

a passion of his distinguished journalist father. It is not difficult to imagine the pleasure wilderness spaces brought to a former long-time prisoner of war. His regular companions on such forays came to value the opportunities they brought for stimulating discussions on many subjects

of import. He was an excellent shot and could hold his own with an armorer on the subject of sporting rifles.

Pat raised a family in Rotorua and his third son, Alan, is a household name.

Pat's love and respect for literature and language, with his father's before him, has

created a legacy which has furthered a strong family contribution to New Zealand social history.

And Pat himself played a notable part in the history of research in New Zealand.

Des O'Leary



NEW INFORMATION



Research helps to resolve high-country controversy

Researchers from Lincoln University and the New Zealand Forest Research Institute (NZFRI) have developed new techniques for demonstrating the visual impact of forestry in the South Island high country.

Funded by the Foundation for Research, Science and Technology, as part of a programme to determine the impacts of possible scenarios of land-use change in the South Island high country, researchers have aimed to generate visually authentic images of the various scenarios with low-cost computing equipment.

Visualisation is a rapidly growing tool in landscape architecture and the Resource Management Act has increased the demand for accurate and cost-effective techniques. The images are being used to investigate the attitudes of stakeholders towards the effects of different land-use options involving exotic forestry.

The research draws on the NZFRI research into forestry in the high country, geographic information systems, resource forestry and forest economics. Lincoln University contributes expertise in computer visualisation, landscape architecture and rural sociology.

Lincoln's head of Landscape Architecture, Simon Swaffield, says the images enable researchers to present assessments of visual impact which are accurate and defensible. The images have enabled researchers to identify preferences for specific landscape scenarios. Groups surveyed to date include runholders, conservation groups, rural businesses, tangata whenua and local government.

The site chosen for the scenario visualisation is on the western shore of Lake Pukaki. It is currently almost entirely unimproved tussock grassland, with a limited area of improved grazing. The five scenarios modelled were all based upon extensive land uses involving forestry and grazing. All were modelled as they would

appear in 50 years' time.

"The techniques that have been developed help us understand better the basis for conflict over the use of exotic species in areas such as the Mackenzie and Waitaki basins," Dr Swaffield said.

"The detail which we are able to show people is enormous. They can see pictures of trees of the exact species, size and condition and in the right perspective on the landscape."

The research began by developing a series of two dimensional "cut and paste" images using a widely used computer program, Adobe Photoshop, that showed different land-use options. In the first stage of the survey, undertaken in 1993, respondents were provided with a limited amount of additional information relating to economic, social and ecological effects and asked to rank the options in order of preference.

The second stage of the research, undertaken by Dr John Fairweather of the Agribusiness Economics Research Unit, identified themes in the responses and the researchers used the information to develop more detailed three-dimensional

images of five distinctly different scenarios preferred by different stakeholders.

The regional economic and social effects of these five scenarios were then modelled in detail, and this information was presented to stakeholders. This enabled researchers to interpret the factors that affect people's preferences and attitudes, and the conflicts that they can create.

Dr Swaffield said previous approaches to visualisation of forestry options in the Mackenzie had used manual illustrations which required people to make an interpretation of highly subjective images of proposed land-use scenarios.

"While there is still more work to be done to improve the authenticity of the images, with this technique people are able to make a judgement on a scenario such as extensive plantations with confidence that what they are seeing is pretty close to what it will actually look like.

"The response from high-country stakeholders has been very positive. We believe it offers a major step forward in understanding and addressing conflict over high-country land use."

Forestry's contribution to New Zealand's GDP

FRI has launched a new research programme to quantify the New Zealand forestry sector's contribution to GDP. The output of this research will be able to be used to develop and promote the planted forest sector's contribution to the economy.

The research (funded by the Foundation for Research Science and Technology) is being carried out by a trio of FRI scientists - David Evison, Bruce Glass and Bruce Manley - and Hugh Bigsby at Lincoln University. It will be completed

by June 1997. The first phase of the project is the development of a model for the analysis.

Programme manager David Evison says the team essentially needs to add economic data to the FRI/Ministry of Forestry's national supply model. "We are seeking the assistance of NZFOA members in collecting the necessary economic data.

"Broadly speaking, we require indicative costs for the regime categories and the wood supply regions described in the

NEFD database. We want to segment these costs by operation (pruning, planting, etc) and other non-operational costs (such as overheads). The information would be strictly confidential to this project and no individual company's returns would be published. We will also require log price estimates for the log grades (aggregate FRI log grades) used in the NEFD yield tables."

