

There was the extensive nursery itself and all its operations. There was a surrounding arboretum of introduced forest trees, the adjacent Whaka plantation in which some of the stands were already more than 20 years old, and Kaingaroa land and the land of many forestry companies was being planted at a rapid rate.

At the end of the year I won a Smith/Wylkie Forestry Scholarship to attend the recently established Forestry School in Auckland. During the four-year course one had to complete 12 months of practical work – which meant working

during vacations – and write an account of it in diary form. I therefore wrote up my year in the Whaka nursery. I still have it, so will present this to the old stables.

It is revealing to look back on that year in the Whaka nursery and study the main developments that have taken place since. Two stand out above all others. Horsepower has been replaced with other modes of power, thus saving a great deal of money and facilitating the introduction of new techniques of dealing with nursery stock. Of equal, or possibly of greater importance, has been the development of

chemical weedicides.

Modern methods of developing and multiplying planting stock have come about through recent research, some of it genetical. These will lead to many wider developments.

One needs to bear in mind the unique history of development of the pumicelands and that the pendulum has swung from plantation forestry to agriculture. It will continue to swing in the future. But the potential for the development of plantation forestry in the remainder of New Zealand is considerable.

## LETTERS

### Age to harvest your woodlot

Sir,

There has been an ongoing argument within the forestry press regarding the correct age to harvest a forest. What is right economically is not necessarily right scientifically. I have found this discussion extremely interesting. I have a degree in economics and a forestry science degree; I am therefore neither one side nor the other.

The problem in choosing an age to harvest relates to two things. The market sets one standard based on diameter size, branch size and sweep; while the wood scientists insist density is all important. Considering the market does not recognise density (yet), many companies and woodlot owners harvest their trees as early as possible.

Is it fair to blame the forest grower for

putting “inferior” wood onto the market? The forest grower has planted and tended the forest for one reason. The grower wants to make as high a return as possible. The forest grower tries to produce what their market asks for in as short a period as possible. This decision maximises the forest growers’ Internal Rate of Return (IRR) and the growers’ Net Present Value (NPV). It makes perfect sense that the grower should aim to do this.

However, there is no argument that low-density wood is inferior and could conceivably cause the forest industry great harm if used under the wrong conditions. Nevertheless, if low-density wood is used in the wrong place, then surely the fault for this must lie with the market and not the grower.

To date density has not been a problem, due to the traditional end products of *Pinus radiata*. Density is virtually irrelevant if the end product is car package cases, pallets or other low-quality products. If this is to be the end use, then as long as the spec’s measure up, the forest should be harvested. The problem exists today because *Pinus radiata* is being used

in areas where strength is important. The market is willing to market *Pinus radiata* for this use (and get a premium for the higher-quality product); however the market is unwilling to notice the difference when it comes to buying logs from the grower.

To be fair to its customers, the market needs to recognise the end use of *Pinus radiata*. If it is to be used in areas where strength is required then density is important. When buying logs from the grower the market needs to pay a premium for high-density wood. The premium should be such that when a grower examines their IRR or NPV these figures show it is worth harvesting at a later date to receive the premium for high-density logs. Otherwise why would, or should, a grower wish to leave their trees in the ground?

I would appreciate further comments or discussion on this argument. If you wish, you can reply to me through the pages of this journal, or contact me directly at P.O. Box 5260, Wellington.

**James Treadwell**

## BOOK REVIEWS

# Environmental effects of planted forests

**“Environmental Effects of Planted Forests in New Zealand. The implications of continued afforestation of pasture” by J.P. Maclaren. 180 p. 1996. ISSN 0111-8120. Price ..... Published by the New Zealand Forest Research Institute Limited, FRI Bulletin No. 198.**

Compiled and written by Piers Maclaren, a scientist at the New Zealand Forest Research Institute, this ‘bulletin’ (it is more like a well-illustrated book) was commissioned by the Forest and Farm Plantation Management Cooperative. We

are told that this Cooperative is an organisation comprising 57 members of the forest sector and that their main objective is to promote both corporate and farm forestry by means of scientific research.

Prompted by an interest in a publication that described effects of forestry resulting from conversion of pasture to pine trees (“the forestry issue that generates the most debate”), this bulletin is intended to provide a starting point for those involved with afforestation on farmland.

The introduction is a personal viewpoint which considers the need for environmental assessment, asks whether New Zealand is unique (with respect to forestry), assesses the implications of being unique and then considers the central forestry issue.

The main contents of this bulletin (ten chapters and in no particular order) deal with the effects of water yield, water quality, soil erosion, soil deterioration, greenhouse effect, aesthetics, forest practices, biological diversity, pests and disease, and

socio-economic effects. A penultimate chapter has a miscellaneous collection of issues including effects of forests on temperature, wind and noise, filtering of air, the harbouring of weeds and pests, and fire.

Each of the main chapters follows the same format, commencing with a summary in the form of a few leading questions and synoptic answers. Although the author seems at pains to have predicted all the questions likely to be asked, the style is attractive and tends to invite the reader to read on. In each chapter, the questions are used as headings for sections in which there is more detailed appraisal. There is a reference list at the end of each chapter; disappointingly, most seem to be from New Zealand journals and magazines.

