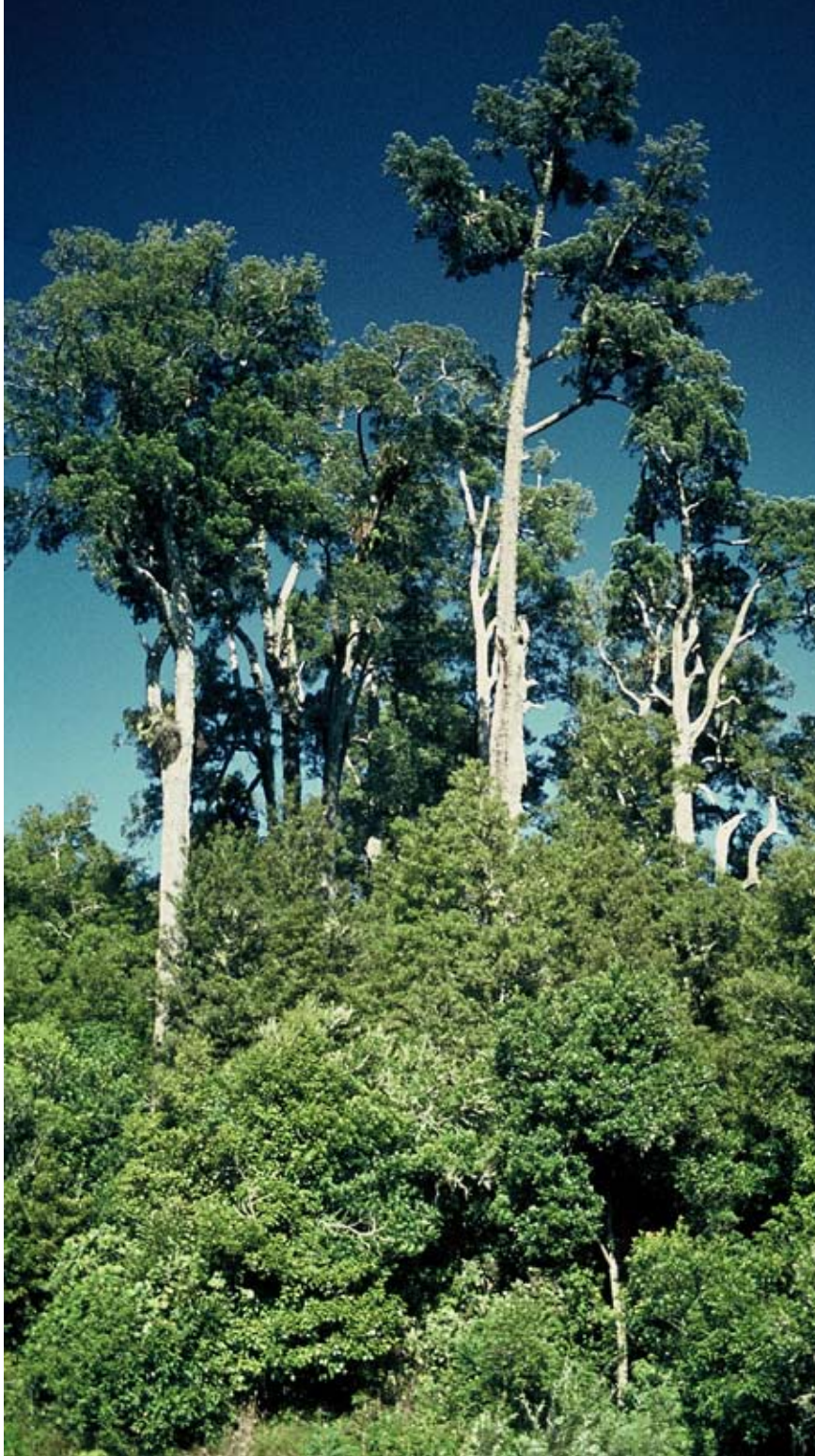




# Podocarp-hardwood forests

## Biodiversity



Podocarp trees boast a lineage that stretches back to the time when New Zealand was part of the super continent of Gondwana. They belong to a coniferous family known as *Podocarpaceae* of which there are 17 species. The best known are rimu, kahikatea, miro, mataī and tōtara. In its natural state, a podocarp forest can be luxuriant with a dense undergrowth of shrubs, ferns and tree-ferns. The few precious remnants of forest which survive often contain the highest diversity of plants and animals in the region. They are a left-over from an ancient forested time.

