

decided that this is not a reasonable expectation, then there must be some concern as to where the Act might next take resource management planning.

At the end of the day, however, there remains the issue of extensive and severe land degradation. One must ask the question whether restraining forestry in an attempt to "protect" the existing landscape and natural values at the expense, to some degree at least, of soil values, is true conservation? The situation is serious in much of the Mackenzie Basin and a good case can be made for all land uses which could help mitigate land degradation being given the fullest encouragement through the District Plan.

Decisions on submissions to the Proposed Change will hopefully be available in early 1994. In the meantime, for those interested, the transcript of the evidence presented at the hearing is available. It runs to three volumes and 660 typed pages!

John Novis



Redwood revisited

Sir,

I note that Bill Libby (NZ Forestry, Nov. 1993, p. 5) claims that Coast Redwood is "difficult to establish". He includes a photo of the Skyline-Skyrides 1984 plantings of this species on the lower slopes of Mt Ngongotaha, the caption of which contains some incorrect information.

The myth that redwoods are difficult to establish arose because much of the early planting of this species failed. The reasons for this are unknown. In the mid-1970s I was asked to investigate this myth by establishing redwoods near Ruatoria and in Mangatu Forest. The background to this was that redwoods grown in the East Cape region had wood properties similar to those found in California, and that one strategy for the slumping mudstone country in this locality would be to establish redwoods to be grown to large size and then logged by helicopter by single tree selection. This kind of stand would provide a permanent anchor for the land and would obviate any adverse effects of logging on the soil.

Trials were established in Mangatu Forest in areas already planted with radiata pine two years previously, because there was some evidence that redwoods need shelter. At the lower altitude, some

300 m asl, on a very exposed wet site, the redwoods were badly toppled after planting directly in rank grass, although most of them survived. At the higher altitude, some 1000 m asl, survival and growth were excellent.

In June 1984 Skyline-Skyrides Ltd asked me to advise them on a crash planting programme. They wanted something pleasant to look at which would eventually be saleable as a valuable timber. The site was run-down, reverting hill pasture which hadn't been topdressed for years. I recommended Coast Redwood, which they accepted. Groups of three trees more or less at three-metre spacing, were planted along the contour with 10 m centres. The idea was to thin them irregularly, and to prune them progressively, to give in due course a more or less irregular, natural-looking stand.

Contrary to the photo caption, trees were obtained from four nurseries and varied considerably in size and quality. The largest were between 75 cm and 1.25 m tall; others were 22-36 cm tall; the smallest around 15 cm tall. All had reasonably good fibrous roots due to wrenching.

The planting gang, fortunately, consisted of people who had no previous experience of planting, so I was able to give them precise training which they adhered to religiously. On arrival, tree bundles were dunked in water and thereafter planted as rapidly as possible in grass-free planting spots which had been sprayed with glyphosate four weeks previously.

Survival was over 95% but unfortunately the management introduced sheep and a few goats which made short work of the small seedlings.

The lessons to be learnt from these experiences is that, contrary to myth, Coast Redwood is easy to establish provided grass competition is eliminated, seedlings are well wrenched, and properly handled in transit and planting.

C.G.R. Chavasse

The Redwood Grove

Sir,

It was a delight to read about "Redwoods" in the November issue of NZ Forestry, with the article by W.J. Libby (Redwood - An Addition to Exotic Forestry), and also some comments on the Redwood Grove by Dennis Richardson (Thinking Aloud).

Both authors brought back strong memories for me of the redwoods in Whaka forest, especially Richardson's

statements about the Redwood Grove being previously a "failed larch mixture closed to the public"; thereon hangs a tale.

An opportunity was taken in 1968 to fell and remove the dead and dying larch from the Grove area, which had been planted in 1901 and remained untouched for 60 odd years. The larch were not only ugly, but could be a terrifying sight under certain strong wind conditions, and extremely dangerous. They were mainly whips, 20 to 30 metres in height. Very little light came through the canopy in summer, and masses of dead larch needles suffocated any vegetation trying to grow on the forest floor.

Because of "closed gates" at that time, only a few privileged members of the public and Whaka and FRI staff could visit the Grove.

Unfortunately, an FRI scientist wrote to the Minister of Forests at the time (Duncan MacIntyre) saying that "Cooper was destroying the Redwood Grove" in relation to the larch thinning operations. This accusation led to a flurry of telexes between the Minister, the Director General of the Forest Service (Lindsay Poole), and the late Dave Kennedy, Conservator of Forests, Rotorua.

Dave Kennedy advised Lindsay Poole that it was a "Bert Roche" situation and the Minister should be advised accordingly. Duncan MacIntyre was subsequently very keen to hear about the Bert Roche diction (basically fools and idiots should not be shown, or asked to comment, on a job half done!).

Dave Kennedy's reply was a masterpiece of diplomacy and evasion. He gave me all the correspondence with the comment that he "would probably get the sack", but that never happened, of course.

The photograph by J.C. Libby in "Figure 3 - The Long Mile Redwood Grove in Rotorua Planted in 1901" (Redwood an addition to exotic forestry), shows that all the trauma of thinning out the larch has paid off in the long term. The heavy undergrowth of *Cyathea* and *Dicksonia* species is one of the outstanding developments in the Grove, another being that public visitors must have run into a total of several hundreds of thousands since the late 1960s. It is good to see the Grove being maintained and enjoyed still.

