

Progress

The long white cloud over New Zealand's forests



New Zealand, it seems, represents somewhat of a curious paradox. While the world's attention has been attracted to the country's 'clean, green' image, it is not widely known that the 'Land of the Long White Cloud' has a dark history of massive deforestation and biodiversity loss over the last 1000 years. Even today, although governments have introduced progressive conservation measures through legislation since the early 1970s, logging of indigenous forest quietly continues, and exotic species are over-running native ecosystems. New Zealand has a big challenge on its hands.

Indigenous forest once covered 85% of the land, but since human settlement between 800–1000 years ago, this has reduced to just 23%¹ today, with some types of forest particularly decimated. Majestic kauri forest, for example, which became the centre of an intensive forest industry, now occupies only 80 000 hectares of its original 1.2 million² – a reduction of over 90%. Losses of native biodiversity related to loss of indigenous forest decline have followed, including the extinction of 32% of endemic birds.³

Despite this past, however, New Zealanders have awoken to the international pricelessness of their natural assets, and in the last few decades have wrestled ongoing socio-political hurdles to take significant steps towards conserving their remaining wilderness.

One radical and fiercely debated measure has been to end all logging of indigenous forest on Crown land – even that conducted in a 'sustainable' or sensitive manner, such as via helicopter extraction.⁴ This was a key pre-election promise of the Labour opposition elected to government in 1999, and it took full effect in March 2002.

The issue of logging of indigenous forest on private land, however, is more complex. Under a 1993 amendment to the Forests Act⁵, logging is still permitted provided it is 'sustainable'.

Most New Zealanders, therefore, believe that all indigenous forests are now protected from unsustainable methods such as clear-felling.



Exotic plants and animals threaten all of New Zealand's protected forests.

Forest dieback in the Tararua Ranges, near Wellington. Andrew Shepherd

This is not, in fact, the case. Firstly, plantations of indigenous trees may be harvested by methods such as clear-felling. However, New Zealand has very few plantations of indigenous species, and these are not large in size.

Secondly, the *Forests Act* does not apply to destruction of indigenous forest for reasons other than timber harvest, i.e. land clearance to create pasture, to create plantations of exotic forest, and for various other uses. Although this type of modification is governed by the *Resource Management Act* (RMA), the Act is implemented through district plans with very different levels of local control on the clearance of indigenous forest. Therefore clearance continues at small but significant levels.

Most significant though, is the issue of lands awarded to Maori (New Zealand's indigenous inhabitants) in the South Island of New Zealand in 1906 under the *South Island Landless Natives Act* (SILNA).⁶ Today, this represents 50 000 hectares of

land, of which approximately 24 000 hectares is covered with indigenous forest.⁷ These forests are exempt from the Forests Act, 'thereby allowing the continued unsustainable harvesting of indigenous timber'.⁸

Approximately 10 000 to 20 000m³ of timber is harvested each year from SILNA lands.⁹ At least some of this is by unsustainable methods such as clear-felling. For example, in the last year in just one region – the Tautuku Waikawa region of the South Island¹⁰ – an area of some 50–70 hectares of indigenous forest (predominantly rimu) was cleared. While a relatively small area, this is not insignificant harvesting when it also occurs in other regions. Logging is currently being planned in other areas of South Island and will involve damaging haulers rather than the acceptable helicopter extraction techniques.

There are, however, differing estimates of the levels of unsustainable logging on SILNA lands, with one governmental official stating 'almost none of it' as 'all harvest

1 <http://www.biodiversity.govt.nz/picture/biodiversity/state/destruction.html>

2 <http://www.doc.govt.nz/Conservation/001-Plants-and-Animals/002-Native-Plants/Kauri.asp>

3 <http://www.biodiversity.govt.nz/picture/biodiversity/state/index.html>

4 For a discussion of the arguments see Coddington, D. (2000). *Fighting on the Beeches North and South*, April 2000, pp. 80–91.

5 <http://www.maf.govt.nz/mafnet/sectors/forestry/forind/forind03.htm>

6 <http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/indigenous-forests/indigenous-forestry-on-private-land/indigenous-forestry02.htm>

7 <http://www.maf.govt.nz/forestry/publications/forestry-sector-issues/fsinewzealandindigenousforests.htm>

8 http://www.maf.govt.nz/forestry/publications/development-of-maori-owned-indigenous-forests/maori-forests02.htm#_Toc39302367

has to abide by the Resource Management Act', and another 'almost all of it'. The debate likely revolves around the definition of 'sustainable logging', and confidence in the RMA to protect indigenous forest.

Indigenous forest coverage on SILNA lands currently is much greater than that both nationally (23%) and on non-SILNA private lands (7%), and, therefore, is a conservation issue. However it is also considered a justice issue, with SILNA stakeholders arguing that these lands were originally awarded firstly, in compensation for the loss of other (more valuable) land to European settlers, secondly, in recognition that the SILNA recipients had essentially no assets and therefore no means of looking after themselves, and thirdly, in order to 'provide for their [SILNA recipients'] support and maintenance'. It has also been argued¹¹ that they were given with the understanding that they *would* be logged, to generate an income.

