TABLE 8 **SOME SCENIC RESERVES AND THEIR TŌTARA**

Name	Description
Morere Springs, Nuhaka	Coastal forest with isolated population of secondary tōtara.
Meeting of the Waters, southern entrance to New Plymouth	One of the few remaining areas of lowland tōtara in Taranaki.
Manawatu Gorge	Many old tōtara visible from road.
A'Deanes Bush, Hawke's Bay	Young tōtara around edge with one huge remnant tōtara tree.
Elsthorpe, Waipawa	In two parts; one of the best remnants of podocarp forest in the district.
Isolated Hill, South Marlborough	Limestone country with lowland tōtara along rivers, Hall's tōtara on hills. Tōtara uniquely associated with several Marlborough endemics.[5]
Pelorus, Nelson–Blenheim highway at Pelorus Bridge	Large old tōtara in tawa forest.
Eves Valley, Waimea	Dominated by secondary tōtara.
Talbot Forest, Geraldine	Numerous large tōtara with bark scars (and therefore spared from logging).
Peel Forest, South Canterbury	Enormous ancient tōtara trees.
Waipori Falls, Otago	One of very few areas in the region with dense, young lowland tōtara along valley.
Otatara, Invercargill	Mature lowland tōtara on coastal sand.

Local body reserves: domains and recreation reserves

There are a large number of recreation reserves throughout New Zealand, often providing access to the coast, rivers or lakes. Because settlements were often located in fertile valleys where tōtara was a resource for buildings and farming materials, the associated recreational domains often have tōtara around their margins and along the streams they contain. Many reserves have been whittled down from their original size. An example is the East Takaka Domain, which served as a recreational facility for the former township of East Takaka, west of Abel Tasman National Park. Now only a small fraction of its original 32-hectare size, it contains secondary tōtara and is the only publicly owned tōtara forest in the valley. The recreational facilities are now largely derelict. Much of the tōtara that was formerly reserved remains, but part of the reserve is quarried, a use conflict that needs to be resolved.

The Hampden Domain in Hawke's Bay is another example.[6] A vast area of tōtara forest, named Te Totara Block, was purchased from local Māori during the period 1855–89. Chief Hapuku disputed the sale of tōtara around Tikokino. However, by 1885 the town of Hampden (now Tikokino) was surveyed and surrounding land subdivided into 80-acre (32-hectare) farm blocks. The domain, which measured 105 acres (42 hectares) and was covered in tōtara and mataī, was to be used by surrounding settlers for firewood and timber for housing and fencing. It was unfenced and was grazed. It was a typical example of the conflict that often broke out between government and settlers over reserved bush. Although some locals supported preserving the domain, others invaded it. One letter to the *Hawke's Bay Herald* stated,

> I certainly took round a letter to get signed by householders, calling a special meeting of the Board to . . . stop any further removal of timber in large quantities. . . . I do not like to see them ['the working classes'] robbed of their share of timber by one individual. . . . They need posts badly, and will have to pay dearly for posts now, simply because two or three persons have skinned out the domain.[7]

However, matters were to get much worse. Bush fires raged through the district in 1891 and again in 1896, reducing much of the tōtara to ashes.[8] Grazing continued in the remnant until the 1970s, when the remaining couple of hectares was finally fenced.

Māori land

Tōpuni are South Island areas identified by Ngāi Tahu as having special significance to the tribe. The word tōpuni means 'to cover' – referring to the custom of a person of high rank claiming authority over areas or people by laying a cloak over them. The best-known tōpuni covers Aoraki/Mt Cook, in Aoraki/Mt Cook National Park, where Hall's tōtara and snow tōtara occur. Nohoanga are Māori seasonal occupation sites, usually on lake shores or river banks, where fish and other resources were traditionally harvested. They are usually no bigger than a hectare, and are located so as not to interfere with public access or use. As Treaty of Waitangi claims are settled, more nohoanga are likely to be created. Both tōpuni and nohoanga protect some tōtara trees.

Far more important protection, however, is provided under Ngā Whenua Rāhui (NWR). Tribal elders had frequently placed a rāhui (essentially a 'no trespassing' order) on tōtara trees as a means of ensuring their survival – either until they were ready to be used, or for permanent protection as markers of burial grounds, hunting areas or other uses. Rāhui were also placed to restore the life force or mauri of a place that had been damaged by some misuse.[9] However, the traditional ways of using the bush were often incompatible with the concept of protection under European law, and bush remaining on Māori land was not protected in any culturally formalised way.