Specific benefits of the research include:

- better forecasts of future contribution by plantation forestry to New Zealand's economy;
- soundly-based forecasts of future contribution of forest growing to New Zealand's economy;
- a model to quantify the national benefits of alternative forest management practices, tree-breeding programmes, research programme, etc.;
- Assistance with developing natural resource accounting principles, and with meeting New Zealand's commitments to the UNCED conference at Rio.

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Predicting and measuring new planting from nursery surveys

John Eyre, Ministry of Forestry

Summary

The Ministry of Forestry carries out two surveys a year, in spring and autumn, of the major nurseries producing planting stock for commercial planted production forestry. The results are used to provide the Minister of Forestry with (a) estimates of areas of new planting planted in the immediate past winter and (b) predictions of potential areas of new planting to be planted in the immediate following winter.

Introduction

Since 1992 there has been a dramatic increase in the number of hectares of new land planting in New Zealand's production forestry sector. New planting figures for this decade (rounded hectares) are 1990 - 16,000; 1991 - 15,000; 1992 - 50,000; 1993 - 62,000 and 1994 - 98,000 hectares. The 1993 and 1994 figures show

record levels of new planting, with the previous highest being 56,000 hectares in 1984.

The process used by the Ministry to estimate new planting from nursery surveys is in four stages:

- nursery surveys
- predicting potential planting area
- an estimate of clearfelling
- estimate of restocking and new planting.

Nursery surveys

Major forest tree nurseries are surveyed by Ministry area office staff by phone, mail and visits, in early November and in early April. The species are surveyed in the National Exotic Forest Description (NEFD) categories of radiata pine, Douglas fir, other exotic softwoods and other exotic hardwoods.

The November survey asks nurseries for the numbers of planting stock sold in that previous winter and a forecast of the net planting stock available at the nursery gate for the following winter. The March survey asks for a forecast of the net planting stock available at the nursery gate for the coming winter.

Results from individual nurseries are aggregated into six areas: Northern North Island (Northland + Auckland); Central North Island (Rotorua + Hawkes Bay + East Coast); Southern North Island (Wellington); Northern South Island (Nelson); Central South Island (Christchurch); Southern South Island (Dunedin).

Predicting potential planting area

A potential planting area (hectares) is calculated as follows:

The net available planting stock is reduced by two per cent. This is an allowance for stock which may be sold for "non production forest" purposes, e.g. Christmas trees. The two per cent figure was based on a sample survey of nurseries. This gives a "commercially available" figure, which (for the prediction exercise) is rounded down to the nearest 100,000 (a step towards providing a conservative result for the prediction).

A nominal stocking rate is set by species category for each area. This is obtained from local information, usually by Ministry staff talking to company foresters, contractors and consultants, to accommodate different stockings in different locations.

A field wastage factor of five per cent

Framework Convention on Climate Change

The Framework Convention on Climate Change (FCCC) came into force in March 1994. The first Conference of the Parties (COP I) under the FCCC was held in Berlin from March 28 to April 7, 1995.

COP I was attended by close to 4000 people, including representatives from 117 Parties to the FCCC and 53 observer states. There were NGO observers from 165 organisations and a very large media presence (556 organisations).

The FCCC currently contains a loosely-worded target which requires developed country Parties to aim to return emissions of greenhouse gases to 1990 levels by 2000. It has no target for the period after 2000.

At COP I it was agreed that some of the commitments in the FCCC are inadequate, particularly for the period after 2000. The "Berlin Mandate" was agreed for negotiating the strengthening of the FCCC. This mandate underlines several of the provisions of the Convention, including that developed country Parties should take the lead in combating climate change and its adverse effects. At the same time the mandate reaffirms the existing commitments of developing country Parties, including that to introduce policies and measures to mitigate climate change.

The mandate covers all greenhouse gases, their emissions by sources and removals by sinks, and all relevant sectors.

The process will aim to elaborate policies and measures as well as set limitation and reduction objectives within specified timeframes. No new commitments will be introduced for developing countries. The process is to take regard of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information.

Negotiations are to conclude as early as possible in 1997 with a view to adopting the results at COP III which will be held during 1997.

A pilot phase for joint implementation or activities implemented jointly (AIJ), whereby two or more Parties can jointly engage in activities to implement their FCCC commitments, was also agreed to at the Berlin meeting. All relevant sources, sinks and reservoirs of greenhouse gases are included in the pilot phase. The Conference of the Parties will take a conclusive decision on the pilot phase and the progression beyond that before the end of the present decade. A key to the broad acceptance of this pilot phase for AIJ is that there will be no crediting of emissions reduced or sequestered during the pilot phase from activities implemented jointly.

**Helen Plume
Ministry for the Environment**