



Editorial

Biodiversity, sustainability and a land ethic

A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise. Aldo Leopold (1949)

One of the latest buzz words associated with the world's growing concern for sustainability (whether it be management or development) is biodiversity. Diversity is seen as necessary for the viability of the biota (Namkoong 1992) and, this being the case, it is inexorably linked with the international community's concept of sustainability (one assumes that *Homo sapiens* is in that same biotic boat).

New Zealand legislation has moved with the times in addressing these issues, and many would claim is in the vanguard, with the passing of the Resource Management Act (RMA) 1991 and, to a lesser extent, the Biosecurity Act 1993. The RMA in particular has focused the minds of land users, whether foresters, agriculturists or preservationists, and also planners and local government officials responsible for interpreting and implementing the 380 page Act.

The particular focus has been "sustainable management", as outlined in Section 5 of the RMA, and the questions it begs; what does it mean and is any particular land practice sustainable? Plantation forestry is as much under question as the more intensive, higher input land uses of horticulture, dairying and pastoral farming – arguably more so. We would be naive to believe that forestry holds the moral sustainable high ground, no matter how well we may think we look by comparison. There are real questions to be addressed concerning both the species/regimes we prescribe and our operational practices.

Society's Values

Society's perspective on sustainability seems very closely related to the real or perceived biodiversity of a system. There are two major associated values that influence the public's judgement on sustainability and therefore its perspective on land use. The first is a subconscious desire to maintain the status quo. Change always involves some measure of uncertainty and risk. Scientific evidence and eloquent rhetoric may amount to diddly-squat when it comes to the vote. However, maintain-

ing the status quo is neither feasible, nor desirable. Dynamic change is nature's way and may be fundamental to maintaining biodiversity and sustainability. This is yet another of those paradoxes between society's best intentions and the reality of their actions that is only too common in the environmental debate. Inadequate information provides inadequate solutions.

The second value is a suspicion of any perceived monoculture, and single species forestry plantations stand out in the public's mind like proverbial canine's gonads. I say perceived monoculture here because sub-canopy and ground-based vegetative (not to mention fauna) associations are nearly always ignored when the public consider a planted forest.

A land use that runs foul of just one of these values comes under some scrutiny (e.g. the largely status quo "monocultural" improved pasture systems and arable crops). However, a plantation forest offends both values and subsequently gets both barrels of the gun. For this reason the forestry profession needs to be especially sensitive to society's wants and needs, and also to be sure to ask questions of ourselves. We do not have all the answers.

The first question ought to be: "What do we mean by sustainable?" The best

definition I have read is "use it, but don't use it up", which equates to soil as much as it does to a forest. One thing we do know, sustainability is qualitative: something either is or isn't sustainable. No one can claim to have achieved 95 per cent sustainability – that's a nonsense – the "achievement" is unsustainable. (One could argue that sustainability is also subjective, with perhaps shifting goal posts to boot – but that is another story.)

The next appropriate question is: "Are we as sustainable as we think we are?" To our credit the Nelson conference examined exactly this issue.

Biodiversity in Managed Forests

There are two biodiversity extremes to a managed forest continuum along which society's tolerance waxes. At one extreme (A) is a forest that is:

- planted,
- with a rotation length of less than 10 years,
- of a single clone,
- rapidly growing,
- even aged,
- single use (i.e. commercial production of fibre),
- intensively managed with high energy inputs,
- and harvested by clear cutting.



Mixed farm planting on Keith and Lyn Wilsons' farm near Te Kuiti. Photo: A. Bowker

The other extreme (Z) is a forest that is:

- naturally regenerated,
- has a long rotation of say 120 years plus,
- of mixed species,
- slow growing,
- mixed age,
- multiple use,
- extensively managed with low energy inputs,
- and harvested using a selection method.

Some would say that, generally, intensive agriculture and horticulture occupies the area beyond extreme A, and a forest managed for non-wood values somewhere beyond extreme Z.

Both extremes may be sustainable, but few would dispute that the second is more biodiverse, and therefore in the public's eye, "more sustainable"; a nonsense concept, as has already been mentioned.

