forestry and logging activities only, i.e. all forest growing and harvesting activities up to the forest ride. But does this tell us what we as a profession believe is encompassed by the word, or needs to be encompassed for the forester working in this field in the latter part of the 20th century? Is "forestry" best defined as the "management of forests"? Or is it "the science, the art and the practice of managing for human benefits the natural resources that occur on and in association with forest lands"? Or are both of these definitions too narrow in that they imply forestry is just one of a series of land management disciplines? If not, where does, for example, wood processing, forestry business and marketing fit in?

As foresters we need to rethink our definition of "forestry". We are not alone in this task - in an excellent discussion in a recent issue of the Journal of Forestry, Duerr (1986) argued that American foresters also need to review their ideas. A major point made by Duerr is that foresters require a stronger social awareness (as incidentally did Ian Baumgart (1979)). Duerr suggested we begin by defining forestry as "a set of special fields with a common social theme". This is rather vague but does emphasize the social aspect. Can we be more precise?

The following definition and statement on the scope of the Institute has been considered by Council and is now being promulgated to seek wider views. Council intends that the NZIF policy review be debated at the Greymouth AGM. It is not a constitutional change as the policy does not form part of the constitution. However it is a vital part of the Institute's mission and so warrants careful evaluation and full discussion.

What do you think?

NZIF Definition

Forestry is a land management discipline which includes all those skills required in the management of forests and forest lands, so they may yield the greatest sustainable benefit to present and future generations, while maintaining their potential to meet the needs and aspirations of future generations.

Forests have many values, and the potential to satisfy many human needs. The art and science of forestry makes possible the creation and management of forests to satisfy a selected range of these needs, many of which can be provided simultaneously.

Forestry is therefore concerned with the maintenance or improvement of forest conservation and water regulation values; the protection of forests for their ecological values and wildlife habitats; the satisfaction of demand for recreation; the maintenance of landscapes; and the production of wood and other goods for the community.

Scope of the NZIF

The New Zealand Institute of Foresters recognizes that the discipline of forest management is increasingly integrative in nature, requiring the application of the understanding and skills of a wide range of more specialist disciplines, all of which are necessary components of the management required to satisfy the range of demands that society makes on its forests and forest lands. The nature and range of the disciplines required vary directly with the complexity of the forest ecosystems, the complexity of the demands made upon it, and the intensity of those demands.

References


Conservation of native forests in Westland: Role of the NZ Forest Service

C.G.R. Chavasse*

In recent years there has been much misrepresentation of the attempts by the NZ Forest Service (NZFS), in the 1960s and 1970s, to apply conservation, in the form of sustained yield management, to the native forests of New Zealand. Bassett (1986) discussed this in his address to the Annual General Meeting of the NZ Institute of Foresters. These notes are designed to amplify his paper by reference to three unpublished documents. The word "conservation" is used in the original sense of "wise use of resources for the benefit of people in the long term".

Background

The long-held Government policy in New Zealand, up to recent times, was to use the native forests as a source of cheap timber for housing, with no form of management except orderly liquidation. That foresters were opposed to this policy can readily be seen in back numbers of the New Zealand Journal of Forestry, while efforts at conservation made by the late Mr A.R. Enrican, when Director of Forestry, are to be found in NZFS Annual Reports to Parliament from 1948 to 1961.

In the 1940s Enrican began a campaign to reduce the cut from native forests. His first aim was to increase the use of pine by promoting large integrated wood-using industries; and he set up State sawmills to demonstrate the proper manufacture of pine timber, especially for housing.

His second aim was to get price control removed from native timbers so that their stumpage could rise in line with their intrinsic special-purpose and decorative values. Price control encouraged the wasteful use of

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*Forestry Consultant, 57 McDowell Street, Rotorua.
these timbers because, while stumpage was based on the controlled price less the cost of logging and sawing, the controlled price was based on the stumpage plus the cost of logging and sawmilling! The sawmilling industry understandably opposed Entrican's efforts.

In 1952 (NZFS Annual Report) Entrican proposed reduction of the cut of native timbers in the North Island by 20% per annum until the sustained yield level was attained. The Government's reaction was to set up a sub-committee of the Timber Production Advisory Committee (1953), composed largely of sawmillers, to consider conservation of indigenous timber. The sub-committee's report was presented to the Minister of Forests (Hon. E.B. Corbett) in August 1953. This asserted that "the production and consumption of exotic timbers must be expanded" but "the preservation of indigenous timber supplies is of no consequence, and conservation should consist of liquidation of the remaining indigenous resources of the North Island by existing sawmillers over a period of 25 years..." The NZFS member of this sub-committee strongly objected to this recommendation and produced a minority report. He pointed out that established NZFS policy included "the perpetuation of the indigenous" forests and sustained yield of valuable timbers. The salient points in this minority report are:

"I. The public interest demands that a forest policy be introduced with speed to bring about a reduction of indigenous timber production" because "the indigenous forest resources have been so thoughtlessly squandered in the past."

"II. The public interest similarly demands that a policy should be introduced to perpetuate the production of indigenous timber for all time. The majority report...is untenable if examined on forestry principles...and is repugnant.""I. III. Because public interest must always be paramount, if economic problems...do result (from the implementing of conservation policy), they constitute a price that must be paid.""

"IV. That the Forest Service should be empowered to withhold from sale sufficient areas of State Forest to make possible the immediate degree of conservation needed."

