

The 1913 New Zealand Royal Commission on Forestry

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Commission's brief

One hundred years ago on 31 May 1913 the Royal Commission on Forestry presented its report, arguably one of the more significant events for New Zealand forest policy. The Royal Commission's brief was –

... to ascertain in what manner the areas of land within the Dominion of New Zealand now understanding forest should be dealt with and to what extent the existing afforestation operations of the Government of New Zealand are sufficient to satisfy the future demand for timber within the said Dominion and how such operations should be extended.

The chairman was HDM Haszard, the Commissioner of Crown Lands. There were five other members who represented growers, wood processors and users, as well as a scientist –

- TW Adams, farmer
- SI Clarke, builder
- L Cockayne, FRS
- FY Lethbridge, farmer
- CP Murdoch, wood-ware manufacturer.

The Prime Minister, WF Massey, was also Minister of Lands at the time, responsible for forestry. The questions he asked of the Commission can be summarised as –

- Which of the existing forests should be retained for conservation?
- Which of the existing forest areas are suitable for settlement or timber production?
- The best method for indigenous forest management
- Whether exports of white pine used for packing butter exports should be regulated
- Probable future demand in New Zealand for commercial timber
- The types of timber likely to be required
- How far existing state plantations will meet the demand
- To what extent should the state forest operations be expanded
- Whether the state operations are being conducted satisfactorily, and what changes are required.
- How the state should encourage private tree planting.

Nationwide assessment

The formal appointments were on 11 February

1913, and the Commission members began on 26 February and travelled the length and breadth of New Zealand. In the days before reliable cars and aeroplanes, they covered 7,000 miles by horse and buggy, train and boat from Invercargill and Tapanui, to Waipou forest and Kawakawa, to Ross on the West Coast and Lake Waikaremoana in the East.

They visited native forests, exotic plantations and forest nurseries, held 12 public meetings and had many informal conversations with others interested in the subject matter, having requested via the press for any relevant information to be submitted to them. Their report is 78 pages long with a further 47 pages of appendices, 87 pages of minutes of evidence, with maps and photographs.

Commission members were already familiar with the issues and between them had already travelled much of New Zealand. In addition, from the earliest days of settlement, private landowners had planted trees, with an estimated 44,910 acres (18,174 hectares) of private and a further 18,870 acres (7,636 hectares) of state plantations in 1912. This meant there was evidence about the suitability and rates of growth of some exotic species. Two areas of concern stood out –

- The desirability of the conservation of the indigenous forest
- Financially sound afforestation.

The conclusions of the Commission's report were therefore divided into two parts.

Indigenous forest

The Commission recommended that measures be taken to permanently retain native forests for both 'climatic' and 'scenic' reserves. The former was for soil and flood protection, water conservation and shelter, and the latter for preserving flora and fauna or used for recreation. They had already recognised that New Zealand's steep country was in danger of soil erosion when destructive forest clearing occurred, and strongly recommended that the upland forests and river catchment areas be 'zealously protected'.

With respect to scenic reserves, they pointed out that New Zealand's forests represented a piece of the primeval world and stressed the importance of maintaining examples of the vegetation in a virgin state. They claimed that three-quarters of this country's species were to be found nowhere else and should be preserved in a manner similar to 'open-air museums'. Proposals for climatic and scenic reserve forests were listed.

The Commission was not the first to make these recommendations. They drew attention to the 1892

Land Act and to the Scenery Preservation Act of 1903, but suggested that many of the reserves were not as well maintained as they ought to be. They emphasised the control of deer, wild cattle and goats.

The preservation of native forests at all costs was not the way of thinking in the early 1900s. As a broad principle, unless native forest was in a climatic or scenic reserve, or part of a national park, if it was suitable for farmland then it should be converted. The Commission stated that such conversion should be preceded by harvesting all millable timber, and that the administration of milling be placed under one state-controlled system. They recommended that block sales of standing trees by area alone be discontinued in favour of a prior merchantable inventory, with the amount of timber which was estimated being auctioned.

At the time there was a variety of methods used to determine state royalties, many of which were in favour of the purchaser and open to abuse. They also commented on the beech forest's suitability for timber in the future and the likelihood that it could regenerate satisfactorily. Finally, they commented at length on the dwindling supplies of white pine or kahikatea used for packaging butter for export, suggesting that radiata pine and poplar could be used as a substitute if there were sufficient supplies.

Afforestation

The underlying assumption of the Royal Commission was that New Zealand could not rely on timber from its own native forests to be available in perpetuity on a sustainable basis. They assumed that native forests would not regenerate with any degree of reliability, except perhaps for beech, and the growth of planted indigenous trees was too slow, with too long a rotation for practical economics.

They assumed that the population would double in 35 years and that consumption per head of population would also probably increase, requiring in the not too distant future as much as 716,000,000 super feet a year, or 1.7 million cubic metres. A super(ficial) foot was a 12 inch length of a 12 inch wide by one inch thick board, or 0.00236 cubic metres.