Today, the financial potential of logging these lands runs to the hundreds of millions of dollars. At present, SILNA ownership groups do not have large cash reserves. This has ramifications both in terms of the financial incentive for clear-felling – which is more lucrative than sustainable harvesting, and also in SILNA owners' limited ability to pay for expertise to develop sustainable forest management plans.

Government policy has attempted to address the conservation of SILNA land in a variety of ways during the last decade. In the 1990s, laws were passed to prevent the export of indigenous timber not harvested in a sustainable manner. These were later over-ruled, but as of May 2004, this is once again the case.

The current policy is also to negotiate settlements with SILNA forest owners. Currently 40% of SILNA forest is protected by voluntary moratoriums on unsustainable logging, in exchange for a small annual payment. An example at the other end of the spectrum is a \$10.9 million settlement negotiated in 1999, whereby 3515 hectares on Stewart Island was permanently covenanted for management as a national park.¹²

Increased public ownership and management of forested land has become

New Zealand's age-old warriors: highly valued but slow to recover

The key indigenous tree species that once supported the timber industry (in particular kauri, rimu and kahikatea) attain enormous heights and girths. Kauri grow up to 50 m high and can measure 16 m around the trunk, and the wood is highly valued for durability, easy workmanship, and lack of knots due to lower branches dropping off as the tree grows. However, like most other indigenous tree species, it is incredibly slow growing, and with a lifespan of up to 2000 years requires very long timeframes to repopulate harvested areas.



A New Zealand kauri. Andrew Shephard

Some indigenous forests can be sustainably harvested with as little as a 40-year rotation, but kauri, and the podocarps (or 'southern conifers'), such as rimu, require hundreds of years to recover. Rimu needs rotations of 300–500 years.

an important strategy in New Zealand conservation, covering areas beyond just SILNA lands. However, management of these areas has become an increasingly challenging issue. Although directly protecting forests from logging, the focus of management has expanded from logging-related deforestation to the fundamental health and sustainability of broader forest ecosystems under threat.

Introduced plant and animal species are significantly affecting forest ecosystems.

Big threats include possums (introduced for a fur trade, and now numbering an estimated 80–120 million), goats and deer (which together kill whole forests by grazing on new growth), rats, ferrets, stoats and weasels (all of which decimate the native bird populations), and a range of aggressive exotic weeds. Even grazing cattle and sheep prevent native seedlings reaching maturity, thwarting natural renewal of the forest. Exotic species threaten all of New Zealand's protected forests.¹³

Forestry groups, who fought hard against the government's decision to end all logging of indigenous forest on Crown land, argued not only that logging could be conducted sustainably, but also that they in fact helped protect the forest ecosystem from foreign species damage by, in some cases, putting considerable money into control.

The Biodiversity Strategy, a combined governmental agency document developed in 2000, addressed this issue of feral species control. But, while the amount of funding now available is huge per capita (the Department of Conservation budget for possum control alone is \$13 million¹⁴, for a human population of 4 million), it is dwarfed by the size of the problem. As Department of Conservation fieldworkers around the country have reiterated, 'We are fighting a losing battle to save our native ecosystems; the issue is not whether we can save them, it is how long we can keep them from extinction'.

Ironically, despite considerable conservation efforts across New Zealand, the future of the country's forests will now depend less on the setting aside of areas and more on the ongoing battle against the boundless effects of introduced species on forests.

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More information:

Department of Conservation and Ministry for the Environment (2000). *The New Zealand biodiversity strategy: our chance to turn the tide*. Department of Conservation and Ministry for the Environment, Wellington. www.biodiversity.govt.nz/picture/doing/nzbs/index.html

Overview of New Zealand forestry issues:

<http://www.maf.govt.nz/forestry/publications/forestry-sector-issues>
From Principles to Practice: The New Zealand Sustainable Forest Management Story. www.evergreen.co.nz/03pdf/2003principles.pdf

The Ministry for the Environment. *The State of New Zealand's Environment 1997*. GP Publications. www.mfe.govt.nz/publications/ser/ser1997/html/index.html

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9 <http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/indigenous-forests/indigenous-forestry-on-private-land/indigenous-forestry04.htm>

10 Ministry of Agriculture and Fisheries, Pers. comm.

11 When, N.R. (2002). Foul Play? Government and the SILNA Forests. *NZ Journal of Environmental Law*, 6, 279–296; Devoe, N. (2000) Seeing the forest for the trees: The future of the SILNA Lands: <http://www.otago.ac.nz/Zoology/hui/Main/Talks2/Devoe.htm>

12 <http://www.maf.govt.nz/forestry/publications/forestry-sector-issues/fsinewzealandindigenousforests.htm>

13 <http://www.biodiversity.govt.nz/picture/biodiversity/state/pests.html>

14 Department of Conservation Annual Report for the year ended 30 June 2004:

[http://www.doc.govt.nz/Publications/001-Corporate/047-Annual-Report-\(for-year-ended-30-June-2004\).pdf](http://www.doc.govt.nz/Publications/001-Corporate/047-Annual-Report-(for-year-ended-30-June-2004).pdf)