### Where are they?

From the air, much of New Zealand looks like a large patchwork quilt of rural farmland reaching out to the mountains and the coast. But occasionally dotted throughout the low-land agricultural blanket are pockets of native podocarp-hardwood forest which show us what much of the region would have once looked like.

Unfortunately, the same rich soils responsible for the productive nature of these forests have largely led to their demise. Nevertheless, podocarp forests can be found in some parts of the central North Island, Taranaki, Coromandel, Northland and in Southland. The largest podocarp forests are on the west coast of the South Island.

### Podocarp facts

Podocarp forests are a mixture of tall podocarps and smaller trees (hardwoods) with an understorey of shrubs, plants and ferns. Light-loving podocarps reach for the forest canopy, while shade tolerant species thrive in the darker lower levels.

Soil and climate conditions play a major role in determining which species will be the most dominant in a forest. In Southland, tōtara grows closest to the coast, on almost pure sand. As the soil nutrient levels increase, mataī will grow. With more nutrients rimu and miro will come into the forest. On the wetter sites kahikatea grows best.

Although they belong to the conifer family which reproduces using cones, podocarps spread their seeds through berries which are transported by being passed through birds. Because of the abundant range of fruits, podocarp forests also support larger communities of insects and birds such as bellbird, tūī, kākā and kea.



## The giants

### Rimu (*Dacrydium cupressinum*)

Able to reach up to 50 metres in height, the rimu is well known for its strong, durable timber often used in furniture, although very little is milled these days.

### Kahikatea (*Dacrycarpus dacrydioides*)

The kahikatea or white pine is New Zealand's tallest native tree reaching up to 60 metres high. Black seeds, produced in autumn at the end of a succulent red stem, are popular with wood pigeon (kūkupa or kererū), kākā and tūi. Kahikatea is one of the most reduced forest types in New Zealand, once dominating in lowland swamp areas.

### Miro (*Prumnopitys ferrugineus*)

Growing up to 25 metres high, the miro bears pinkish-purple fruit especially in autumn to early winter, which is a favourite food of kākā and wood pigeons.

### Mataī (*Prumnopitys taxifolia*)

Bees collect pollen from the small yellow catkins in October and November while the round blue-black fruit is enjoyed by kākā and wood pigeons. Although quite slimy the fruit are sweet and were eaten by early Māori. When mataī was being felled for timber, bushmen drilled the base of standing trees to collect a sap known as mataī beer.

### Tōtara (*Podocarpus totara*)

Tōtara grow up to 30 metres tall, with massive trunks. They were used by the Māori for canoes and carving. It dominates on some sandy coastal areas such as Otatara.

## Threats

- Land clearance and timber harvesting has reduced the size of our podocarp forests.
- Possums do enormous damage to native New Zealand forests. Apart from damaging the trees and other flora, they compete with native animals and birds for food, and prey upon birds, their eggs and nestlings.
- Weeds, often garden escapees, have invaded our forests and in many cases out-compete native plants.
- Browsing by non-endemic mammals such as deer and sheep seriously limit the capacity of a forest to regenerate.
- Fire is an obvious threat to forest, and fire restrictions apply all year round to many areas of land managed by the Department of Conservation.

Tōtara bark and foliage

G. Iles

## How can you help?

When enjoying podocarp forest, take note of any signs warning of poison and other Department of Conservation signs. Do not interfere with native birds or the traps and bait stations that are there to protect them. Dogs are not allowed in national parks and restrictions may apply elsewhere. In places where they are allowed, dogs must be under control.

When enjoying the outdoors, pay attention to fire warnings and local weather conditions and always remember to take rubbish with you.

## For more information

Visit the DOC website at [www.doc.govt.nz](http://www.doc.govt.nz).

### Further reading

*Which Native Tree? A Simple Guide To the Identification of NZ Native Trees*, Andrew Crowe

*Natural History of New Zealand*, Nic Bishop

*The Concise Natural History of New Zealand*, Harriet Fleet

*Trees and Shrubs of New Zealand (DSIR Field Guide)*, Lindsay Poole and Nancy Adams

*The Native Trees of New Zealand*, J.T. Salmon



Kahikatea bark and foliage  
R. Walker



Mataī bark and foliage

