

missed: if it had been taken it would have attracted wood-processing plants to utilize what would have become a huge timber resource, and in so doing farmers would have been stimulated to manage their wind-breaks for the dual and compatible objectives of shelter and timber.

Other points to emerge from the meeting and worth emphasizing were:

- (1) There is universal appreciation of the complexities of shelter research, the requirement to apply existing knowledge more fully, and the need for further research on many topics.
- (2) The latter include optimizing design criteria for intensive systems of shelter, more specific information on individual crop and cultivar responses to wind protection, and determining the contribution

of wear and tear on leaf surfaces from mechanical abrasion by wind to lowered plant productivity.

- (3) Variability of crop response to shelter highlights the need for experimental approaches to be more systematic.
- (4) However, prediction of shelter effect on crops depends on understanding the interacting roles of elevated leaf temperatures, altered plant water relations, wind-induced abrasion of leaf surfaces, and mechanical excitation of plant parts from wind action.
- (5) Progress has been made in the USA on genetic selection and improvement of tree species and provenances with better shelter attributes, including growth rate, crown form, drought tolerance, cold hardiness, and adaptability to poor soils.
- (6) There is increasing awareness of the need for informed, co-ordinated extension and

improved shelter standards. Denmark appears to be the best example of a country with a well co-ordinated and well managed national shelterbelt scheme integrated with the country's agriculture.

- (7) General agreement on the need for an international journal as a forum for publishing papers on diverse aspects of shelter.

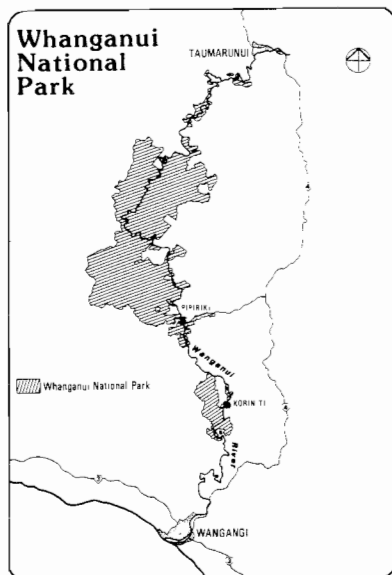
The value of such gatherings lies at least as much in individual contacts and discussions as in the formal sessions. The meeting was the first to have so many scientists and extension workers with common interests in shelter in the one place. Overall, it was judged a success and another meeting is proposed for 1990. A book of edited papers from among the invited contributions is to be published later this year by Elsevier Science Publishers, Amsterdam.

**J.W. Sturrock**

## THE WHANGANUI NATIONAL PARK

New Zealand's newest National Park was created by Order in Council on December 6, 1986, and officially opened on February 7, 1987. The Whanganui National Park is centred on the Wanganui River (see map) although the Wanganui River bed is excluded from the Park. However the river is a major access route, being heavily used by canoeists and other boats. Land for the Park came from scenic reserves (46%), inalienated Crown land (50%), and State forest (4%). The park has an area of 74,231 hectares.

The new Park is a fitting tribute to this centennial year for National Parks in New Zealand and also to the formation of the Department of Conservation. It is also a reward to the efforts of many people interested in the beauty of the river and who have been associated with the earlier efforts to preserve its scenery.



From Centennial Contact March 1987.

## LETTERS

### Forestry education

Sir,

A recent contributor to your Journal (G.B. Sweet, November 1986) in an article entitled 'Technical Forestry — A Chance for Change' suggests the disestablishment of the New Zealand Forest Service represents a chance for change within forestry education in New Zealand. I would like to suggest the facility for change should always remain with us and moreover that change once embarked upon should be protected from chance.