In the rest of the compartment adjoining the Grove, the larch plantings succeeded and redwoods of any size were scattered and others suppressed. The larch was very heavily thinned in order that further redwoods could be planted and the original redwoods develop further. This has also been successful. Richardson was wrong when he stated in "Thinking Aloud" that the objective for the area may have been "coming perilously close to

clearfelling and replanting with radiata". The intention always was to enlarge the area of redwoods for posterity. I think that is now well underway.

Finally, as far as the Libby article was concerned, the only jewel, on omission, was any mention of the Green Lake redwoods in Whaka forest. From memory, they were planted in 1914 or 1915 as a pure stand, and are now magnificent trees in a magnificent setting. There have been two heavy thinnings to my knowledge. Some indications of standing/thinned volume data would have completed the redwood article in a satisfactory way.

Neil Cooper
Wellington

Species diversity

Sir,

The last edition of your journal (38/3) included comments and articles on alternative species. In particular Mike Wilcox gave a good overview of the pros and cons. The most revealing comment he made was "Competition from radiata pine – the major impediment to growing other species".

While admitting that I am a committed corporate *Pinus radiata* forester, I also welcome species diversity. Like you I applaud the establishment of eucalypts and Douglas fir in Otago and Southland. Each of these projects is however characterised by the creation of a sizeable resource by a single owner with clear end-use objectives. In addition, the species chosen are the better known and understood alternative species.

I also applaud the farm foresters and small land owners who plant a variety of species on their land in order to create shelter and to beautify the landscape, or just because they like trees.

What concerns me, though, is the pressure for species diversity for diversity's sake and the expectation by some land owners that they will make a fortune by planting "flavour of the year" species.

To quote from Heather McKenzie's article "... occasionally with success, but farmers are still faced with uncertainties in choice of species, seed source, siting and silvicultural management". With respect, I would suggest that she could have added site preparation, weed control, nutritional requirements, rotation length, growth and yield, stand health, processing methodology, market demand and ultimately financial return to her list of uncertainties.

Geneticists have already created new breeds of radiata such as long internode, high density and *Dothistroma* resistant. With the use of molecular biology that list may well be extended to include radiata pine that is ground durable, resistant to Asian Gypsy Moth etc. Work of this nature is easy to justify when it is based on a resource of 1.3 million hectares. Historically the genetic improvement programme has produced an average volume gain of about 1% per year for each year of research. This modest gain currently costs approximately \$1.5 million per annum yet has a financial return that is justified because of the size of the resource. To get the same financial return from an alternative species with a significantly smaller resource, probably longer rotation and lower yield but perhaps higher stumpage would require annual volume gains so high as to be inconceivable.

What could be more diverse than a species who's silvicultural regime can be manipulated to produce anything from Christmas trees to high-quality finishing grade timber, that will grow on sites ranging from raw coastal sands to heavy clays and in an equally diverse range of climatic conditions?

Before investing large sums on research on alternative species I suggest that careful consideration be given as to what the financial return is likely to be if the same sum was invested into further research on radiata pine. We like to think that we lead the world in our management of radiata. Why not maintain that advantage rather than diluting it by research on species that have little hope of matching the diversity and financial returns of radiata.

But I guess I am now beginning to sound like a "born again" corporate *Pinus radiata* forester.

Paul Smale

Dennis Richardson thinks aloud

Sir,

When Dennis thinks aloud, he is usually provocative and often controversial. His latest discourse and plea for the aesthetic delights and diversity of forestry, as distinct from plantation management and indigenous paralysis, strikes a responsive chord. Oh for some *schleichwirtschaft* or even *Femelschlag*!

I must take issue with his remarks about the redwoods in Whaka Forest. The Grove has always been a grove since

1948, if not before, and it is not, and never was, a failed larch mixture. On the contrary, and like the old Douglas fir down the Long Mile, it was a very successful use of larch as a nurse – just a glimpse of some higher achievement in forestry. No researchers devoid of common sense would even dream of replacing the Redwood Grove with radiata, and practitioners have always admired Douglas fir. In conclusion, I have never heard of poison-thinned larch.

John Ure

Travel bags for trees

Sir,

In the August 1992 issue of NZ Forestry I read the short article on "Travel bags for trees" and how they were used to ship millions of young trees around the country in comfort.

Your article reported that the new bag offered some real advantages.

As flexible packages, polythene- and multiwall-type bags cannot protect trees properly during transport and field handlings. I would be grateful if you could give some publicity to this in the next issue of NZ Forestry. Many initial growth problems can then be avoided.

Barerooted stock handling and packaging trials at NZFRI and other institutes world-wide have demonstrated that handling barerooted stock in flexible bags, alone, can have very detrimental effects on initial survivals and especially on growth.

Because of research findings and practical experience I was concerned when NZ Forestry published the article. However before being too critical of the newly advocated bags I felt I should examine the multiwall bags and give them a fair evaluation. This is the reason for the long delay in commenting on your August 1992 publication.

In 1993 I was surprised to see bare-rooted pine seedlings being lifted into polythene bags, in one of our largest nurseries, and left lying on beds awaiting transport, unshaded. Later I was not surprised to hear from several planting gangs that seedlings shipped in polythene and multiwall bags (as described in your article) were arriving at the planting-hole in poor condition. Apart from exposure and several handlings during lifting they were being crushed during transport and when crammed into trailers and onto farm-bike racks for planting site distribution.

During the recent rapid escalation in new plantings much pressure has been