The final chapter, like the first, is also a personal view where the main theme seems to be an adamant claim that most negative effects of forestry on pasture are trivial (if they occur in small amounts).

Two appendices are included; one on The New Zealand Forest Accord and one on the Principles for Commercial Plantation Forest Management in New Zealand. There is a useful and comprehensive index.

The text comes across as being written by a person with considerable knowledge and expertise in many areas of forestry and forest management. Many readers will surely find much valuable information in this bulletin, some of it in an easily understandable quantitative form. As well as identifying many environmental effects, there are appraisals of the extent of the impact and often comments about mitigation. On occasions there are hints about needs for more research.

This is a persuasive publication. Although it is up-to-date and seemingly comprehensive, I think that the author may have been a little selective in his information and on occasions was tempted to talk about some items from the literature out of their original context.

The text is illustrated colourfully throughout and I long to know what the rationale was for including such a lavish selection of illustrations. I sensed that the publishers had sought the advice of an advertising person. Most illustrations seemed only to serve pictorial objectives and were not required to illustrate the main points. In some instances the illustrations and their captions were hardly scientific because they hinted of proved causal relationships. A picture of a lovely serene evening on a beach in the chapter describing the 'greenhouse effect' has the caption: "Sea level rises of 0.2-1.0 m are predicted by the end of the 21st century. This may not seem substantial but many small island states feel that their very existence is threatened within three generations."

Some captions were so odd as to be almost a joke. For example, in the chapter on socio-economic effects a picture of two men (and a dog) standing by a line of young pines has the caption: "Much of the opposition to forestry may be due to the unwillingness of current landowners to see 'share-a-drink neighbours replaced by lawyers' letters from an alien culture."

In the text there is a strong argument that forests are grown for timber (and other wood products) and absolutely nothing else. The concept of multi-use forestry is rejected outright, partly on the grounds that other forest uses are catered for by the forests in the conservation estate. True, the practice of multi-use forestry takes place in countries where population densities are far greater and where the pressures on the environment are higher and more diverse. Replacing one monoculture with another (which is structurally more diverse) is, generally speaking, hardly an issue for conservation. Nevertheless, I find it worrying that in this bulletin there is little sympathy for forest management practices which could benefit both the forest and wildlife. For example, roadside verges between road and plantation are not considered as possible linear habitats for native species; rather the text deals with aspects of road safety only.

By the time I had finished reading the introductory pages, it was clear to me that this publication was intended to advocate that afforestation of New Zealand pasture by pine trees was good and was to be encouraged. The text seems to make no apologies that this publication is intended to foster and promote (sell the idea) conversion of pasture to pine trees (note pine trees and not other conifers, let alone any other trees).

There is a lot of bias towards the positive benefits and much is said about minimal disadvantages of conversion of pasture to pine trees. As the author says, "this bulletin can not be claimed to be an independent assessment of the topic" but nevertheless "a scientist's duty is to consider issues objectively". Perhaps this approach could be because of the affiliation of the author, and one has to ask why was this publication not written by an 'independent group'?

I believe that this text does provide an excellent basis for discussion. It provides brief insights into most of the issues, it is informative (in a biased way) and it is easy reading. I would recommend it as a discussion document for those managing the land as well as for foresters, biologists, resource managers and students. However, I would ask readers not to believe everything they read.

Noting on the front page, the quote from Virgil (37 B.C.), I would like finally to suggest that we should consider that future generations may say that although trees do not delight all persons, there are more to trees than radiata pine trees and there are more to forests than timber production. New Zealand is indeed unique (in many ways), and sadly part of that uniqueness has to do with devastated indigenous plant communities and damage caused by alien species. It seems a pity that some people in New Zealand believe that conservation of our indigenous species should be confined to the so-called conservation estate. The Forest Research Institute could do well to be more open to wider discussion among a wider group of people.

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Department of Resource  
Management**

## A Catalogue of the Eucalypts

A catalogue of eucalypts, comprising the genera *Angophora*, *Corymbia*, and *Eucalyptus* of the family *Myrtaceae*, has been compiled by M.D. Wilcox, a forestry consultant with Groome Pöyry Ltd, as a ready reference to the correct names of all 789 known species to the end of 1996. A list of references on eucalypt taxonomy, classification and distribution and an alphabetical index of species are also provided in the 114 page book.

The inspiration and need for this work has been the explosion of newly-discovered and named eucalypts in the past 15 years through the endeavours of an energetic band of eucalypt botanists in Australia, says the author in the foreword.

In addition to the present 789 recognised species of eucalypt, there are a further 123

subspecies or varieties, giving a total of 912 eucalypt taxa. Only five species occur exclusively outside Australia.

Eucalypts, the book says, are extraordinarily useful and versatile trees for afforestation, with an estimated 10 million hectares of plantations worldwide, and with numerous mills producing wood chips, pulp, paper, rayon, fibreboard, and solid wood products.

Of the 789 species listed in the catalogue only a few, such as *Eucalyptus globulus*, *E. grandis* and *E. camaldulensis*, have been regularly planted on a wide scale.

The book may be ordered from Groome Pöyry Ltd, Forest and Forest Industry Consultants, PO Box 73-141, Auckland Airport. Tel (09) 256 0003 Fax (09) 256 0000.