The relative real or perceived biodiversity is one of the reasons, as well as the relative energy inputs, why A is under the most suspicion and scrutiny by the public – and rightly so. Plantation radiata pine management must admit to being closer to A than Z. We should also admit that a pre-occupation with LRR's high discount rate discounted cashflow analysis tends us toward extreme A.

What is particularly annoying is that the public's scrutiny, particularly because of its suspicion of change, may at times appear to ignore land uses beyond the most intensive forestry regime (Masterton District Council, for example, appears to see more potentially adverse effects from a newly-established three hectare woodlot than from three generations of insidious hill-country erosion under pasture), but that is no excuse for foresters to ignore their own backyard.

A Land Ethic for the Institute?

All this discussion about society and sustainability leads to an interesting question: "Should the Institute consider adopting a land ethic?"

In November 1992, the Society of American Foresters (SAF) revised their Code of Ethics to include a land ethic canon: "A member will advocate and practise land management consistent with ecologically sound principles." It was given a priority above other canons relating to self, clients, society and other members. They also amended the preamble to their Code of Ethics by adding a new first sentence, "Stewardship of the land is the cornerstone of the forestry profession" (Craig 1992 and Banzhaf et al 1993). Craig (1992) in particular answers some of the questions this land ethic raises.

Some background to this decision is important. Forestry management in the United States has been under enormous

pressure and public examination for some years now, particularly in the Pacific North West. Society has imposed a regulatory model to environmental management in this area, creating greater costs and more inflexibility than many would think necessary. The South Eastern States appear to be following a less regulatory model, with considerable effort being put into the development and application of voluntary Best Management Practice procedures.

The comparison between the Pacific North West and the South East environmental management models could not be more marked. However, the success of the South Eastern forestry strategy depends on the development of trust between society and forest managers. An ethical base is very important in achieving this end. New Zealand is in a similar situation to these States in having environmental legislation that is designed to be enabling in approach, yet much of the pressure from planners and society is to "play safe and regulate". The development of an ethical base may be the key to ensuring an enabling approach is adopted. It should cover all land uses, and, in fact, the modifications to the SAF Code of Ethics espouse universal sustainable land management principles.

The ethical debate is interesting. The rigid application of financial decision criteria can "rationalise" unethical and unsustainable practices, particularly if they impact on future generations and not our own. You can quite rationally bankrupt or poison a future society; depending on how much you value today in relation to tomorrow. Scary, but true.

Dennis Richardson examines this dilemma between ethics and finance in his article in this journal. It has also been alluded to in past issues of the journal as it relates to the professional principles of

multiple use and sustainable yield.

Professionalism is often associated with the rigorous application to standards, both technical and ethical. They help differentiate us from the "silverculture" (sic) experts and some neo-rationist bean counters who like to make decisions in a temporal vacuum, and without regard to any intangible externalities that impact on the environment and society. We cannot call ourselves professionals if we focus on just the technical.

Sustainability – Should we be Concerned?

Namkoong, in the paper referred to elsewhere in this editorial, addressed the question of whether we should be concerned with biodiversity (and, by inference, sustainability). Her reply was: "The question is like asking if we should be concerned with breathing. We have no choice. More to the point, we are privileged to be concerned and to have the opportunity to exercise an informed concern."

The Nelson conference was an embodiment of this sentiment. But the Institute membership needs to keep the issue in mind. It won't go away.

References

- Banzhaf, W.H., C.I. Lloyd, F. Marshall, J.E. Confal and Z.J. Cornett. 1993: Ethical Decision Making: A Roundtable Discussion. *Journal of Forestry* 91(4): 10-13.
- Craig, R. 1992: Land Ethic Canon Proposal: A Report for the Task Force. *Journal of Forestry* 90(8): 40-41.
- Leopold, A. 1949: A Sand County Almanac. Reproduced 1966, Ballantine Books, New York.
- Namkoong, G. 1992: Biodiversity – Issues of Genetics, Forestry and Ethics. *The Forestry Chronicle* 68(4): 438-443.

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