Conflict in Paradise:
The Transformation of Rural New Zealand

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Session 8: Sustainable Land Uses;
Sustainable Management of Forest Ecosystems

Murray Parrish

Executive Summary

- Definitions of 'sustainable' are many and varied.
- Sustainability is a human construct, dependent on time scale, world view and arrogance.
- My perspective is shaped by my background as a biologist, forest manager and political junkie.
- Sustainability can only be judged comparatively e.g. Fuel types, styles of housing, modes of transport.
- Comparatively, plantation forestry is sustainable.

Any commentary on the sustainable management of forest eco-systems requires context. What the forest manager is trying to 'sustain' requires definition of the ecosystem values being sustained. Biodiversity? Water and soil values? Profits?

Determining whether a forest 'ecosystem' is being sustainably managed?

Is a forest ecosystem a population of Hochstetter's frogs in a damp crack in Dome Valley (North of Auckland)? Is it the naturally acid soils under all mature forest canopy? Or is it the profitability of a commercial forest venture in order to fund the educational grants of a Maori Forest Trust, or the absorption of CO_2 emitted to the atmosphere by steel and cement mills?

The definition of a forest ecosystem is a complex set of relationships of living organisms functioning as a unit and interacting with their physical environment. A forest ecosystem therefore can incorporate all of the above, but not necessarily all together and not all of the time. Sustainable management must take a holistic and dynamic perspective of the system.

Sustainable forest management is either a dynamic equilibrium between multiple conflicting objectives, or it is a fiction.

The Resource Management Act 1991

The RMA evolved from the Town and Country Planning Act. Under the T&CP Act, planners decided on the form and function of the community, following guidelines established by the Ministry of Works in Wellington.

My recollection is that the Act's authors were determined to move away from the Orwellian-style "two legs bad, four legs good" "command and control" of the Town and Country Planning Act.

The RMA defines 'Sustainable Management of the Environment' as including a balancing of social, economic and 'ecological' considerations. Balance is achieved by way of consultation on draft Plans.

Interestingly, the Forest Stewardship Council 'Principles and Criteria' for sustainable forestry (www.fsc.org) also require a balance between social, economic and environmental, as do inter-governmental initiatives on sustainable forest management such as the Montreal Process 'Criteria and Indicators' (www.mpci.org). Negotiation of 'National Standards' under FSC require each of those interests to be expressly represented.

The RMA's authors wanted to get past the dictates of what were good and bad, which usually reflected little more than people liking what they knew. For example, under T&CP Act, soil of high value for food production did not include the barren, stony or leached soils of Martin borough and the Kawerau Gorge. Interesting that those same soils probably rival Pukekohe in terms of a per hectare value today. Old style Town Planners knew better than to allow land owners to turn water into wine!

Part 5 of the RMA requires users of natural resources to 'avoid, remedy or mitigate' the effects of their activities on the environment.

The approach of the Act is such that, in theory, anything could occur anywhere. Limits to development arise naturally from the cost of undertaking activities while at the same time 'avoiding or mitigating' the effects, exceeding the social and economic benefits.

It was intended that 'effects based' thinking would replace the T&CP Act approach whereby forestry (for example) was internationally relegated to steep/erosion prone land to protect better contoured/more fertile land for 'agriculture'.

'Sustainability' under the RMA is, or should be, determined through a comprehensive (costly?) process of plan and policy development. In my judgement, the final decisions are largely political, in the absence of any person or organisation with the resources and perseverance to pursue an Environment Court Appeal.

The success or otherwise of the RMA is likely a matter of opinion. In my assessment it has been by and large a failure as evidenced by the facts that:

- Central Government is increasingly looking to constrain regional and district council decisions through the use of National Policy Statements and National Environmental Standards, which cannot be appealed to the Environment Court.

- Many objective measures of 'environmental sustainability' suggest the rural environment continues to deteriorate, as evidenced by the Parliamentary Commissioner for the Environment's report "Growing for Good".

- Plantation forestry remains comprehensively regulated in many parts of the country while other activities with similar or arguably worse environmentally effects continue as permitted or unregulated activities.

- Proposals for new wood processing are regularly declined consent, notwithstanding the 'environmental' benefits of reduced transport costs, reduced emissions and local employment.

Forestry as one of an alternative range of land uses

My primary interest as a representative of private sector equity is in economic return on investment. My motivations are little different and arguably identical to every other private sector freehold land owner.

My experience as a forest land manager is that the adverse ecological effects of forestry are no worse, and arguably better, than many alternative uses of the same land. A paper given a few weeks ago referenced evidence showing that on average, forestry generated on order of magnitude less sediment than the same land in pasture. Forestry was regulated under the T&CP Act and remains large regulated today. Many of the land use activities permitted as of right under the T&CP Act remain largely unregulated today.

Any assessment of the 'sustainability' of forestry requires a comparative assessment against alternative 'permitted' or unregulated land uses whose effects are presumably deemed 'sustainable', at least in the context of the RMA. A few examples illustrate the issue whereby:

- Forest managers in large measure adhere to the voluntary 1991 Forest Accord in determining which natural vegetation/ecosystems to retain and manage, at their cost, in perpetuity! Regulation of forestry under RMA increasingly assumes the Forest Accord as a minimum, and requires management and monitoring (for example) of iconic species such Hochstetter's frogs, native falcons, kiwi etc. By comparison, the direct regulation of biodiversity on intensively managed agricultural land is in my judgement invariably less than required of the same land in forestry, often for the simple expedient that very little natural biodiversity remains. (Note: This general observation is in no way to discredit the tremendous efforts made by

many agricultural land owners in protecting remnant vegetation and similar valued biodiversity on a voluntary basis and at direct cost to the individuals concerned.)