Entrican also posted foresters to what he saw as critical areas: kauri podocarp forests in Nelson and Westland. Their role was both to carry out silvicultural investigations and to introduce effective conservation management.

Attempts at conservation in Westland

The author was posted to Westland in early 1953 after 18 months' experience of beech management in Southland. The late Mr D. Kennedy was Conservator. The first need was to collate information on the podocarp forests of the glacial terraces. These were given priority because of their wide extent, and because it was from them that the bulk of the cut was being levied. The field work of the first Canterbury School of Forestry was re-activated. In 1955 the excellent work of the National Forest Survey (NFS) became available, which gave a sound forest type basis for subsequent work.

Another priority was to convince the sawmilling fraternity that sustained yield forestry was both needed and possible, and that it could be introduced without any serious disruption to their operations. Kennedy accordingly gained the confidence of three key members of the West Coast Sawmillers Association (Messrs. G. Jack, J. Marshall and W. Ogilvie).

The agreed eventual aim was sustained yield management of podocarp, beech and exotics. To achieve this, the following objectives were adopted:

- Roads were to be substituted for tramways.
- Exotics were to be planted in sufficient areas to take the pressure off native forests as soon as possible, and to sustain the local sawmilling industry in the long term.
- Beech utilization was to be increased, also to take pressure off the podocarp forests.
- Selection management would be introduced in the terrace podocarp forests as soon as possible on the basis of properly conducted research.

**Roading vs tramways**

Managed forests need permanent access. In 1953 virtually all log transport from bush to mill was by tramways. They were costly to build and maintain because they normally ran across the stream pattern; they were a fire hazard; they were slow and led to a waste of manpower in travelling time. Accordingly, an engineer was appointed (Mr L. Boot) who showed that, by fascining, roads were less costly than tramways to construct and, because they originated from the main Coast Highway, they could be laid out between stream patterns and thus needed few bridges. Sawmillers, presented with Boot's findings, did their own calculations and found that roads were indeed cheaper than tramways, so the switch to roadways (except for a few remote areas) was completed rapidly.

**Exotic plantations**

Sawmilling was the most important industry in Westland; over 22% of the working population was directly dependent upon it. At the then current rate of cut in the podocarp forests the industry could not be maintained in the long term. If the sustained yield level of the remaining forests was to be achieved rapidly, the industry would have to be severely reduced. Therefore the intention was to establish exotic forests on hilly areas with better-drained soils, where the prospects of podocarp management were minimal. Planting was undertaken as soon as possible after logging, when the debris could be burnt and before vigorous regrowth of competing species. Several sawmillers were most cooperative, and felling of residual hardwoods was undertaken by their bush gangs under contract. Establishment was first under control of a remarkable ranger, K. Borland, and was not only successful, but also inexpensive.

**Increased utilization of beech timbers**

This was a failure because there was no market for the large quantities of defective beech wood which had to be logged along with saw- and veneer-logs.

**Selection management of terrace podocarp forests**

A great deal of investigation was under-
taken into the ecology and silviculture of these forests, and the findings were related to European knowledge and experience (Knuchel, 1953; Chavasse, 1956). The salient proposals were:

- Felling would be based on silvicultural principles only.
- The felling cycle would be 20 years. It was estimated that a "normal" selection forest structure would thereby be obtained in 120 years.
- The annual yield was estimated to be between 0.5% and 0.6% of standing volume. The mean volume per hectare of the major NFS type (P1) was 307m³ so the periodic cut would be some 38m³/ha, levied at first mainly from large defective trees. The mosaic structure of the terrace forests was such that, eventually, thinning of all groups was envisaged. Some deaths and windthrow following logging were expected, and these were to be included in the allowable cut.

The logging of stands on these wet sites would have to be delicate if stand deterioration was to be avoided. The boggy ground should not be churned up during logging. Soil management was as important as stand management. So the proposal was to use tracked tractors with a bearing weight of 12kP, and logging tracks should not be used more than twice. The small amount of ground disturbance was expected to promote regeneration of podocarps.

To test these areas an experimental area of 80 hectares was defined in Wanganui Forest. It was expected that some deaths and windthrow following logging were expected, and these were to be included in the allowable cut.

Where substantial NFS resources remained near a sawmill, sufficient volume would be allocated for ten years' cut at 75% of sawmill capacity. Again, there was to be no commitment to further supplies.

The Regional Working Plan

It was clear that, in spite of the objectives noted above, there still had to be a major reduction in the cut of podocarps if regional sustained yield was to be achieved. Accordingly, in 1959, a regional working plan was compiled covering all aspects of forest management in Westland. The plan provided for the allowable cut to be reduced. The means for this were long-term sales which would give security of tenure to sawmillers for a reasonable period. The allowable cuts were, however, not based on area or length of tenure, but on volume. There were two components:

- Where NFS resources near a sawmill were limited, the whole area would be allocated to that sawmill, with an allowable cut defined as 75% of sawmill capacity. If that sawmill wished to lengthen his tenure, he should obtain non-NFS resources. No commitment was to be made for any further NFS supplies.
- Where substantial NFS resources were limited, the whole area would be allocated to that sawmill, with an allowable cut defined as 75% of sawmill capacity. If that sawmill wished to lengthen his tenure, he should obtain non-NFS resources. No commitment was to be made for any further NFS supplies.