

In general permaculture has made little impact on public land management policies and actions because efforts to introduce more productive species have not been very successful. Proposed and actual plantings tend to divide into types which;

- require too much care and attention for public land or
- naturalise (given the right conditions) and are therefore deemed environmental weeds.

Most permaculturalists have focused on getting their own house in order, leaving the public land to others. Others have themselves adopting a segmented view of land use where small scale food gardens on private land would be surrounded by indigenous systems on public land.

7 Spring Creek community forest project in Hepburn outlined in the following Greening Australia seminar proceedings is a good example of permaculture principles applied to public land weedscape management. We make use of this extensive site in teaching ecological succession, reading landscape and a permaculture approach to environmental monitoring and revegetation in our residential Permaculture Design courses.

Is There A Role For Indigenous Permaculture? Integrating the Goals of Ecological Restoration & Permaculture Greening Australia PO Box 525 Heidelberg, 3024 Vic, Australia.

8 Holmgren, D. *Energy and Permaculture* in The Permaculture Edge Vol. 3 issue 3 October 1993.

9 Robin J. Unpublished paper (1980?) John Robin has been one the strongest critics of permaculture although a public debate at the Tasmanian University in 1990 involving us both as well as Terry White and John Rankin demonstrated less differences than rhetoric suggested.

However permaculturalist along with gardeners and horticulturalists generally reacted strongly in 1994 when the Eltham shire in the State of Victoria attempted to declare noxious and demand the destruction of an additional 54 species on private lands.¹⁰ This led to a minor sectarian war between environmentalists of the permaculture and native persuasions.

Leading proponents of indigenous revegetation¹¹ acknowledge that a legislated approach to environmental weeds will be ineffective and unenforceable but feel that the public education value override any adverse effects on people's land use rights.

The productive result from this conflict is that the fundamentals of the respective conceptual frameworks are being articulated. Unaddressed contradictions in both positions need to be worked through and practical strategies developed which can be applied by both private landholders and managers of public land who find themselves in an understandable state of confusion.

Ecosynthesis is a reality which few ecologists would deny. From a permaculture perspective concerned with ecological sustainability, ecosynthesis of native and migrant species is likely to provide the most effective solutions to land and water degradation. In addition, ecosynthesis will yield the information on which to base more deliberate design based approaches (permaculture) to productive rural and urban land use.

In the process of dealing with both technical uncertainty and a range of environmental values and agendas, we need to accept that a diversity of approaches will provide the most useful results for the next generation to evaluate and use. Inevitably these will all be real ecological experiments on the edges of the gigantic experiment we call modern industrial society. Wild nature may turn out to be a critical fallback resource for society in crisis and even contribute to new biodiversity adaptive to a planet changed forever by the mining of 750 million years of stored solar energy and 10 billion people.

If we are serious about reducing the environmental impact of our towns and suburbs then we need to focus a lot more on our use of transport, home energy use and where our food comes from and a little bit less on whether our backyard supports three or four species of honeyeater.

In the end, a garden full of local native plants may appear to be environmentally sound but if we include the power station, the market garden, commercial orchard and the rubbish tip in the picture it doesn't look so rosy. I believe the real reason that more people prefer to

10 Pest Plant Law no. 10 [1994] failed because of strong public opposition. It required the destruction of 54 species (in addition to species listed in the state Noxious weeds legislation) and required control of propagation of a further 29 species. The amalgamated Nillumbik shire has since attempted to use planning controls to the same effect based on much larger lists (216 species) included in the Pest Plant Management Strategy 1992 and based on a plant survey (McMahon 1989) which identified half the flora of Eltham as weeds. The current Inquiry into Pest Plants in Victoria by the Environment and Natural resources Committee of the parliament sees this attempt at control moving to a state wide stage.

11 Lincoln Kern, Randal Roberson and others at Greening Australia forum August 96

grow native plants is that it involves less work and skill than growing your own food and that food remains so cheap (while farmers go broke and farmland degrades) that most householders can't be bothered. For those of us committed to household environmental responsibility, an apple is a better symbol than a gum nut.