

such activities as simulation exercises. Contingency planning, risk assessment, and resource identification are the new strings to the forest protection bow, but they need to be applied with a good dollop of common sense. It would, for example, be a pointless waste of resources to carry out a risk assessment for every foreign insect or disease which might affect radiata pine, for example. Past experience shows at a species level it would be impossible to predict what might or might not eventually establish. We need to concentrate on key, very high-risk organisms, such as pine wilt nematode and pine pitch canker, groups such as bark beetles, tip moths or gall-forming rusts, and pathways such as seed, live plant material, or timber. Pragmatic preparedness has already made a major contribution to the protection of our forests.

Strength of Integration

One of the greatest assets of forest protection in New Zealand is a legacy from the past, integration. The now defunct Forest Service united quarantine, surveillance and research with a large part of the forest estate. Such unity delivered a sense of common purpose, facilitated communication, allowed wide input to prioritising problems, and perhaps most important of all, was driven by the practitioners from the ground up. Such integration was, and still is, the envy of our cousins across the Tasman. Unfortunately while they go forward to what we had achieved, we go backwards with the barriers created by the demise of the Forest Service, the emergence of CRIs from the science reforms, and the withdrawal of Government from active involvement in forestry. The challenge will be to grasp the benefits of these

changes while at the same time reversing the disintegration of our forest protection strategy.

Making It Work

The experience of Dutch elm disease and white-spotted tussock moth in the last 10 years clearly show we can make forest protection work on the ground. In both cases detection was made early enough to make eradication feasible, and in both cases the skills and resources were available to tackle the problem. Perhaps the hardest lesson to learn for both researchers, foresters, and the public, is that success is a long haul, and like the insurance of fire brigades, you can only guess at the damage if the fire is not put out. But we can look elsewhere to the cost of failures of forest protection strategies; chestnut blight, Dutch elm disease and gypsy moth in North America, pine shoot moth in South East Asia, pine wilt nematode in Japan, examples abound. The cost of robust protection is small compared to the potential benefits.

Where To From Here?

If I had to put my own money into our forest protection strategy my priorities would be:

- the greater integration and re-establishment of strong linkages between protection components;
- the preservation and enhancement of a national forest protection strategy which included the indigenous estate;
- the pursuit of a strategic initiative addressing as many as possible of tomorrow's problems today;
- the provision of adequate resources and skills including long-term education initiatives;

- the involvement of the public.

Then I'd sit back and watch the trees grow.

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RECENT EVENTS



Sustainable Indigenous Forest Management Research Workshop – Christchurch, April 1997

Rob Allen and Udo Benecke

Background

Over one million hectares, or approximately 20%, of New Zealand's indigenous forests are privately owned. This area is similar to that of the total exotic plantation estate. Indigenous forest owners are being subjected to increasing demands for sustainable forest management through, for example, legislative requirements such as the Resource Man-

agement Act (1991) and provisions added to the Forests Act (1949). These recent demands are not without some financial costs to land owners through planning procedures and lost opportunities for generating income. In addition, most of these indigenous forest areas are subject to local government rates so that landowners need to explore options for offsetting these costs. Given consumer interest in wood

products from indigenous forests, such as rimu furniture, one option for generating income is through environmentally sensitive timber production. It is not surprising, therefore, that the Ministry of Forestry's Indigenous Forestry Unit has recently seen a dramatic increase in the number of applications for sustainable indigenous forest plans and permits. By March 1997, approved plans and permits covered

15,500 ha, while those being processed include an additional 30,200 ha from a wide range of forest types. Although indigenous forest management for timber production remains one of the most contentious land-use issues in New Zealand, there is little research currently funded to ensure the sustainable management of private indigenous forests.

In response, the Indigenous Forestry Unit (MOF) organised a workshop in April on *Sustainable Indigenous Forest Management for Wood Production: What are the research needs?* The purpose of this workshop was to determine indigenous forest research priorities and to discuss strategies for funding such research. The forthcoming "Public Good Science Fund" bidding round provides one opportunity for funding indigenous forestry research, as does departmental operational funding. This workshop was directly relevant to the PGSF bidding process because the Foundation for Research, Science and Technology seeks stakeholder input on research priorities. Participants represented forest owners (Farm Forestry Association, Timberlands West Coast Ltd), forestry consultants developing plans and permits, professional bodies (New Zealand Institute of Forestry), government departments (Department of Conservation, Ministry of Forestry), conservation groups (Greenpeace, World Wildlife Fund for Nature (N.Z.)) and research institutions (Forest Research Institute, Landcare Research, School of Forestry, Lincoln University, and AgResearch).