This situation has recently changed. In 1991, a special fund was established to support the concept of NWR that had been embodied in the Reserves Act 1977. The fund is to be used to encourage the voluntary protection of Māori land with conservation values. It is the Māori equivalent of the Queen Elizabeth II National (QEII) Trust, described on pages 238–39.

With funding from Ngā Whenua Rāhui, John Paki and others from the Titiraupenga Trust have created the Awhina Wilderness Experience, a tourist venture that takes visitors past ancient tōtara near Pureora, west of Taupō, often with pātua scars on the trunk. *Vivienne Haldane*

The fund can be used for fencing, rating relief, pest control and planting, as well as facilitating access and amenities for education and tourism. At the same time, ownership and control (te tino rangatiratanga) are maintained by the owners. There are now 170,000 hectares of indigenous forests, wetlands, dune lands and tussock lands under NWR protection, almost all of them in North Island.[10] Some large and outstanding tracts of forest are included, especially on the East Coast and in the central North Island, including both largely unmodified forest and extensive tracts of cut-over and regenerating forest. Many of the blocks of land measure

PROTECTING REALLY OLD TREES

Through the penchant for blogging, one can read about what visitors to New Zealand do. There are many references to people taking a side road or a walkway to view a 'giant tōtara' or a 'thousand-year-old tōtara'. As time goes by these trees will become rarer and even more important, and the number of visitors to them will increase. The (literal) impact of people on these trees, namely on the surrounding soil and the trees' exposed or surface roots and rootlets, will also increase. Soil compaction will reduce the efficiency of water and nutrient uptake. Disturbance will alter the humus layer and degrade the habitat for invertebrate animal life, and in turn nutrient recycling. Physical damage to the roots will make the tissues vulnerable to fungal and bacterial infection. Old trees therefore need to have fences built around them with viewing platforms that protect the ground around the trunk and provide suitable views for photography. They also need to be interpreted accurately.

This tree is on private farmland and is exposed to stock. Physical damage, fungal infection and desiccation will inevitably contribute to the death of roots and reduce the lifetime of the tree. It requires a simple post-and-rail fence and perhaps a planted understorey.

Around this big tōtara in Dean Forest Conservation Area, Southland, the path across the roots is protected by steps, although it appears that people still stand on the roots and remove bark from the tree. It is in fact lowland tōtara, not Hall's tōtara.

These tōtara (top and above) are adjacent to the reserves at Mt Peel but are still exposed to stock, so they need to be fenced. They are among the largest in existence and are severely damaged, but the canopies show a remarkable resilience; if protected from further damage they could survive for hundreds of years.

more than 10,000 hectares. A key aspects of NWR's approach is to train locals to undertake pest-control operations and restoration where required. A NWR kawenata (covenant) enshrines the right to cultural harvest. In the twenty-first century the forest is still the source of rongoā (traditional medicines), weaving material, various kai (food), timber for carving, and much more. Such harvest is still governed by traditional protocols to ensure that a resource is managed carefully and sustainably.

Many NWR areas contain tōtara. A particularly notable example is at Titiraupenga, adjacent to Pureora Forest Park. Here, about 1806 hectares of native forest is administered by the Titiraupenga and Pouakani trusts. The area contains about 120 very large, old tōtara, many of which bear the scars of bark harvest for pātua centuries ago, the area once having been favoured for hunting.

This pā site high above the Waipawa River in Hawke's Bay was protected under a QEII covenant in 2004 and includes a distinctive forest of tōtara, kōwhai and black beech.

PRIVATE LAND INITIATIVES

Maori land is frequently community land, but land owned by Pākehā usually has a single owner. In theory it is relatively simple to protect a portion formally on the certificate of title.