- Water and soil considerations including erosion potential following vegetation clearance and the construction of access roads have been used to justify a multitude of controls on forestry. Restrictions on the area of a catchment able to be cleared, proximity of activities to surface water features, extensive requirements for storm water control etc., all add (legitimately?) to the costs of forestry (e.g. Forestry Consents in the Coromandel can impose in excess of 60 conditions).

- The extent to which the same activities of vegetation removal, 'activity' in proximity to water and the disturbance of soil during cultivation are permitted when part of agricultural land use has the effect of making agriculture a more profitable use of land than forestry.

- Whether water and soil controls should be regulated individually by way of Resource Consent, or whether a better overall environmental outcome could be achieved at least cost by introduction of controls on 'Permitted' activities will likely be debated for a considerable time yet. As a general rule, the land use offering the greatest return on investment in land through (amongst other things) greater or lesser costs of regulatory compliance will in time be favoured by economically rational land owners.

- A frequently cited reason for the regulation of forestry under T&CP Act (and the early days of the RMA) was the 'acidification of soils' under closed canopy forestry. Today, soil nutrient considerations are a more recent factor in pastoral land use, with growing awareness of the impacts of non-point source agricultural nitrate effects on surface and ground waters and the potential for build up of cadmium in some 'elite soils'. These concerns have yet to translate into widespread use of regulatory controls on agriculture.

- The relative nutrient depletion and therefore overall sustainability of forestry as compared with many other predominant rural land uses is most easily assessed by considering the quantity of essential minerals including phosphate, nitrate and calcium removed from a site in a tonne of wood as compared to a tonne of meat, milk or wool. The fact that agricultural land requires relatively far greater amounts of fertilizer and lime compared to forestry is a fact.

- Whether the relative necessity for greater inputs to maintain productivity is a measure of 'sustainability' is a matter of opinion. I for one like to eat, as much as I appreciate being warm and sheltered.

- International concern associated with climate change has focussed attention on a previously unconsidered measure of sustainability, the so called 'carbon footprint'. Forestry compares favourably against competing building products such as steel and concrete, which is ironic when considered in the light of the

relative impacts of NZ ratification of Kyoto Protocol on forestry, versus those other sectors.

- The shielding of 'fossil-energy-intensive' alternatives to wood and wood products, by reallocation of the accrued carbon credits from forestry plantings in the 1990's, has the effect of shielding forestry's competitor products at forestry's expense. Forestry is subsidising its competitors by incurring the cost of mitigating GHG pollution emanating from steel and concrete manufacture. Agriculture, which competes with forestry indirectly by way of the price of land, is proposed to be shielded from its Kyoto liabilities until 2013, ostensibly because of the absence of any methane and NOX emission reduction potential within the agricultural sector. I will address this point directly at the end but would reiterate my comment above that affordable food is likely a more important consideration than holiday air travel in any determination of overall 'sustainability'.

- The key message is that on climate change terms, forestry is demonstrably more sustainable than many other activities.

Conclusions

Is forestry 'sustainable'?

The many social, economic and environmental factors legitimately requiring consideration suggests only the fool hardy would give a categorical answer. Assessing the sustainable management of forestry ecosystems requires prior determination of some reference point.

However, I am confident on a general comparative basis that plantation forestry as practiced in NZ is as, or more, sustainable a productive land use as any. Over half of all planted forests (the vast majority of the corporate forestry companies) have achieved independent 3rd party certification as 'well managed' forests under FSC, which covers all three pillars of sustainability; and the forestry sector has led in development of standards for sustainable forest management both nationally and internationally.

There is a significant imbalance in the social and 'community expectation' cost incurred by forestry, relative to sectors with which it competes indirectly for land or directly in terms of the retail price of building materials. On this basis, and this cost imbalance has led in part to making forestry economically illogical in some regions thus, making it environmentally unsustainable at least in RMA terms.

The effects-based logic of the RMA should have resulted in no greater, and arguably a more permissive regulatory regime, than other predominant rural land uses if biodiversity, recreational access, water and soil stability, nutrient and carbon budgets etc., are truly valued by the community. It has not.

Impartial application of the 'effects-based' mandate of the RMA should provide a strong driver of research and investment in non-point source agricultural nitrate and many other looming environmental problems. Perpetuation of a permissive regulatory regime with respect to agriculture is defended on the basis that little change in current practice is possible. Tomorrow will not come until someone sets a date!

The regulatory approach promulgated by agencies such as Environment Waikato and the Ministry of Agriculture and Forestry in promoting and supporting 'Variation 5' arguably incentivises the continuation of non-point source nitrate pollution of Lake Taupo by allowing existing 'unsustainable' land uses to continue until and unless they are compensated for 'losses', by way of an $80 million tax/rate payer fund. The irony that it has been left to the forest industry to identify ways of avoiding, remedying or mitigating the adverse effects of agriculture in order to preserve the opportunity value of forestry has not been lost on the forest owners. More recently, tax payers have been identified as the solution to pollution of the Rotorua Lakes.

It could be speculated that the lack of faith in any likelihood of equitable regulatory treatment irrespective of the statutory mandate in the RMA, compounded by the inequity within the proposed Climate Change (Emissions Trading and Renewable Preferences) Bill has motivated informed forestry investors to depart the industry in favour of economic sustainability elsewhere.

Forestry is nothing if not long term which raises the interesting question:

What did the forefathers of New Zealand's forest industry do for the climate constrained, fossil energy intensive baby boomer generation?

And will there be a baby boomer generation of foresters to provide for Generation Z?

THANK YOU.