Following an introduction by Tony Newton (Manager of the Indigenous Forestry Unit), as well as background presentations, the workshop included three sessions:

Stakeholder Perspective – problems and information needs as seen by the landowner, forest manager, and industry (chaired by Peter McKelvey).

Researcher Perspective – what research is being done? (chaired by Colin O'Loughlin).

Discussion Panel – Where are the knowledge gaps in need of priority research? (chaired by David Penman).

Speakers within each session were selected to represent the breadth of activities involved with growing, harvesting,

utilising, and marketing of indigenous timbers. Each session had a high proportion of time for discussion, allowing all participants an opportunity for input. In addition, all participants were invited to submit a list of three research priority topics before attending the meeting. Submissions were also received from several stakeholders not attending the meeting (e.g., Tasman District Council).

Research Priorities

The workshop highlighted that forest management in New Zealand is clearly entering another era of multiple-use forestry, and this must be reflected in any framework for indigenous forest research. For example, rather than research being focused on individual timber species we are moving to an ecosystem approach that takes account of a wide range of environmental values. This is consistent with a view expressed by some at the workshop that research needs to maximise the benefit to the maximum number of users. The importance of research on environmental issues was clearly reflected in the scope and priorities for research:

- Many participants gave the highest research priority to understanding how indigenous forest ecosystems are changed when managed for timber production. In part, this involves having appropriate inventory techniques for resource description (e.g. biodiversity assessment or soils) to develop management plan and permit applications. The key areas where any changes resulting from indigenous forestry operations, as we now practise, need to be understood included biodiversity (including genetic variation), nutrient cycling, and forest health. Eventually we will need to understand how these changes vary across a wide range of forest types and sites. We need to use this understanding to develop and recommend monitoring techniques and indicators.
- High priority was also given to research on silvicultural systems that minimise the environmental impact of timber production. Emphasis was given to developing silvicultural systems that strongly mimic the dynamics of natural forests. In the first instance, this requires an understanding of the

pattern, and causes, of canopy disturbance in natural forests (e.g. canopy gap size) as a basis for selecting trees to harvest. It was also emphasised that the nature of canopy disturbances (e.g. wind versus drought) is a critical determinant of the relative abundance and growth of species in the forest understorey. Within a single property, canopy disturbance, and growth responses, may vary considerably. This implies that optimal planning may require very site-specific management protocols to be developed, based on our understanding of variability in forest dynamics. There was a clear recognition of the need for better growth information, under various tending regimes, for many tree species, particularly for silvicultural systems that have been little practised in New Zealand. Because it appears large areas of tawa will be managed for timber production, research on this species was given a high priority.

- There were several more specific areas given a high research priority. A need was seen for harvesting systems that minimise visual impacts and cost structures. A view was expressed that we need to be in a better position to capitalise on the properties of our indigenous timbers and to substitute for other timbers where possible. There was considerable discussion about the eco-labelling of forest products and the need to test its influence on market share and the price for timber that consumers are prepared to pay. There is also a wider need to incorporate social considerations in indigenous forestry development along with economic and ecological components.

A research framework discussed at the workshop included having a wide range of collaborative, detailed research (e.g., on ecological processes) carried out at a few sites, along with some research (e.g., forest productivity) covering a wide range of situations. These are potentially fundable by the PGSF. Much of this research will be long-term and this led to discussion about the need for research forests. As new information is disseminated from this research (e.g., through field days and workshops) there will be ongoing adaptations made to management protocols. Research by actual management was strongly supported by many participants. Departmental operational funding (e.g., MOF, MFE) could then be used to develop and test operational methods (e.g., monitoring) and indicators that would be used by land owners. Suitable information systems, including past research, will be required to provide long-term data storage and auditing requirements. Clearly this will not only be the case for management of our indigenous forest resource but a wide range of land uses.

Applicants for registration

The following have applied to become Registered Forestry Consultants.

Stephen William Croskery

Paul Cox

David Gregory White

Masterton

Mataura

Dunedin

The following have applied to become Registered Members

John Robert Eyre

Paul John Smale

Auckland

Auckland

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