



Planting - getting started

INFORMATION SOURCES

There is a wealth of information available covering all aspects of planting natives. Much of the information here is based on general site preparation advice given by numerous sources including Pollock (1986), Porteous (1993), Davis and Meurk (2001), Evans (1983), Forest Research Institute (1980) and Bergin and Gea (2007). Most guidelines focus on planting and enhancing natural regeneration with natives to meet a wide range of environmental purposes. Planting and management of sites for environmental or conservation purposes is, however, also relevant to establishing native trees for productive purposes.

Websites of most Regional Councils and some District and City Councils offer excellent local advice on planting and managing natives to meet a range of objectives and scales of programmes. Many websites give links to other sources of information including contact details of native plant nurseries where plants can be obtained.

In their comprehensive publication, *Protecting and restoring our natural heritage – a practical guide*, Davis and Meurk (2001) give detailed information about the planning and management of restoration projects. Sections cover the full range of important issues relevant to planting natives including:

- viewing restoration of a range of ecosystems within the context of the overall landscape;
- the importance of developing a management plan;
- providing key steps to successful restoration;
- site preparation and supply of plants;
- planting techniques; and
- the importance of monitoring and maintenance.

A LEGACY OF POOR PLANTING

For a period of more than a century, hundreds of thousands of native tree and shrub seedlings have been planted with the aim of re-establishing native forest for a wide range of objectives. Unfortunately, only a fraction of the planted stands have survived to the present day. Surviving stands often bear evidence of poor site selection and management and most do not reflect their true potential in terms of survival and growth rates.

Historically, the most productive sites have been used for pasture, horticulture and exotic forestry. Native species were often planted on poorer sites and were



then neglected. After nearly two centuries of land clearance, while there have been many successful park and garden plantings of natives, virtually no major plantations of native trees have survived. Failure of many planting programmes has resulted in a widely-held perception that native trees are difficult to establish and that they grow very slowly.

The adoption of planting practices developed for the exotic pine forest industry for establishment of native tree plantations may have also contributed to the relatively poor performance of early plantings of native trees. Native species are not radiata pine (*Pinus radiata*) and therefore cannot be expected to be planted on a wide range of sites, nor have the exceptional early growth of radiata pine!

STARTING SMALL

As the cost of planting programmes using native trees is high and the commitment to managing planted areas easily under-estimated, it is recommended that only a small proportion of the site is fenced and planted in the first year to assess the key local factors influencing early performance. Problem weed and animal pests may become apparent only after planting.

A modest approach will avoid possible large-scale failure and provide an opportunity to determine optimum species,

References:

- Bergin, D.O.; Gea, L. 2007: Native trees – planting and early management for wood production. *New Zealand Indigenous Tree Bulletin No. 3*. Revised Edition. New Zealand Forest Research Institute. 44p.
- Davis, M.; Meurk, C. 2001: *Protecting and restoring our natural heritage – a practical guide*. Department of Conservation, Christchurch. 94p.
- Evans, B. (compiler) 1983: The revegetation manual. A guide to revegetation using New Zealand native plants. Queen Elizabeth II National Trust, Wellington.
- Forest Research Institute 1980: Establishing nursery-raised native trees. *What's New in Forest Research*. Forest Research Institute, No. 86. 4p.

stock types and management requirements to ensure long-term success on a particular site in the establishment of a native production forest.

IMPROVING PERFORMANCE

Planting of natives requires careful and realistic planning to ensure programmes are successful. Matching resources and expectations, undertaking monitoring and timely maintenance, and having the flexibility to modify approaches and practices as work progresses are among key requirements for improving planting performance.

Good site preparation is an essential component of planting that contributes significantly to successful establishment of native trees. A well prepared site will make planting easier and will have down-stream benefits of easier maintenance and monitoring of planting programmes.

Preparing a site for the planting of natives involves not only considerable planning but also a wide range of activities including:

- Protection from domestic grazing stock;
- Control of animal pests and weed species;
- Clearance or management of existing vegetation cover;
- Providing shelter where required including appropriate choice of species;
- Good planting practice; and
- Choosing the appropriate planting pattern and density.

Details on each of these activities are given in the following articles within Sections 7 and 8 in this Handbook.

- Pollock, K.M. 1986: Plant materials handbook for soil conservation. Volume 3: native plants. *Water and Soil Miscellaneous Publication No. 95*. Ministry of Works and Development. Wellington. 66p.
- Porteous, T. 1993: *Native forest restoration. A practical guide for landowners*. Queen Elizabeth II National Trust. Wellington.
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Tāne's Tree Trust promotes the successful planting and sustainable management of New Zealand native trees and shrubs for multiple uses.