Considering the disestablishment of the Forest Service to be an event involving both change and chance I find the recent expansions in both teaching staff and buildings to the School of Forestry at Canterbury to permit around 45 graduates a year compared with the previous capacity of 30 graduates to be inopportune and probably unwarranted. I base this conclusion on the NZIF Education and Training Working Party's figures for graduate and ranger/technicians (respectively 15 and 26 per year) and that the current curricula offered by the School are obviously more suited to the production of Foresters than Rangers/Technicians.

Addressing the wider issue as to what form of technical forestry education should take and the related issue of where in New Zealand that education should be provided, I find that in terms of their respective curricula, teaching staff, and teaching environments neither the School of Forestry offering B. For. Sc. nor the Forestry Training Centre offering N.Z.C.F. currently has the facility to provide the single technical forestry training indicated by your correspondent. If a

search for a single technical training system were to be undertaken then perhaps a survey of potential employers conducted by NZIF or some other unaffiliated body could be used to determine requirements concerning technically trained personnel. This suggestion is made since both educational facilities have the ability to pre-empt the actions of the other.

The non issue as to where tertiary forestry education should take place in New Zealand should have been resolved prior to 1968 (the year of reopening of Forestry School at Canterbury) by following the planters rather than historical precedence. The then principals of Canterbury University are to be commended for their anticipation of the need for tertiary training in forestry; greater however would be the commendation had they recommended Waikato as the most suitable location.

**L.R. Broad**

### Focus on skills

Sir,

It is my sincere hope that everyone remotely concerned with the profession of forestry carefully read the recent article on education in forestry by Dr Geoff Sweet. Given the accelerating rate of State and private industry resource management reorganization, it is timely and vital that we focus on the skills that both new graduate apprentices and existing staff require during this evolution.

Surely if the Institute is to currently put energy and money into addressing any 'national' issue it should be to widely canvass its members on the issues of:

- The standards and achievement levels to recognize of available tertiary forestry education in New Zealand.

- The affordable degree of specialized education required of the University of Canterbury School of Forestry.
- The location of the School of Forestry which truly gives the largest possible teaching resource and integration with the industry it services.
- The role of the School of Forestry, Forestry Training Centre and Institute in servicing the needs of continuing education.

It is this forester's opinion that the time has come to address these questions frankly and with good kiwi ingenuity. I believe that much of our passion for such specialized training as logging engineering and marketing is far better satisfied by internal industry and short-term overseas training followed by some form of Institute recognition of achievement.

Finally as one who has somewhat neglected the Institute, I would gladly help the Institute survey members to determine the need for continuing education, and in what subject areas.

I have travelled enough to appreciate that New Zealand's plantation forest management is the best in the world. We've gotten there by being innovative through both our management and research. This lead will be maintained only if we recognize the need to apply some of this inspiration to our own education system's urgent needs.

**D. New,**  
Chief Forester,  
Tasman Forestry Limited

## Birds and National Forest Survey

Sir,

May I add a little to Priestley Thomson's letter?

About 1950 — halfway through the ten years of National Forest Survey — some field party leaders began to regularly record birds seen or heard on or about sample plots, and this was later done by all leaders during the Ecological Survey of North Island forests, 1956-67.

As a result, there are altogether several thousand sites where birds present on single short occasions over a 17-year period were noted. There was no methodology in this and the observers were not experts, but a wide range of species was recognized, with reasonable degree of certainty. Never a blue-wattled crow, though Bill Gimblett probably did once spot an orange-wattled one, in North Westland.

As Priestley Thomson remarks, it is for ornithologists to decide whether this information is worth the effort of searching the records. Some of them are aware it exists.  
**John Nicholls,**  
Rotorua

## New Format

Sir,

Congratulations on the format of New Zealand Forestry. A joy to read Volume 31,

No. 4. I have in the past resisted dropping the old style journal with its emphasis on technical excellence. You and your team in NZ Forestry have convinced me that was a wrong stance. Forestry and the Institute will be more relevant to a wider audience with the readability of the new format.

