COMMENT

What is the current status of our indigenous forests?

How are they changing? What is the impact of introduced pests and weeds? Is biodiversity being maintained? Is there an accretion or loss in carbon storage in these ecosystems? Just how well is the conservation estate being managed? How appropriate is our management for wood production? These are some of the questions forester managers should be thinking about and seeking answers to.

Our indigenous forests continue to arouse strong levels of public interest and concern. There is also increasing demands for information on them both nationally (e.g. as a result of the Resource Management Act) and internationally. Furthermore, a recent survey commissioned by Westco Lagan Ltd found that most New Zealanders prefer indigenous timbers for furniture and approve of limited forest management for this purpose. Perhaps it is time for another concerted effort to determine the status of our indigenous forests and to put additional effort into forest management research.

Surveys

It is interesting to trace the surveys that have been undertaken. One of the first surveys was undertaken by Captain Campbell Walker, the first Conservator of Forests in 1876. Famous botanist Thomas Kirk assisted in the survey and their report is a valuable record of the forest conditions at that time. Although some research on native forests continued to be undertaken by individuals, the next major assessment was made by the newly-formed State Forest Service in the 1920s led by Arnold Hansson, the Chief Inspector. The prime aim of this survey was to determine the forest's wood production potential.

The most detailed national survey took place between 1946 and 1955 under the guidance of A. Priestley Thomson. This survey was much more detailed and gave information on the timber resources, composition, condition and the ecology of our forests. This survey often forms the basis of our current knowledge. The survey was subsequently extended under the direction of Jack Holloway into detailed surveys of non-merchantable montane forests and other mountain ecosystems, largely because of concerns about erosion and the impacts of introduced animals. One feature of these surveys was the establishment of permanent transects which were to be remeasured so as to follow changes.

In the 1970s and 1980s the Forest Service continued surveys in specific regions and localities, including establishing over 10,000 permanent plots, but not many of these plots have been remeasured after the demise of that Department. In addition, there was the initiation of the Protected Natural Area Programme in the early 1980s. They were designed to recommend areas that need to be protected, often on farmland.

It is therefore over 40 years since we have had a detailed national survey of our indigenous forests. There are now some indications we do not even have a good handle on the current area, let alone a good understanding of the current status of our forests. New concerns and questions have also arisen since these surveys. These include questions on biodiversity at a more detailed level than ever before; in being able to monitor extinctions of not only prominent birds and plants but also smaller life forms; in being able to make a reasonable carbon balance for the country; and in knowing in more detail how introduced pests, weeds and diseases are impacting on forests and other natural ecosystems. In addition to these, we need to understand the ecology of the forest in greater depth, including what controls changes in species composition and forest structure and the processes involved. This information is critical to design efficient and sustainable management systems for both conservation and timber production.

Mountain beech forest regenerating, Cass, Canterbury. Photo: D.J. Mead

Long-term Programme

Is it time therefore for another national level assessment and to generally increase our research into our indigenous forests? No doubt our current scientists can give us new and better survey techniques but which build upon the past work. I would suggest that a good research of this kind needs to be of a long-term nature and be carefully planned with a strong ecological basis so that it can answer both specific questions (such as C storage) and is capable of answering future questions and concerns. It would seem that a strong element of ongoing monitoring, largely lost with the demise of the Forest Service, needs to be built into the project. There also needs to be long-term studies on forest management options, building on earlier work undertaken in the 1960s and 1970s and taking into account new management trends and ecological understandings. But under current Government structures who should be coordinating and funding an integrated long-term programme and who should be responsible for the research?

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Note: This issue of the journal focuses on indigenous forests. In addition there is a conference article summarising the new forest management in the National Forests of the USA.