Using figures that were 'at best a guess', they suggested that the national inventory estimate of 33 billion super feet – about 165 million cubic metres – of standing timber would not last more than 30 years. A thousand super feet is 2.36 cubic metres solid, around five cubic metres standing, assuming a sawmill conversion factor of 0.47.

The area of exotic plantations in 1912 was extrapolated to provide a total yield at the time of

Planting in a nursery in Rotorua





Extracting logs before 1920



Radiata pine at Waitotapu



New prison camp in the Waitotapu plantation



Extracting logs using an early railway

harvest which would meet the rate of consumption in 1913 for only 2.6 years. The annual planting rate would, if continued, meet demand for four months of the year once mature. This is assuming that the exotic species then being used would have a standing yield of approximately 250 cubic metres per hectare in today's measurements.

To calculate the financials of plantations, the Commission insisted on using compound interest at 4.5 per cent and a rental value for the land, deriding those who suggested that the land should be free and no interest charged. They claimed that a rotation of 35 years would be financially viable – selling timber at 10 shillings per 100 super feet. A rotation of 80 years was not financially viable, requiring that standing timbers be sold for 23 shillings per 100 super feet 'which is, of course, an impossible proposition'.

Their calculations were very just an estimate, 'Leaving any attempt at approximate exactitude out of consideration', but were persuasive. In conclusion, they recommended that an annual planting rate of at least 2.5 times that of 1911 to 1912 be adopted of the more productive species which had been planted earlier, with a short rotation of 30 to 40 years. They also asserted that afforestation if carried out on a sound commercial basis would be highly profitable to the state.

European larch had been planted extensively, but its growth rate was poor relative to Australian eucalypts, radiata pine and poplars. The merits of radiata pine were appreciated by Commission members, it yielding 'a really good second-class timber when from 30 to 35 years old', while for packaging purposes 'here *Pinus radiata* comes first'. They also advocated a trial of wider spacing and shorter 20 year rotations to produce rough box timber, although wider spacings were thought of as greater than 1.2 metres apart. By 1913, radiata pine was described as the tree most widely planted throughout New Zealand, thriving on a wide range of soils with remarkably rapid growth, and the cheapest tree to grow in the state plantations.

Operational change

The Commission commented on whether the state forestry operations were being conducted in a satisfactory manner and how they could be improved. It was clear there was already knowledge and expertise in forest management, but past mistakes could have been avoided with some trials and research.

An economic survey of the private plantations was recommended with some urgency. In general, the state forest management under the two superintending nurserymen reporting to the Under-Secretary for Lands was better than in the past, but there was still room for improvement.

In 1913, the government's activities in forestry divided into the administration of native forest felling and milling and forest operations. The collection of royalties under a single system was recommended as

noted earlier, administered by the local Land Boards. In 1896, a Forestry Branch was created in the Department of Lands and Survey. Following the untimely death of the Chief Forester, HJ Matthews, in 1909, control of forest operations in each island passed to two superintending nurserymen located in Rotorua and Tapanui.

The Commission recommended change. They suggested that a separate Forestry Department was unnecessary in 1913, but could be considered in the future. Instead, they recommended that a Forestry Branch be established within the Lands Department. This was given that there already existed skilled staff in the form of Commissioners of Crown Lands and Crown Lands Rangers and there would be financial savings within the larger department. In this, they were at one with the current government 100 years later when the Ministry for Primary Industries was created.

However, they differed in that the branch should be a distinct entity within the department, under the control of an executive manager, given that the Under-Secretary for Lands would not have the necessary time for proper supervision and control of 'a subject so technical as forestry'. They recommended that an advisory board of experts in forestry be set up, of at least four members, to advise on forest policy and operations. This was deemed preferable to appointing a young man from Europe or America who would not be expert in New Zealand conditions and indigenous forests.

They also suggested that the state actively encourage private tree planting. Around 40 years earlier, the Planting Encouragement Act of 1871 provided that anyone planting one acre of trees should receive two acres of land from the Crown. The Commission's recommendations were more modest and stated that –

- Trees be provided from state forest nurseries at cost price
- Planting be under advice from the department
- The possibility of tax relief be considered when establishment had been successful.

Other matters such as fire-breaks, seed procurement, the desirability or not of thinning, and forestry education were also touched on in the report.

The Commission's report was dated 31 May 1913. Just over a year later World War I began, interrupting any immediate implementation of the recommendations. In 1919, the Forestry Department was established and a year later L MacIntosh Ellis, the newly appointed Director of Forestry, presented his report *Forest Conditions in New Zealand and the Proposals for a New Zealand Forest Policy*. This included proposals for a New Zealand forest policy and a state forest service, the beginning of modern forest management in this country.

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