**Colin McKenzie,**  
Past President,  
NZIF

## Pine Pygmies?

Sir,

The interesting paper by M.J. Carson on improving log and wood quality (Vol. 31 (4): 26-30) has one curious feature: in Fig. 1, if  $L = 2.2m$  and  $S = 0.5m$ , the foresters up each tree are precisely 1.1m tall. Does FRI employ pygmies? Are they "a special-purpose radiata breed" of lightweight tree climbers? Or is this just a result of staff cuts?

**John E. C. Flux**

## Breeding Eucalypts

Sir,

I was interested to read Mike Carson's article on the *Pinus radiata* breeding programme (Vol. 31/4) and the emphasis he placed on selection for a range of traits, including wood properties. I believe a greater emphasis is needed in the Eucalypt breeding programme.

Scientists from the Tree Improvement Section of FRI have established trial areas over both Islands to sort out the "best" provenances of eucalypts for milling. The species are limited to those of most promise. But what is "best"? There will obviously be assessments for stem straightness, branch size and the ability to shed branches early, but most emphasis appears to be on height growth and diameter. In other words, volume.

As these trials are to sort out the eucalypts to produce timber, surely high emphasis should be on the outturn of good grades of No. 1 class sawn timber, rather than overall volume. Having sawn timber out of home-grown eucalypts for some 30 years, I have found that timber from certain species mills better than others. This indicates that good timber outturn is heritable; there can be no argument about that. Furthermore, one is very aware of great variations in sawing quality within species. South African growers have been aware of this for many years, and Marsh, whom I corresponded with some 30 years ago, put *E. grandis* through a series of trials over four generations (*E. grandis* appears to seed at around seven years), eliminating seed of all young trees which end-checked badly at each trial. Eventually he told me

his trees were noted and readily accepted at sawmills for "straight boards out of the seasoning stacks" (Pers. Comm.). Australian loggers are very aware that sometimes localized stands of trees within a species are "springy". ("Put 'em down the shute, Blue!") Our own experience suggests the Bartlett strain of *E. saligna* is superior to some other strains planted in this country. There are within this Auckland Bartletts stand two different grain types, one being highly figured and "wavy-grained". Thulin (pers.comm.) contended that such grain was heritable. The second strain is one (included in the trials as FRI 119) that is fairly straight-grained but interlocked on the circumference. This produces very good cutting timber from F1 plantings. Both strains are notable for their good "wide board" cutting logs. I have, as a challenge, cut a number of 300 mm x 25 mm boards from 25-year trees of the F1 Bartletts-119 home-grown trees, e.g. Smith (Marton) and Jim Barr (Whakatane) would produce young trees of much more stable timber than the faster-growing provenances from Athenree and perhaps from Kangaroo Valley, NSW.

I would therefore contend quite strongly that inheritance plays by far the most important part in the "mill-ability" of eucalypt trees. Should we not then be saving seed or clonal material from the best of our sawing trees as we cut them?

I would like to suggest that when those trials of *E. saligna-botryoides* are being thinned to final spacings, some larger stems be allowed to dry out and the end shakes be evaluated. I would give 45 marks out of 100 for stability rather than volume. The ash group eucalypts are different in that internal checking is a problem, a different pattern of sawing and seasoning is needed, but I would think that a combination of selection for density of timber and interlocking of grain would be a good base to start from. In my experience not all ash group species have problems. For instance, good strains of *E. obliqua* of New Zealand provenances have milled very well with no problems. Logs of *E. fraxinoides* I have cut have turned out stable dimensionally and in straightness. *E. nitens* shows early promise. But I feel we should also be sorting *E. delegatensis* and *E. regnans* out genetically.

**N.A. Barr**

## Decision making

Sir,

A recent correspondent (Mr I.L. Barton, 31(3):13-14) alluded to and somewhat casually criticized a paper written by us. Since Mr Barton did not name the paper to which he was referring, we shall — it was: "Economic analysis of selected special-purpose species regimes" by R.Y. Cavana