Queen Elizabeth II open space covenants

An Act of Parliament set up the QEII National Trust in 1977. Its main function is to protect natural areas on private land through a covenant, which constitutes a voluntary and mutual agreement with the landowner. The landowner can receive financial assistance with fencing and has control of public access to the area. Every region of New Zealand has a field representative who negotiates each covenant's conditions and keeps an eye on its management. The whole organisation is administered by a central office and a relatively high-profile board of directors. Voluntary offers by local landowners are investigated by the local representative and assessed by the central office. If approved, the covenant is eventually registered on the land title. As of June 2015 there was a combined total of 4472 registered and approved covenants covering 181,346 hectares, with an average size of 40 hectares.

There are QEII covenants on all kinds of land, but the overwhelming majority protect remnants of lowland bush on private farmland. Many of these are patches of original or secondary bush, and tōtara is present in 41 per cent of all covenants, representing about one-third of the total covenanted area.[11] Interestingly, most covenants with tōtara contain original (pre-European) trees rather than, or as well as, secondary trees. Often these tōtara were a key factor in the covenant's approval.

Table 9 (opposite) shows that Northland has the densest concentration of covenants in the country, and three-quarters of them contain tōtara. A vast majority

of the Northland covenants have only secondary tōtara, which says a lot about the intensity of milling there and the remarkable degree to which tōtara has regenerated. In the Hawke's Bay region the Lattey and Gallen covenants, containing both secondary and old-growth tōtara, were among the earliest to be registered.[12] To the south, the Gwavas QEII covenant has many magnificent original tōtara, all over a metre in diameter. Wairarapa and Manawatu have a large number of tōtara covenants, with a high proportion possessing original trees. A number of covenants protect the important tōtara patches on the Horowhenua Plains at Ōtaki.

In South Island, there are numerous tōtara covenants in Nelson–Tasman, especially Golden Bay, and on Banks Peninsula and in South Canterbury. The Manson family of East Takaka has a covenant of secondary tōtara. This is the family that created Trees on Farms, a planting programme to offset the gradual loss of tōtara trees from the rural landscape. A covenanted gully of secondary tōtara at Blythe Downs, North Canterbury, probably spread from just a couple of trees that had escaped the fires of settlement days. One of the most recent tōtara covenants on Banks Peninsula is a Hall's tōtara landscape at Port Levy, where the famous flag trees (which are wind-pruned, with branches only on the lee side) occur, shaped by the powerful southerly winds of the area. Further south is the Waihi Bush covenant, a remnant of large trees representing the extensive tōtara forest that once extended from the foothills across the plains to Geraldine.

TABLE 9 **COVENANTED AREAS CONTAINING OLD-GROWTH AND/OR SECONDARY TŌTARA**

	Covenants in which old-growth tōtara is present		Covenants in which secondary tōtara is present	
Regional council	Total no.	Total area	Total no.	Total area
Auckland	69	1721	83	455
Bay of Plenty	41	752	6	173
Canterbury	42	2173	50	1080
Gisborne	30	611	2	246
Hawke's Bay	53	5501	36	1073
Horizons [Manawatu–Whanganui]	138	3849	56	590
Marlborough	8	551	5	115
Nelson	5	250	4	17
Northland	142	3462	330	4091
Otago	47	819	9	120
Taranaki	22	1216	7	54
Tasman	60	751	26	430
Waikato	138	3419	43	731
Wellington	83	1404	54	945
West Coast	19	74	2	23
Totals	966	28,247	720	10,207

The astonishing success of the QEII covenanting scheme is a tribute not only to the organisation itself, but also to the farming community of New Zealand, whose members realise the value of landscape, and of tōtara in particular. The QEII approach changed the conservation ethic which, until then, had meant not only that most lowland tōtara areas missed out, but also that a vast number of small reserves was loaded onto the government, which could not manage them effectively. The QEII scheme shares that load and shifts responsibility to the landowners themselves, conditioning other landowners for the next phase of conservation on private land: the Protected Natural Area (PNA) programme under DOC and the Significant Natural Area (SNA) programme run by councils (see page 241) under the Resource Management Act 1991.

Private land agreements and landowner initiatives

Although the QEII Trust is the main agent for conservation covenants, often because it is independent of government, there are many agreements between landowners and DOC. Some of them govern land containing tōtara. An example is the Locharburn Totara Logs covenant, a tiny area preserving the logs from former Hall's tōtara forest in Central Otago. There is a no-burning agreement so that the logs are not destroyed. Elsewhere in Otago, most tōtara logs have been used for firewood and fence posts.