

from North Cape to Bluff. In some regions, such as Taranaki where the soil was rich and the rainfall plentiful, it occurred as a component of forest on the easier hill country. However, the best developed stands were found on the flood plains and in the swampy lowlands.

Great walls of kahikatea lined lowland riverbanks. Dense kahikatea swamp forests and open flax or raupo swamp spread across the poorly drained plains away from the rivers. A great kahikatea forest between the Thames and Piako rivers was reputed to be the largest in the country.

Captain Cook heralds an era of destruction

Captain Cook discovered this forest for Europeans in 1769. He recorded in his journal that " . . . *The banks of the river (Thames) were completely clothed with the finest timber my eyes ever beheld . . . every tree as straight as a pine and of immense size . . .*" But Cook was in search of resources not beauty and he soon had his measuring tape out. He noted the trees' dimensions in his journal then added:

"It was as straight as an arrow, and tapered but little in proportion to its height, so I judged there were 356 cubic feet of solid timber in it. As we advanced we saw many others that were still larger."

When the Europeans arrived en masse the slaughter of the kahikatea forests began in earnest. They were the very first forests cleared and none were spared. The trees yielded a serviceable, easily worked timber and the cleared ground grew lush pastures. The non-tainting properties of the wood ideally suited it for use as butter boxes for the rapidly expanding dairy industry. The onslaught led to the very early demise of kahikatea. As early as 1908, it was noted that "*the forests of pure white pine that used to exist in the Auckland district have almost gone . . .*" (Annual Report, Department of Lands, 1908).

Concerns about the future of kahikatea were expressed by the Royal Commission of Forestry in 1913: "*How long the white pine will last at the present rate of consumption we cannot say.*" Conservation concerns were raised in 1918: "*considerable public interest has been manifest in discussing the importance of conserving New Zealand timbers, more especially as regards kahikatea which is fast becoming scarce*". (Annual Report, Department of Lands 1918). Yet the clearance continued. By 1919 it was impossible to obtain adequate supplies and by 1924 even the inland forests were largely

cut out with "*the exhaustion of the white pine resources (of the King Country) driving millers far afield.*" (Annual Report State Forest Service 1924.)

Attitudes were succinctly summarized by the State Forest Service in their Annual Report for 1947: "*The problem is a simple one. It is merely dairy farming versus white pine forestry: and there can be little doubt about the decision. Dairy farming demands such land (and timber) in the national interest and kahikatea forests are therefore impossible.*"

The production-oriented Forest Service adopted a pair of kahikatea trees as their emblem. The irony in this may have been lost on the foresters, but not on conservationists who marketed T-shirts in the 1970s showing the trees cut off at the stumps.

Now as rare as mature kauri

Today, mature kahikatea forest is a nationally rare and endangered ecosystem. Because only a handful of pocket handkerchief stands survive, it is no longer included in the list of North Island forest types, (Nicholls, 1976). With the exception of South Westland, the story is the same in the South Island.

Throughout the country a few tiny relicts survive near cities and towns. Claudeland's bush in Hamilton, Riccarton bush in Christchurch, Waihopai bush in Invercargill give us an inkling of what these flood plains

were once like. They leave us feeling vaguely uncomfortable about our culture, being little more than museum pieces often severely damaged by changes in the surrounding water table, the influx of weeds and the impact of heavy human use.

Logging of privately-owned kahikatea in South Westland continues unabated, the greatest tragedy being the clearfelling of a magnificent forest at the Waiho rivermouth below the Franz Josef glacier. Conservationists campaigned for the protection of this state forest in the mid-70s as part of the Okarito-Waikukupa Westland National Park addition. However, Waiho Sawmills Ltd secured it in a land exchange approved by then-Minister Venn Young and have been clearfelling it ever since.

The publicly-owned forests of southern South Westland from Fox Glacier to Haast are presently under a logging moratorium. Before the moratorium was imposed in 1982, over 80 percent of the kahikatea forests were zoned by the Forest Service for immediate logging.

The kahikatea forests of South Westland lack the floristic diversity of the largely extinct kahikatea forests of the North Island. Characteristic North Island forest companions of kahikatea such as the buttressed pukatea, swamp maire, perching pittosporum and nikau only grow south to Karamaea. However, South Westland kahikatea's scenic setting is without parallel. Crammed onto the tiny shelf of low-lying land between the Tasman Sea and the snow-clad peaks of the Southern Alps are a series of great kahikatea forests. Kahikatea line the banks of big brawling rivers and sluggish meandering streams and stretch around the margins of flax swamps and lakes.

The total extent of the remaining dense stands in South Westland is 4500 hectares. There are 5350 hectares of medium and low density stands where kahikatea may occur in association with rimu, kamahi, silver beech (south of Paringa) and other hardwoods. The combined total of 9850 ha is just a little more than the area of another heavily exploited forest type — mature kauri forest — of which only 7400 hectares remain mostly protected in forest sanctuaries such as Waipoua.

Forests of river flood plains

Virgin kahikatea forest in South Westland is broadly of two types — alluvial forest and swamp forest — both of which are confined to the post-glacial rivers. Their flood plains provide an ever-changing landscape as rivers flood and periodically change course. The combination of high rainfall (3-4000 mm on the coast rising to 13000 mm inland) and a rising, eroding mountain range, means that few places anywhere in the world experience such regular flooding and erosion. Westland National Park's only two small stands of kahikatea were both virtually destroyed by overnight changes in the course of the Cook and Waitangitona rivers in the early 1970s. Because of its abundant seed production and light-demanding seedlings, kahikatea is well adapted for survival on these dynamic flood plains. Successions from flood plain to forest develop on areas recently abandoned by the river. Herbs and grasses slowly give way



Our declining swamp birds such as fernbird, crake and bittern (pictured) find a stronghold in the swamp forests of South Westland. Photo: Wildlife Service

THE LEGEND OF TAWHAITARI

A number of legends and proverbial sayings feature kahikatea. The Nga Potiki people have a story about its origins. A chief from Aotearoa, Pou-ranga-hua was blown out to sea in his canoe and was eventually cast ashore upon the island of Hawaiki. His canoe was destroyed and he stayed on the island where he was kindly treated by its people. Yet he yearned to return to his wife and home. He begged a huge bird, Tawhaitari, to fly him to Aotearoa. On approaching his homeland, Pou reached out his hand and stretching under the wings of the great bird, pulled out some of its finest downy plumes, which he threw into the ocean. From these plumes arose a lofty tree, which still bears fruit in the midst of the waters. A branch of this tree was broken off by the wind and cast ashore, and from this branch came all the kahikatea forests of Aotearoa.